

Essential Words You Need to Know!

18000

Humanities  
Social Sciences  
Natural Sciences  
Applied Sciences

**TOEFL**  
Essential  
Vocabulary

# 1800 TOEFL ESSENTIAL VOCABULARY

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## **Categorizing used in this book**

### **Category: HUMANITIES**

#### **Subcategory:**

History, Anthropology, Archaeology, Literature and Authors, Linguistics, Music and Music History, Photography, Philosophy, Religion, Visual and Performing Art, Theater, Dance, Painting

### **Category: SOCIAL SCIENCES**

#### **Subcategory:**

Sociology, Politics, Psychology, Economics, Pedagogy, Business, Mass Communication, Child Development, Community Dynamics, Education, Law, Cultural Studies, Demography

### **Category: NATURAL SCIENCES**

#### **Subcategory:**

Physics, Geology, Meteorology, Astronomy, Biology, Aquatic Organisms, Oceanography, Glaciers, Deserts, Cosmology, Particle Physics, Chemistry, Seismology

### **Category: APPLIED SCIENCES**

#### **Subcategory:**

Electronics, Medicine, Architecture, Ecology, Industrial Design, City Planning, Extinction of Animals, Conservation Efforts for Plants, Medical Technique, Public Health, Physiology

Chapter 01 **UNIT 01** Humanities

1. **contemporary**

*adj.* belonging to the same period or time as something else

**concurrent, coexistent, modern**

*His work was a **contemporary** account of life in the nineteenth century.*

2. **afford**

1) *v.* to provide; to give

2) *v.* to be able to do something or to allow something to happen

1) **provide, supply** 2) **be able, be rich enough**

*Wool blankets were used in the colder regions of the country because of the warmth they **afforded**.*

3. **annually**

*adv.* once a year; every year

**yearly**

*One of the most notable rodeos in the country is held **annually** in Wyoming.*

4. **ascribe**

*v.* to believe something to be the result or work of

**attribute, credit, assign**

*Tradition **ascribes** the epic poems to Homer, but little is known about him.*

5. **imprint**

*n.* a mark or impression made by pressure

**mark, track, trace**

*Experts believe the origin of rice was in Asia due to the **imprints** that they found at the site in China.*

6. **apace with**

*ph.* keeping pace with

**abreast with**

*The downtown business district did not grow **apace with** the city as a whole.*

7. **cradle**

*n.* a bed for a small baby, especially one that can be rocked; a place of origin

**bassinet, cot, birthplace**

*The Nile River is the longest river in the world and the **cradle** of civilization.*

8. **undoubtedly**

*adv.* without any doubt; surely

**certainly, doubtlessly, unquestionably**

***Undoubtedly**, game animals were major components of human diets.*

9. **cunning**

*adj.* clever in deceiving

**deceptive, shrewd, sly**

*Although they were **cunning** hunters, primitive humans were still threatened by certain*

animals.

### 10. **enigmatic**

*adj.* mysterious and very hard to understand

**obscure, ambiguous**

*The rise of Neanderthal man is somewhat **enigmatic** despite the relative abundance of fossils.*

### 11. **abundant**

*adj.* existing in large amounts

**plentiful, profuse, ample**

*Some women specialized in the gathering of the **abundant** shellfish that lived closer to shore.*

### 12. **account for**

1) *ph.* to give a reason or explanation for something

2) *ph.* to constitute; to form

1) **explain, clarify** 2) **make up**

*Various methods of spattering the glaze onto the ware **account for** the extremely wide variations in color.*

### 13. **cast**

*v.* to shape by pouring something into a mold and allowing it to set

**form, mold, shape**

*Early civilizations used bronze, an alloy that could be **cast** in molds, to make tools and weapons.*

14. **artifact**

*n.* a handcrafted object, especially one that is of archaeological interest

**remain, relic, antiquity**

*The archaeologists examined all of evidence from sites very closely and then determined the general age of the **artifacts**.*

15. **accommodate**

*v.* to provide someone with a place to stay

**put up, house, lodge**

*The adjoining apartments could **accommodate** dozens of families.*

16. **adorn**

*v.* to make more beautiful, attractive, or interesting

**decorate, ornament, embellish**

*In the past, men, women, and children **adorned** themselves with beads.*

17. **abruptly**

*adv.* in a sudden and unexpected manner; very quickly

**unexpectedly, suddenly, instantly**

*They didn't care for the play because it ended so **abruptly**.*

18. **acclaim**

*v.* to declare something with noisy enthusiasm

**hail, applaud, cheer**

*The ballerina was **acclaimed** for her wonderful performance.*

19. **bear**

1) v. to have; to bring or take

2) v. to support a weight or load; to accept something without complaining

1) **carry** 2) **sustain, endure**

*Alternative history **bears** some relation to historical fiction as well as to science fiction.*

20. **by chance**

*ph.* without cause or reason; by accident

**accidentally, incidentally**

*The character gained his wealth **by chance**, not from hard work.*

21. **abandon**

v. to give something up completely

**desert, cede, leave behind**

*Some rituals were **abandoned**, but the stories, later called myths, persisted and provided material for art and drama.*

22. **abstraction** cf. *abstract*

*n.* an idea of a quality considered separately from any particular object or case

**conception, notion, representation**

*A number of sculptors have rejected the **abstractions** of minimalist artists.*

23. **agile**

*adj.* able to move or change quickly and easily



**nimble, quick, swift**

*Acrobats must be extremely **agile**.*

24. **surmount**

v. to be above or on top of; to overcome

**ascend, mount, defeat**

*She managed to **surmount** the obstacle.*

25. **aesthetically** cf. *aesthetic*

*adv.* in an aesthetic manner; in a highly developed sense of beauty

**artistically, beautifully, tastefully**

*Satires are read because they are **aesthetically** satisfying works of art.*

26. **akin (to)**

*adj.* having the same appearance, character, or nature

**similar, alike, related**

*Her fictitious world is strikingly **akin** to the real one people live in every day.*

27. **diverse**

*adj.* different from each other; showing variety

**different, various, assorted**

*The artwork is **diverse** in form and includes sculptures, paintings and photographs.*

28. **acquisition**

*n.* the act of obtaining, developing, or acquiring something  
**gain, procurement, acquirement**

*Social-interactionists believe that adults play an important part in children's language acquisition.*

29. **outgoing**

*adj.* eager to mix socially with others

**friendly, sociable**

*Gregarious people are friendly and outgoing.*

30. **nuisance**

*n.* something or someone that causes trouble

**annoyance, irritation, inconvenience**

*After the war, the robber became a small-scale rustler – it was more a nuisance than highway robbery.*

Chapter 01 **UNIT 02** Social Sciences

1. **levy**

v. to demand and collect officially

**impose, charge, tax**

*A new tax was **levied** on consumers of luxury goods.*

2. **barrier**

n. something that is used to keep people or things apart

**bar, fence, wall**

*During pioneer times, the Allegheny Mountains were major **barriers** to transportation.*

3. **beverage**

n. a prepared drink, especially a hot drink like coffee or tea, or an alcoholic drink like beer

**drink, liquid, refreshment**

*The availability of synthetic fragrances has made possible a large variety of products, from **beverages** to used cars with applied “new car odor.”*

4. **brag**

v. to talk boastfully or proudly about oneself and about what one has done

**boast, swagger, talk big**

*The owners often **bragged** about the quality of the facilities at their resort.*

5. **breed**

v. to reproduce sexually; to raise something, often an animal

**generate, bring forth, rear**

*Nothing **breeds** success like success, so he kept signing deals after he got his first one.*

## 6. **speculator**

n. someone who speculates, especially financially

**investor, gambler**

*Excessive investment by **speculators** may lead to uncontrolled economic growth.*

## 7. **culminate**

v. to reach the highest point or climax

**climax, consummate**

*The crisis **culminated** in the Panic of 1873, when the leading investment banking firm declared bankruptcy.*

## 8. **propel**

v. to drive or push something forward

**drive, thrust, impel**

*By the 1600s, colonial shipbuilders were strong competitors in the shipbuilding industry and helped to **propel** heavy transatlantic commerce.*

## 9. **auction**

n. a public sale in which each item is sold to the person who offers the most money

**public sale, open sale**

***Auctions** were another popular form of occasional trade.*

10. **urbanization** cf. *urban*

*n.* the process by which cities grow or by which societies become more urban  
**citification**

*Technological developments further stimulated the process of **urbanization**.*

11. **calamity**

*n.* a catastrophe, or serious misfortune that causes great loss or damage  
**disaster, catastrophe, misfortune**

*The Red Cross provides relief in case of **calamities** like floods, earthquakes, and hurricanes.*

12. **infamous**

*adj.* well known for being bad or morally wicked  
**notorious, disreputable, ill-famed**

*Jesse James was an **infamous** outlaw who was well-known as a bank robber and gunfighter.*

13. **notify**

*v.* to tell someone, especially formally  
**announce, inform, alert**

*Who should be **notified** in case you are involved in an accident?*

14. **misery**

*n.* great unhappiness or suffering  
**affliction, distress, hardship**

Jacob Riis, a newspaper reporter and photographer, revealed the **misery** of the slums of New York City.

15. **acute**

*adj.* able to notice small differences; showing an ability to understand things clearly and deeply

**keen, sharp, penetrating**

*The **acute** public awareness of social changes was tied to the tremendous growth in popular journalism in the late nineteenth century.*

16. **assert**

*v.* to state firmly; to insist on or to defend one's rights, opinions, or something else

**affirm, state, insist**

*Slave owners **asserted** that their crops were a great benefit to the economy and that the slaves were needed to work the land.*

17. **adversity**

*n.* circumstances that cause trouble or sorrow

**hardship, misfortune, suffering**

*The natives were very tough people who were able to handle **adversity**.*

18. **retrieval**

*n.* the act or process of retrieving

**recovery, restoration**

*Memory formation involves three main processes; encoding, storage, and **retrieval**.*

19. **assembly**

*n.* a group of people gathered together, especially for a meeting

**gathering, congregation, congress**

*All the representatives came to the capital for legislative sessions of the **assembly** and council.*

20. **bill**

*n.* a written plan or draft for a proposed law

**act, measure**

*Even if a **bill** passes in Congress, it still does not become a law until the president signs it.*

21. **craft**

1) *n.* a skill, or occupation, especially one requiring the use of the hands

2) *v.* to make something skillfully

1) **expertise, adeptness** 2) **make, fabricate**

*Much of the political activity on television news has been **crafted** by politicians and their public relations advisers.*

22. **adept**

*adj.* skillful at doing something

**proficient, versed, dexterous**

*He must be **adept** at dealing with politicians, public interest groups, and government agencies.*

23. **enact**

*v.* to establish by law

**pass, decree, legislate**

Market regulations are often **enacted** by corrupt governments for the purpose of benefiting well-connected companies or politicians.

24. **eligible**

*adj.* suitable or deserving to be chosen for a job or something else  
**suitable, qualified, fit**

*In the United States, citizens are **eligible** to vote at the age of eighteen.*

25. **conclusive**

*adj.* leaving no room for doubt or uncertainty  
**decisive, convincing, definite**

*Each circumstance may mean little, but a whole chain of circumstances can be as **conclusive** as direct evidence.*

26. **verbal**

*adj.* relating to or consisting of words  
**oral, spoken, vocal**

*Dreams are commonly made up of both visual and **verbal** images.*

27. **able**

*adj.* having the necessary knowledge, power, time, and opportunity to do something  
**capable, competent, talented**

*The head of an academic department at a university should be not only a distinguished scholar but also an **able** administer.*



28. **adhere (to)**

v. to stick or remain fixed to something

**attach, cleave, stick**

*The child always **adheres** to the teacher's rules.*

29. **ban**

v. to forbid something

**prohibit, bar, outlaw**

*Some people feel that violent sports like boxing should be **banned** because they are too dangerous.*

30. **blunt**

adj. having no point or sharp edge; imperceptive

**dull, worn, abrupt**

*The victim was apparently struck by a club or some other **blunt** object.*

Chapter 01 **UNIT 03** Natural Sciences

1. **cognizant**

*adj.* aware of something or having knowledge of it

**aware, conscious, knowledgeable**

*A scientist must always be **cognizant** of and guard against bias skewing the results of his or her research.*

2. **cohesive**

*adj.* having the power of cohering; tending to unite into a mass

**condensable, consolidative**

*The **cohesive** strength permits columns of water to be pulled to great heights without being broken.*

3. **confirm**

*v.* to provide support for the truth or validity of something

**verify, prove, affirm**

*If observations **confirm** the scientists' predictions, then that will give support to their theory.*

4. **warp**

*v.* to make something become twisted out of shape through shrinking and expanding

**bend, twist, distort**

*If boards become wet, they may **warp**.*

5. **discharge**

v. to flow out or to be released; to lose some or all of something's electrical charge

**let out, release, emit**

*Sharks can detect minute electrical signals **discharged** from their prey.*

6. **alert**

v. to warn someone of danger; to make someone aware of a fact or circumstance

**caution, alarm, warn**

*Fire ants make use of an alarm pheromone to **alert** workers to an emergency.*

7. **chamber**

n. a room, especially a bedroom; a room set aside for a special purpose

**bedroom, room, compartment**

*Numerous networks of tunnels linked all the different **chambers** together.*

8. **classify**

v. to put animals, plants, or something else into a particular group or category

**categorize, divide, sort**

*Monkeys are **classified** as primates.*

9. **claw**

n. a hard, curved, and pointed nail on the end of each digit of the foot of an animal

**nail, talon**

*Unlike other cats, the cheetah cannot fully extract its **claws**.*

## 10. aromatic

adj. having a strong but sweet or pleasant smell; sweet-smelling

**fragrant, perfumed, pungent**

*At least 50 different **aromatic** compounds have been analyzed in the orchid family.*

## 11. demonstrate

1) v. to show or prove something by reasoning or providing evidence

2) v. to show support or opposition by protesting or marching in public

1) **illustrate, explain** 2) **parade, protest**

*Many experiments **demonstrated** how some plants can survive with very little amounts of water.*

## 12. landmark

n. a mark showing the boundary of a piece of land; an occasion, event, or development of importance

**milestone, watershed, turning point**

*Some experts have suggested that migrating birds find their way by following **landmarks** like rivers and mountain ranges.*

## 13. bloom

v. to be in or come into flower; to be growing well

**blossom, flourish, prosper**

*Most flowers **bloom** in the spring.*

## 14. venomous

*adj.* having the ability to poison

**poisonous, toxic**

*The rattlesnake is the most common **venomous** snake in the United States.*

15. **botanical**

*adj.* of, pertaining to, made from, or containing plants

**phytological**

*One of the most beautiful **botanical** gardens in the United States is the wild and lovely Magnolia Gardens in South Carolina.*

16. **ambidextrous**

*adj.* able to use both hands equally well; unusually skillful

**talented, gifted, adept**

*Right-handers are said to make up 80% to 90% of all people and left-handers 5% to 15% while the remaining tiny percentage is **ambidextrous**.*

17. **advent**

*n.* a coming or arrival; a first appearance

**arrival, appearance**

*With the **advent** of the Vietnam War, the Air Force wanted a system to help it navigate over the jungles of Southeast Asia.*

18. **alien**

*adj.* from another country or society; connected with creatures from another world

**exotic, foreign, outlandish**

The **alien** in the Earth's core make it a far more alien world than space.

19. **boulder**

*n.* a large piece of rock that has been rounded and worn smooth by weathering and abrasion  
**rock**

*The mineral particles found in soil range in size from microscopic clay particles to large boulder.*

20. **stable**

*adj.* firmly balanced or fixed; not likely to wobble or fall over  
**steady, secure, firm**

*A roadbed supplies a **stable** base for a highway.*

21. **permeable** cf. *permeate*

*adj.* allowing certain liquids or gases to pass through something  
**penetrable, pervious**

*In some cases, wells can draw water from a **permeable** rock layer.*

22. **eject**

*v.* to throw out someone or something with force  
**banish, boot, expel**

*Geysers periodically **eject** streams of hot water into the air.*

23. **hem**

*v.* to surround something closely and prevent its movement

**enclose, encase, hedge**

*The Great Basin is **hemmed** in by the Sierra Nevada Mountains to the west and by the Rocky Mountains to the east, giving it no outlet to the sea.*

**24. core**

n. the innermost, central, essential, or unchanging part

**center, heart, nucleus**

*The asteroids' compositions are believed to be similar to that of Earth's iron **core**.*

**25. hamper**

v. to hinder the progress or movement of someone or something

**impede, obstruct, block**

*Bad weather **hampered** the rescue crews trying to locate the life rafts.*

**26. synthesize**

v. to combine simple parts to form a complex whole; to make or produce

**combine, mix, compose**

*It is important to note that animal cells cannot **synthesize** some complex molecules from simple compounds.*

**27. delicate**

adj. easily damaged or broken; made or formed in a very careful and detailed way

**fragile, breakable, exquisite**

*Earth is not too close or too far away from the sun to upset the **delicate** temperature requirements of life.*

28. **fuel**

1) *n.* any material that releases energy when burned

2) *v.* to fill or feed with fuel

1) **energy, power** 2) **feed, nourish**

*The sun is **fueled** by thermonuclear reactions near its center that convert hydrogen to helium.*

29. **shrink**

*v.* to make or become smaller in size or extent

**wither, shrivel, contract**

*About 5 billion years from now, the sun's core will **shrink** and become hotter.*

30. **efficiency**

*n.* the quality of doing something well with no waste of time or money

**effectiveness, productivity**

*Even some supporters of alternative energy realize that the easiest way to cut carbon emissions is to focus more on **efficiency**.*



Chapter 01 **UNIT 04** Applied Sciences

1. **appeal**

*n.* an urgent or formal request for help; the quality of being attractive or interesting  
**solicitation, attraction, charm**

*The **appeal** of iron comes from its low cost, strength, and resistance to fire.*

2. **bind**

*v.* to tie or fasten tightly; to force someone to do something by making him or her promise to do it

**tie, constrain, obligate**

*Hotels were some of the earliest places that helped **bind** the United States together.*

3. **sway**

*v.* to swing or to make something swing; to incline toward a particular opinion

**wave, swing, tilt**

*In high winds, skyscrapers will **sway** slightly.*

4. **beneficial**

*adj.* having good results or benefits

**helpful, useful, advantageous**

*Some bacteria are **beneficial** since they stimulate plant life through food decomposition.*

5. **allude**

v. to mention something indirectly; to speak about something in passing

**hint, mention, refer**

*The word “zigzag” **alludes** to the geometric ornamentation.*

## 6. alter

v. to become different or to make something or someone become different

**change, convert, transform**

*As Earth developed, the concentrations of the pollutants were **altered** by various chemical reactions.*

## 7. appreciation

n. sensitive understanding of the value or quality of something

**recognition, understanding, admiration**

*With concerns about the loss of species, there is a growing **appreciation** for the importance of biological diversity.*

## 8. barren

adj. not able to produce crops or fruit; not able to bear offspring

**infertile, sterile, unproductive**

*We can see large, pristine forests on one side and an almost **barren** land devoid of trees on the other side.*

## 9. comparatively

adv. according to an estimate made in comparison; not absolutely

**relatively, nearly, approximately**

The first attempt to dig the canal was made by private companies, and only a **comparatively** small portion was built.

10. **clue**

n. a fact or circumstance which helps toward the solution of a crime or a mystery

**hint, evidence, indication**

*There were no **clues** as to how the animal died.*

11. **voluminous**

adj. producing great quantities of writing; enough to fill many volumes

**copious, bulky, huge**

*The ecologist had **voluminous** correspondence and frequent discussions with other experts in the field.*

12. **thrive**

v. to grow strong and healthy

**prosper, flourish**

*Barley, unlike most other grains, **thrives** at high altitudes, so it can be grown in many places.*

13. **facilitate**

v. to make something easy or easier to do or to achieve

**expedite, ease, promote**

*Research into hydrogen technology was **facilitated** by money from Congress.*

14. **boundary**

n. a line or border marking the farthest limit of an area

**border, bounds, limit**

*Lake Superior forms a natural **boundary** between the United States and Canada.*

15. **advocate**

n. someone who supports or recommends an idea or proposal

**proponent, supporter, patron**

***Advocates** of organic foods frequently proclaim that such products are safer and more nutritious than others.*

16. **cope with**

ph. to manage successfully; to deal with

**handle, dispose of**

*The human body is usually unable to **cope with** extremely hot or cold temperatures.*

17. **crucial**

adj. extremely important because the thing will affect others

**decisive, critical, vital**

*Obviously, muscles are **crucial** to the human body.*

18. **inhibit**

v. to hold back or prevent an action, desire, or progress; to prohibit someone from doing something

**check, restrain, bar**

*Antibiotics **inhibit** the growth of bacteria.*

19. **illusion**

*n.* a deceptive or misleading appearance

**fantasy, delusion, hallucination**

*Optical **illusions** deceive the eye with tricks of perception.*

20. **specimen**

*n.* a small amount of something that shows what the rest of it is like; a sample or example of something, especially something that will be studied

**example, sample, case**

*Many medical tests require a blood **specimen**.*

21. **breakthrough**

*n.* a sudden achievement; a decisive advance or discovery, especially in scientific research

**advancement, improvement**

*The new vaccine represented a significant **breakthrough** in the battle against the virus.*

22. **codify**

*v.* to arrange something into a systematic code or laws

**systematize, formulate**

*By the 1500s in Europe, the collected knowledge of the human body was **codified**.*

23. **anatomy**

*n.* the art of dissection; the scientific study of the structure of living organisms, including humans

## dissection

*Thomas Eakins studied not only painting but also **anatomy** when he was training to become an artist.*

### 24. **acrid**

*adj.* having a very bitter and pungent smell or taste

**pungent, tart, bitter**

*Burning rubber produces an **acrid** smoke.*

### 25. **corpse**

*n.* the dead body of a human being or an animal

**cadaver, carcass, remains**

*The decomposing **corpse** of a dead ant is generally removed from the colony by worker ants.*

### 26. **finite**

*adj.* having an end or limit

**limited, restricted, bounded**

*Many people fear that Earth's supply of oil is **finite** and that we will run out of energy someday.*

### 27. **ignite**

*v.* to set fire to something

**burn, inflame, kindle**

*When exposed to air, phosphorous **ignites** spontaneously and forms white fumes when it burns.*

**28. manipulate**

v. to handle something or to work something with the hands, especially in a skillful way

**control, operate, direct**

*The pilot must **manipulate** the controls to take off, to change directions and speed, and to land.*

**29. drainage**

n. a process or system by which waste liquid flows away

**draining, sewage**

*That province has a history of underground faults that has created an efficient water **drainage** system.*

**30. ventilate**

v. to allow fresh air to circulate throughout a room or a building

air

*Most modern barns are insulated, **ventilated**, and equipped with electricity.*

Chapter 02 **UNIT 05** Humanities

1. **daring**

*adj.* brave enough to do risky things; new or unusual in a way that may shock people  
**courageous, adventurous, bold**

*Richard Bird and his pilot Floyd Bennett undertook a **daring** flight to the North Pole in May 1926.*

2. **depress**

- 1) *v.* to weaken something; to make something lower
  - 2) *v.* to make someone sad and gloomy
- 1) **weaken, lower** 2) **dishearten, sadden**

*Rent controls have artificially **depressed** the most important long-term determinant of profitability: rents.*

3. **disaster**

*n.* an event causing great damage, injury, or loss of life  
**calamity, catastrophe, cataclysm**

*When their crops failed, it was a **disaster** that caused many people to lose their lives.*

4. **domain**

*n.* the scope of any subject or area of interest  
**field, realm, sphere**

*The empire was silently, but quickly, extending its **domain**.*



5. **decipher**

v. to translate a text in an unfamiliar or strange form of writing into ordinary language

**decode, unravel, interpret**

*They could **decipher** the tablets because the language was a Semitic one that scholars had first translated a decade ago.*

6. **ascend**

v. to climb something or to move to a higher position

**arise, climb, mount**

*The pueblo architects laid out a system of public roads with stone staircases for **ascending** cliff faces.*

7. **avid**

adj. very enthusiastic about something

**ardent, eager, passionate**

*President Theodore Roosevelt was an **avid** conservationist who believed in preserving nature.*

8. **restrict**

v. to keep someone or something within certain limits

**confine, limit, restrain**

*The study of fossilized footprints is not **restricted** to examples from millions of years ago.*

9. **roughly**

adv. not exactly

**approximately, around, about**

The population **roughly** doubled every generation during the rest of the nineteenth centuries.

10. **settled**

*adj.* established in some routine

**arranged, fixed, inhabited**

With the **settled** routine of Neolithic farmers came the evolution of towns and, eventually, cities.

11. **attire**

*n.* clothes, especially formal or elegant ones

**clothes, apparel**

He indicated several weeks ago that he would wear formal **attire** at his inauguration.

12. **component**

*n.* any of the parts or elements that make up a machine, engine, or instrument

**constituent, element, factor**

The time scale is divided into three time **components**; eons, eras, and periods.

13. **considerable**

*adj.* fairly large, especially large enough to have an effect or be important

**notable, sizable, substantial**

The book was a **considerable** improvement over the only other instruction manual existing at the time.

14. **thanks to**  
*ph.* because of  
**owing to, as a result of**

*Thanks to the unending pressures of the work, he decided to quit his business.*

15. **adversary** *cf. adverse*  
*n.* an opponent in a competition  
**enemy, foe, opponent**

*By adulthood, Genghis had been through a series of rough-and-tumble encounters with various **adversaries**, who tried to enslave or kill him and his family.*

16. **afterlife**  
*n.* the life that some people believe people have after death  
**hereafter**

*It is said that death is a new beginning when the deceased passes from the restrictions of this life into the **afterlife**.*

17. **compose**  
*v.* to create music, poetry, or something else; to make up or constitute something  
**set to music, constitute, form**

*Certain films had music specifically **composed** for them.*

18. **costume**  
*n.* a set of clothing of a special kind, especially of a particular historical period  
**apparel, attire, dress**

*Wearing masks and **costumes**, they often impersonated other people, animals, or supernatural beings.*

19. **overall**

*adj.* including everything

**total, whole, entire**

*A book's table of contents provides readers with an **overall** idea of what it is about.*

20. **assimilate**

*v.* to become a part of a country or community; to completely understand and begin to use new ideas, information, or something else

**make similar, absorb**

*The immigrants quickly **assimilated** to life in their new country and learned both its language and customs.*

21. **assumption**

*n.* something that is accepted as true without proof

**presumption, supposition**

*The **assumption** of many experts is that drama evolved from various rituals.*

22. **attachment** *cf. attach*

*n.* an act or means of fastening; liking or affection

**fastening, bond, affection**

*Emotional **attachments** play a significant role in the decisions that people make.*

23. **carry out**

*ph.* to do the work of; to bring, take, or convey something

**perform, convey, transport**

*African-American graphic artists **carried out** efforts to increase and promote the visual arts.*

24. **coin**

1) *v.* to invent a new word or phrase

2) *v.* to manufacture coins from metal

1) **originate, create** 2) **mint, stamp**

*The term “beat” was **coined** by Herbert Huncke, who meant it to be a synonym for tired or down and out.*

25. **aristocracy**

*n.* the highest social class, usually owning land and having titles

**gentry, upper class**

*He is a member of the **aristocracy** but has little in terms of monetary wealth.*

26. **bland**

*adj.* without any excitement, strong opinion, or special character; having very little taste

**boring, insipid, tasteless**

*The main issue was that such a rigid structure made the opera **bland** and at times predictable.*

27. **emphasize**

*v.* to put an emphasis or stress on something

**stress, highlight, underscore**

Mothers exaggerate their facial expressions, hold vowels longer, and **emphasize** certain words when they communicate with their children.

28. **dialect**

*n.* a form of a language spoken in a particular region or by a certain social group  
**vernacular, tongue**

*They studied the local **dialect** and wrote stories which focused on life in specific regions of the country.*

29. **come up with**

*ph.* to produce something or to have an idea  
**conceive, hit upon**

*Companies are being required to **come up with** innovative ways of cutting costs because of the economic circumstances.*

30. **current**

1) *adj.* belonging to the present

2) *n.* the continuous steady flow of a body of water, air, or heat in a particular direction

1) **present, contemporary** 2) **flow, stream**

*The term “folk song” has been **current** for over a hundred years.*

Chapter 02 **UNIT 06** Social Sciences

1. **spark**

v. to emit sparks of fire or electricity; to stimulate, provoke, or start

**ignite, stimulate, initiate**

*The booming economy **sparked** an explosion in real estate development.*

2. **devastate**

v. to cause great destruction in or to something

**ruin, destroy, ravage**

After the war **devastated** the country, it took many years for everything to be rebuilt.

3. **encourage**

v. to give support, confidence, or hope to someone

**cheer, hearten, inspire**

*The state government **encouraged** the internal improvements of the corporations in two distinct ways.*

4. **effect**

n. a result or condition produced by a cause; the way in which an event, action, or person changes someone or something

**result, consequence, impact**

*In the United States in the early 1800s, state governments had more **effect** on the economy than the federal government.*

5. **end**

*n.* an object or purpose

**aim, goal**

*Toward the **end** – to restore stability to the economy – the government pursued several courses of action.*

6. **toll**

*n.* a fee or tax paid for the use of a bridge or road

**charge, duty, impost**

*The canal lived up to the investors' expectations, quickly paying for itself through **tolls**.*

7. **warrant**

*v.* to justify something; to guarantee something as being of a specified quality or quantity

**justify, promise, assure**

*Further explanations were not **warranted** since everyone understood what was happening.*

8. **phase**

*n.* a stage or period in growth or development

**state, period, stage**

*A full-scale Keynesian policy should grant the government a role in all **phases** of economic life.*

9. **fragrance** cf. *fragrant*

*n.* sweetness of smell

**odor, scent, balm**



Natural flavorings and **fragrances** are often costly and limited in supply.

10. **sheer**

*adj.* complete and not mixed with anything else

**absolute, downright, plain**

*The decade of the 1870s was a period in which the **sheer** number of newspapers doubled.*

11. **significant**

*adj.* important; worth noting or considering

**critical, weighty, meaningful**

*The Civil Rights Act of 1964 was a particularly **significant** piece of legislation to African-Americans.*

12. **concern**

1) *n.* a feeling of worry about something important

2) *n.* a company or business

1) **anxiety, apprehension** 2) **enterprise, firm**

*A business **concern** with two or more owners is referred to as a partnership.*

13. **sparse**

*adj.* thinly scattered or dotted about

**meager, scant, few**

*If the population in an area was **sparse**, the Black Death usually ran out of steam within a year.*

14. **undertake**

v. to accept a duty, responsibility, or task

**take on, assume, accept**

*The Erie Canal was one of the greatest construction jobs that anyone had ever **undertaken** up to that point.*

15. **catastrophic**

adj. relating a terrible event in which there is a lot of destruction

**calamitous, disastrous**

*A tsunami can be a **catastrophic** event that kills thousands of people and destroys their homes and buildings.*

16. **coincide with**

ph. to happen at the same time as

**concur with, clash with**

*The rapid growth of Boston **coincided with** the immigration of huge numbers of people there.*

17. **alleviate**

v. to make pain, a problem, suffering, or something else less severe

**ease, relieve, mitigate**

*A support network of relatives and friends can **alleviate** much of the burden of raising a child.*

18. **antagonistic**

adj. unfriendly; opposed to an idea or group

**hostile, opposing, conflicting**

Most plantation owners were **antagonistic** to the development of the towns.

19. **declare**

v. to announce something publicly or formally

**announce, proclaim, pronounce**

*The United States **declared** war and quickly sent men to the European front during World War II.*

20. **deem**

v. to think of something in a particular way or as having a particular quality

**consider, judge, think**

*The president can make such regulations covering the prohibition of alcoholic liquors as may be **deemed** necessary.*

21. **equality**

n. the state or quality of being equal

**impartiality, fairness, equivalence**

*In 1957, Ralph Abernathy founded an organization devoted to achieving racial **equality** for black Americans.*

22. **collapse**

n. a sudden failure of something, such as an institution or a business, or a course of action

**break-down, downfall, disintegration**

*The enormous size of the Roman Empire made it increasingly difficult to defend, setting the stage for its eventual **collapse** in 476.*

23. **bar**

v. to officially prevent someone from doing something

**forbid, prohibit, ban**

*The political party urged that immigrants be **barred** from running for public office.*

24. **succinct**

adj. clearly expressed in a few words; to the point

**brief, concise, precise**

*He wrote a **succinct** and graphic account concerning the slum and housing problem in New York City.*

25. **constrict**

v. to make something narrower or tighter

**compress, contract, squeeze**

*The experts predicted that growth could not continue and that the tight labor market would **constrict** the economy.*

26. **allegiance**

n. a commitment and duty to obey and be loyal to a government or sovereign

**faithfulness, fidelity, loyalty**

*While some of the Indians had formed **allegiances** with French Jesuit priests, they were far more suspicious of the British soldiers.*

27. **appealing**

*adj.* evoking or attracting interest, desire, curiosity, or sympathy

**attractive, inviting, fascinating**

*The most **appealing** publishing investments were small books that were steady sellers.*

28. **suit**

*v.* to be appropriate to; in harmony with

**fit, adapt, adjust**

*Reformers suggested that the education programs should **suit** the needs of the population.*

29. **cite**

*v.* to mention something as an example, especially one that supports, proves, or explains an idea or situation

**quote, mention, refer to**

*When writing research papers, writers must **cite** the sources they use.*

30. **flaw**

*n.* a mistake, mark, or weakness that makes something imperfect

**fault, defect, blemish**

*A **flaw** in a jewel makes it less valuable.*

Chapter 02 **UNIT 07** Natural Sciences

1. **disperse**

v. to spread out over a wide area

**diffuse, scatter, dissipate**

*The fact that white light is composed of various wavelengths may be demonstrated by **dispersing** a beam of light through a prism.*

2. **emerge**

v. to come out from somewhere

**appear, arise, turn out**

*The species **emerged** from the water and moved onto the land.*

3. **emit**

v. to give out light, heat, a sound, or a smell

**send out, discharge, eject**

*Certain gases such as neon **emit** light when exposed to an electrical current.*

4. **vertical**

adj. pointing up in a line that forms an angle of 90° with a flat surface

**upright, erect, perpendicular**

*Although there are both horizontal and **vertical** movements of air, the term “wind” applies only to horizontal movement.*

## 5. exhilarating

*adj.* filling someone with a lively cheerfulness

**invigorating, refreshing, cheering**

*Riding a space shuttle can be an **exhilarating** experience.*

## 6. dense

*adj.* closely packed or crowded together

**compact, solid, thick**

*The jungle is incredibly **dense** because of the huge amount of vegetation growing in it.*

## 7. determine

*v.* to fix or settle the exact limits or nature of something; to form a firm intention

**conclude, decide, resolve**

*Canadian researchers have discovered a set of genes that **determine** the lifespan of the common nematode, a type of worm.*

## 8. dissenting

*adj.* disagreeing, especially openly or hostilely

**discording, disagreeing, conflicting**

*Our understanding of these ancient beasts has grown slowly, with many **dissenting** opinions among the experts.*

## 9. edible

*adj.* fit to be eaten; suitable to eat

**eatable**

*Celery, an **edible** plant with long stalks topped with feathery leaves, grows best in cool weather.*

10. **entire**

*adj.* with nothing left out

**complete, whole, total**

***Entire** crops can be wiped out by fungal attacks both before and after harvesting.*

11. **fatal**

*adj.* causing or resulting in death

**mortal, lethal, deadly**

*Honeysuckle is a shrub that has **fatal** white or yellowish blossoms.*

12. **succumb**

*v.* to give in to pressure, temptation, or desire

**surrender, yield, give up**

*Most birds would **succumb** to the harsh weather and die if they did not migrate south for the winter.*

13. **crave**

*v.* to have a very strong, almost uncontrollable, desire for

**desire, yearn, long for**

*Some insects may help ants by cleaning them or by giving them chemicals they **crave**.*

14. **upright**



adj. standing straight up

**erect, vertical, perpendicular**

*Kangaroos use their long and powerful tails to balance themselves when sitting **upright** or jumping.*

15. **venture**

v. to be so bold as to; to attempt something dangerous

**risk, gamble, dare**

*Most crustaceans live in the sea, but some live in fresh water, and a few have **ventured** onto land.*

16. **brood**

n. a number of young animals, especially birds, that are produced or hatched at the same time

**offspring, progeny, young**

*The mother duck led her **brood** into the pond.*

17. **bring about**

ph. to cause to happen, occur, or exist

**cause, produce, effect**

*Earthworms **bring about** changes in the soil by enriching it and making it more fertile.*

18. **carry**

1) v. to hold something in one's hands or back while moving

2) v. to support something's weight on one's body

1) **convey, transport** 2) **support, maintain**

Some parts of the lithosphere **carry** the ocean floor, and others carry land masses or a combination of the two types.

### 19. **comprise**

v. to contain, include, or consist of something specified

**compose, form**

*The core, mantle, and crust **comprise** the three layers of the Earth.*

### 20. **uncharted**

adj. not fully explored or mapped in detail; not yet examined or fully investigated

**unmapped, unexplored, unknown**

*The ocean bottom is a vast frontier that even today is largely unexplored and **uncharted**.*

### 21. **dot**

1) v. to scatter; to cover with a scattering

2) n. a small and round mark

1) **spot, fleck** 2) **speck, point**

*Steep, round hills called knobs **dot** southern Indiana.*

### 22. **imaginary**

adj. existing only in the mind or imagination; not real

**imagined, fictitious, fictional**

*The equator is an **imaginary** line running around the center of the Earth.*

### 23. **receptacle**

n. a container or device that receives or holds something  
**container, holder, repository**

*The broken valleys of the Great Basin provided ready **receptacles** for the moisture.*

24. **diminish**

v. to become or make something less or smaller  
**decrease, reduce, dwindle**

*The power of a hurricane becomes immediately **diminished** once over land because it is disconnected from its warm-water energy source.*

25. **balmy**

adj. warm and soft  
**gentle, mild**

*The Virgin Islands, located in the Caribbean Sea, have a **balmy** climate.*

26. **desperately**

adv. recklessly or dangerously because of despair or urgency  
**impetuously, urgently, hopelessly**

*The moon and Mars could be a future source of natural resources **desperately** needed on Earth.*

27. **flame**

v. to burn with flames  
**blaze, flare, glow**

*Jupiter would have **flamed** as a star in its own light.*

**28. sustainable**

*adj.* capable of being sustained or maintained

**supportable, enduring, bearable**

*Something absolutely necessary for a **sustainable** human settlement is water.*

**29. terrain**

*n.* a stretch of land, especially with regard to its physical features

**topography, territory, landscape**

*The moon may be divided into two major **terrains** ; the maria and the terrace.*

**30. extinguish**

*v.* to put out a fire

**put out, quench**

*After two full weeks of trying to fight it, the fire from the explosion was finally **extinguished**.*

Chapter 02 **UNIT 08** Applied Sciences

1. **confine**

v. to keep within limits; to keep in a small or enclosed space

**restrict, limit, restrain**

*Workers in clay could generally afford to **confine** themselves to either decorated wares or housewares.*

2. **dwelling**

n. a house, flat, or something else where people live

**habitation, house, residence**

*A few houses in New England were built of stone, but only in Pennsylvania and adjacent areas was stone widely used in **dwelling**s.*

3. **fasten**

v. to make something firmly closed or fixed

**tie, attach, lock**

*Before the plane takes off, passengers must **fasten** their seatbelts.*

4. **raze**

v. to destroy something like a building or a town completely

**demolish, tear down, knock down**

*Wrecking balls are used to **raze** buildings.*

## 5. annihilate

v. to destroy something completely

**exterminate, eliminate**

*Human beings have the power to **annihilate** many species as well as damage the balance of their own balance with nature.*

## 6. clumsy

adj. unskillful with the hands or awkward and ungainly in movement

**unhandy, ungraceful, awkward**

*Seals appear **clumsy** on land, but they are able to move short distances faster than most people can run.*

## 7. conceal

v. to hide; to place out of sight

**hide, cover, secrete**

*The researchers argued that the city was threatened by faults which lay **concealed** underground inside it.*

## 8. critical

adj. of or being a moment of great danger, difficulty, or uncertainty

**crucial, vital, momentous**

*Biological diversity has become widely recognized as a **critical** conservation issue.*

## 9. demise

n. the termination of existence or operation

**death, loss**

A shortage of funds led to the **demise** of the program.

#### 10. **deplete**

v. to reduce greatly in number or quantity; to use up supplies, money, energy, or resources

**consume, expend, exhaust**

*The remains of organisms are recycled in the earth, which is fortunate because, otherwise, soil and water would soon become **depleted** of essential nutrients.*

#### 11. **sequence**

n. a series or succession of things in a specific order; the order two or more things follow

**series, succession, order**

*Equally interesting is the fact that the ants' execution of multiple-step tasks is accomplished in a series-parallel **sequence**.*

#### 12. **turbulent**

adj. having a restless or uncontrolled quality; violently disturbed

**wild, unruly, stormy**

*Small mammals suffer hardship in the exposed and **turbulent** environment of the uppermost trees.*

#### 13. **typify**

v. to be an excellent or characteristic example of something

**exemplify, represent, symbolize**

*High mountains **typify** the terrain of Tibet and Nepal.*

14. **unprecedented**

*adj.* without precedent; not known ever to have happened before

**unheard-of, unusual**

*The developed countries of the world are using valuable resources at an **unprecedented** rate.*

15. **feverish**

*adj.* having a tendency to produce a fever; excited, restless, or uncontrolled

**inflamed, fervent, passionate**

*The Civil War created **feverish** manufacturing activity to supply critical materials, especially in the North.*

16. **permanent**

*adj.* lasting or intended to last for a long time

**eternal, perpetual, everlasting**

*Heavy drinking can cause **permanent** damage to the brain.*

17. **maintain**

1) *v.* to keep something in existence

2) *v.* to continue to argue something

1) **preserve, keep** 2) **contend, claim**

*Consumers are misled if they believe organic foods can **maintain** health and provide better nutritional quality than conventionally grown foods.*

18. **screen**

1) *v.* to shelter or conceal



2) v. to test someone in order to check for the presence of a disease

1) **shield, cover** 2) **examine, scan**

*Now, all blood is rigorously **screened** for HIV and other viruses.*

### 19. **stride**

n. a single long step in walking; an advance or development

**pace, step, development**

*From these studies, great **strides** have been made in treating patients.*

### 20. **surpass**

v. to go or be beyond in degree or extent

**better, exceed, outdo**

*It was reported that internal medicine would **surpass** surgery in value to the human race within the next twenty-five years.*

### 21. **unsubstantiated**

adj. not substantiated; unable to prove the truth of something

**unverified, unproved**

*There are numerous **unsubstantiated** reports that natural vitamins are superior to synthetic ones.*

### 22. **ward (off)**

v. to fend off, turn aside, or parry a blow; to keep trouble, hunger, or disease away

**block, avoid, avert**

*Some plants are able to **ward** off animals by emitting noxious fumes that drive them away.*

23. **articulate**

v. to pronounce words or to speak clearly and distinctly

**enunciate**

*Each sound is considered and analyzed before it is **articulated**.*

24. **element**

n. a part of something; a component or feature

**constituent, ingredient, factor**

*Hydrogen, although it is the most abundant **element** in the universe, is not freely found on Earth.*

25. **fabric**

n. woven, knitted, or felted cloth

**textile, cloth**

*Natural silk is highly prized in spite of the availability of similar artificial **fabrics**.*

26. **serve as**

ph. to be in the service of; to work for

**function as, act as**

*Pheromones are substances that **serve as** chemical signals between members of the same species.*

27. **brittle**

adj. hard but easily broken or likely to break

**fragile, breakable, weak**

*Steel is not as **brittle** as cast iron, so it does not break as easily.*

**28. vibration**

*n.* a vibrating motion; a single movement back and forth in vibrating  
**oscillation, shaking, shivering**

*The sensation of sound is produced when **vibrations** transmitted through the air strike the eardrum.*

**29. dazzling**

*adj.* temporarily blinding; fascinating  
**brilliant, bright, dizzying**

*The snow on the mountaintop was **dazzling** in the bright morning sun.*

**30. device**

*n.* a tool or instrument made for a special purpose  
**instrument, apparatus, contrivance**

*An odometer is a **device** used to measure distance.*

Chapter 02 **UNIT 09** Humanities

1. **outlaw**

*n.* someone who has committed a crime

**gangster, desperado, criminal**

*Jesse was an **outlaw**, a bandit, and a criminal.*

2. **enable**

*v.* to make someone able to do something

**entitle, empower, capacitate**

*The economic aid would only last long enough to **enable** the people to help themselves.*

3. **fundamental**

*adj.* serving as or being an essential part of a foundation or basis

**essential, rudimentary, basic**

*The **fundamental** ideals embodied in the Constitution should not be lightly considered.*

4. **ignorant**

*adj.* lacking knowledge or information about something

**unknowing, unaware, unlearned**

*Critics **ignorant** of the conditions attacked the proposed method to fix the problem as wasteful and dangerous.*

5. **transportation**

n. the act of transporting or the process of being transported

**conveyance, moving, carriage**

*Steam travel finally became a viable means of **transportation** in the late eighteenth centuries.*

## 6. **behold**

v. to look at something or someone

**notice, see, look at**

*The steamboats must have been something to **behold** on the rivers due to their size and elaborate, even luxurious, construction and appearance.*

## 7. **mobility** cf. *mobile*

n. the ability to be moved easily

**movability, portability, transportability**

*The troops' **mobility** was their greatest asset in warfare.*

## 8. **moreover**

adv. beside what has been said; and what is more important

**in addition, besides, furthermore**

***Moreover**, even when people in different places use the material in a similar manner, the style of their work still varies.*

## 9. **chore**

n. a domestic task; a boring or unenjoyable task

**drudgery**

*The earliest pottery was used for **chores**, with no attempt to make them works of art.*

## 10. **partition**

v. to divide into parts, pieces, or sections

**separate, divide, split**

***Partitioned** rooms in log houses became the new style as they replaced the simple cabins people used to live in.*

## 11. **paramount**

adj. greater than all others in importance or influence; of supreme importance

**primary, supreme, predominant**

*Tradition is **paramount**, and most tribes are hesitant to make any changes.*

## 12. **durability**

n. the ability to be strong and to last for a long time without breaking or becoming weaker

**endurance, stability, firmness**

*The **durability** of the pottery was crucial to the tribes since making ceramics was not easy for them to do.*

## 13. **establish**

v. to set up

**create, found, organize**

*The Rodeo Cowboy Association was founded in 1936 to **establish** standards and regulations for the sport.*

## 14. **ethnic**

*adj.* relating to or having a common race or cultural tradition

**racial, native**

*The Harlem Renaissance combined realism, **ethnic** consciousness, and Americanism.*

15. **assortment** *cf. an assortment of*

*n.* a mixed collection

**group, collection, array**

*An **assortment** of bones was found at the site, which helped improved scientists' understanding of the ancient culture.*

16. **clarity**

*n.* the quality of being clear and pure

**clearness, distinctness, definition**

***Clarity** and structure became the foundation of the opera seria.*

17. **witness**

*v.* to see or notice something by being present when it happens

**observe, behold, watch**

*In 1905, he went to Paris to work with an art dealer, and it was there that he later **witnessed** the formative years of Cubism.*

18. **devote**

*v.* to use or give up a resource such as time or money wholly to some purpose

**dedicate, pledge, consecrate**

*Ordinary citizens sometimes **devote** their entire lives to serving humanity unselfishly.*

19. **enforce**

v. to cause a law or decision to be carried out effectively; to make something happen  
**administer, implement, carry out**

*These images are meant to **enforce** how foolish and pitiful the character really is.*

20. **essence**

n. the basic distinctive part or quality of something, which determines its nature or character;  
a basic nature  
**nature, principle, core**

*The **essence** of folk music is how it reflects the humanity of the people who created it.*

21. **climax**

n. the high point or culmination of a series of events or of an experience  
**peak, apex, culmination**

*Arias usually followed as a **climax** and revealed the emotion or internal conflict of the actors.*

22. **composite**

n. a combination of two or more materials  
**aggregate, combination, compound**

*Some say that neither the Iliad nor Odyssey was written by a single poet but rather that each poem is a **composite** of the writings of several people.*

23. **encompass**

v. to surround completely; to include or be concerned with



**encircle, enclose, include**

The term “art deco” has come to **encompass** three distinct but related design trends of the 1920s and 1930s.

24. **deliberate**

*adj.* done on purpose or as a result of careful planning

**intentional, planned, careful**

The artist began the **deliberate** process of painting the individual flowers in his landscape.

25. **husbandry**

*n.* the farming business

**farming, agriculture**

The advent of animal **husbandry** led to advancements in every aspect of human development from science to psychology.

26. **hallmark**

*n.* a typical or distinctive feature, especially of quality

**characteristic, identification**

One **hallmark** of jazz music is the way that the best musicians can improvise so easily during their performances.

27. **gesture**

*n.* the movement of the body as an expression of meaning

**motion, indication, signal**

In all cultures, **gestures** are used as a form of communication.

28. **discipline**

1) *n.* strict training or the enforcing of rules

2) *n.* an area of learning

1) **drilling, regulation** 2) **field, area**

*Every scientific **discipline** tends to develop its own special language because it finds ordinary words inadequate, and psychology is no different.*

29. **gala**

*n.* an occasion of special entertainment or a public festivity

**celebration, festival, feast**

*Many people celebrate the new year with **gala** parties.*

30. **immerse**

*v.* to put completely under water

**sink, dip, submerge**

*Daguerre discovered that an image could be made permanent by **immersing** it in salt.*

Chapter 03 **UNIT 10** Social Sciences

1. **engage in**

*ph.* to take part in; to be involved in

**participate in, partake in, enter into**

*In the early 1800s, over 80 percent of the United States' labor force was **engaged in** agriculture.*

2. **exclusive**

*adj.* involving the rejection or denial of everything else

**sole, only, unique**

*A copyright is an **exclusive** right to copy, sell, or perform a creative work such as a book or play.*

3. **halt**

*n.* an interruption or stop in movement, progression, or growth

**stop, cessation, standstill**

*World War II began, which brought an immediate **halt** to all commercial airline service to Europe as well as Asia.*

4. **precious**

*adj.* of great value, especially because something is very expensive or much loved

**valuable, dear, beloved**

*Salt was once so **precious** that some cultures used it as a form of money.*

5. **prosper**

v. to do well, especially financially

**flourish, thrive, succeed**

*Trade with Britain and the West Indies allowed Colonial seaports such as Boston to **prosper**.*

6. **sluggish**

adj. unenergetic; habitually lazy or inactive

**stagnant, lethargic, lazy**

*Some economists believe that the best way to get a **sluggish** economy moving again is to cut taxes.*

7. **sound**

adj. not damaged or injured; in good condition

**undamaged, unimpaired, firm**

*Government bonds and blue-chip stocks are **sound** investments.*

8. **ware**

n. manufactured goods of a specified material or for a specified range of use

**merchandise, commodity, supply**

*In the past, many salesmen tried to sell their **wares** door-to-door.*

9. **pervasive**

adj. tending to or having the power to spread everywhere

**prevalent, widespread, permeate**

The influence of the thoughts has been so **pervasive** that its theoretical approaches have come to be known in academic circles as the Chicago School.

10. **nurse**

v. to hold something with care; to look after sick or injured people

**care for, look after, attend**

Female lions cannot go into estrus and get pregnant while they are **nursing** lion infants.

11. **proceed**

v. to make one's way; to go on

**advance, progress, continue**

Real estate subdivision in the cities **proceeded** much faster than population growth.

12. **donate**

v. to give, especially to charity

**contribute, bestow, grant**

In 1899, Mary Elizabeth Brown **donated** a couple of hundred musical instruments to the museum.

13. **remarkably**

adv. considerably; significantly

**noticeably, unusually, extraordinarily**

The urban population grew **remarkably** quickly during this time, mostly because people were moving to the cities to look for work.

14. **gregarious**

*adj.* seeking and enjoying the company of others

**companionable, sociable**

*A **gregarious** person avoids solitude.*

15. **confer**

*v.* to grant someone an honor or distinction

**give, award, present**

*In the family, traditional cultural patterns **confer** leadership on one or both of the parents.*

16. **constitute**

*v.* to be an element or part of; to establish laws or an institution

**form, compose, establish**

*A soldier's refusal to commit an illegal act does not **constitute** rebellion.*

17. **linear**

*adj.* of, consisting of, or using lines; extended or arranged in a line

**straight, straightway**

*The usually uncritical acceptance of this thesis led in turn to the assumption that the application of science to industrial purposes was a **linear** process.*

18. **bias**

*n.* an inclination to favor or disfavor one side against

**inclination, prejudice, leaning**

*Throughout the 19th century and into the 20th century, farmers in the U.S. maintained a **bias***

against big cities.

19. **exempt**

adj. free from some obligation; not liable

**excused, free, immune**

*Some parents were motivated to send their children to private schools, which were **exempt** from governmental restrictions.*

20. **negligible**

adj. small or unimportant enough to ignore

**trivial, insignificant, trifling**

*Although the accident appeared serious, only a **negligible** amount of damage was done.*

21. **impose**

v. to make a payment of a tax or fine; to make the performance of a duty compulsory

**levy, place, force**

*The government **imposed** strict regulations on the people for the duration of the war.*

22. **reckless**

adj. heedless of the consequences of one's actions or behavior

**rash, careless, imprudent**

*Motorists can be fined for **reckless** driving.*

23. **bound**

n. a limit or boundary; a limitation

**border, confines, extent**

*Education knows no **bounds**.*

**24. atheist**

*n. a person who denies or disbelieves the existence of a supreme being or beings*  
**nonbeliever, infidel**

*Allen was an outspoken **atheist** who was an advocate of deistic thought.*

**25. detect**

*v. to see or to notice; to discover the presence of*  
**uncover, discover, notice**

*The objective of the experiment was to **detect** consciousness in animals to see if they are self-aware or not.*

**26. milestone**

*n. a very important event; a significant point or stage*  
**landmark**

*Gallup's report of the experiment was **milestone** in our understanding of animal minds.*

**27. overthrow**

*v. to defeat completely an established order or a government*  
**overpower, dethrone, defeat**

*In 509 B.C., the Roman Republic was established after the citizens of Rome **overthrew** the ruling Etruscans.*



28. **overtax**

v. to demand too much tax from someone; to burden heavily

**overload, overdo**

*The public school system suddenly found itself **overtaxed**.*

29. **headquarter**

v. to locate the center of an organization or group from which activities are controlled

**base**

*The International Herald Tribune, which is co-owned by the Washington Post and The New York Times, is **headquartered** in Paris.*

30. **zealous**

adj. enthusiastic; keen

**eager, ardent, fervent**

*Although he was a sickly child, Theodore Roosevelt eventually became a **zealous** outdoorsman who extolled the virtues of vigorous exertion.*

Chapter 03 **UNIT 11** Natural Sciences

1. **formulate**

v. to express something in terms of a formula; to express something precisely and clearly  
**systematize, devise, articulate**

*Some possible solutions to the problem are being **formulated**.*

2. **incorporate**

v. to contain something as part of a whole; to combine something  
**consolidate, merge, unite**

*When hypotheses are confirmed, they are into **incorporated** theories.*

3. **strand**

n. a single thin piece of thread, wire, or hair  
**string, fiber, thread**

*Ropes are cords at least 0.15 inches in diameter and are made of three or more **strands** which are themselves formed of twisted yarns.*

4. **cell**

n. a piece of equipment for producing electricity from  
**chemicals, heat, or light**

*His subsequent hydrogen fuel **cells** never produced enough electricity to justify the expense of creating them.*

5. **flourish**

v. to be strong and healthy; to grow well

**prosper, thrive, flower**

*Tulips also **flourished** in Pennsylvania.*

6. **frigid**

adj. cold and unfriendly

**cold, frosty, chilly**

*During the **frigid** winters, food sources become scarce, and migration to more fertile feeding grounds becomes mandatory for their survival.*

7. **instance**

n. an example, especially one of a particular condition or circumstance

**case, illustration, occurrence**

*In many **instances**, the specimens are less than one-tenth of a millimeter in diameter.*

8. **gap**

n. a space between two things or in the middle of something

**rift, crevice, hole, cavity**

*The crossbill winds its long tongue into the **gap** of the nut and draws out the seed.*

9. **fuse**

v. to melt as a result of the application of heat; to join by, or as if by, melting together

**melt, blend, combine**

*The male and female reproductive organs of orchids are **fused** together into a single structure.*

10. **lump**

*n.* an irregularly shaped mass or piece

**chunk, clot, bump**

*As centuries passed, lumps of the resin were covered by layers of soil.*

11. **shed light on**

*ph.* to clear up; to provide information about

**throw light on, clarify, elucidate**

*This finding sheds new light on the inexorable process of aging and death.*

12. **heart**

*n.* the most central part; the most important part

**center, core, essence**

*The heart of a comet is typically quite solid and can be more than ten kilometers in diameter.*

13. **startling**

*adj.* causing someone to be slightly shocked or surprised

**amazing, surprising, astonishing**

*The difference between a hummingbird and a penguin is immense, but it is hardly as startling as the between a bat and a whale.*

14. **sterile**

*adj.* incapable of producing offspring, fruit, or seeds

**unproductive, infertile, barren**

Typically, a colony consists of the queen, **sterile** female workers, and males.

15. **canopy**

n. a covering over something for decoration or protection; the upper level of the trees in a rainforest

**ceiling, roof, tent**

The **canopy** holds plenty of climbing mammals that are moderately large.

16. **convert**

v. to change the form or function of one thing into another

**alter, change, transform**

The term “latent heat” refers to the energy that has to be used to **convert** liquid water to water vapor.

17. **demolish**

v. to destroy or ruin a building or other structure on purpose; to tear down

**raze, smash, break down**

When Mount St. Helens erupted in 1980, it **demolished** a large amount of the ice field that surrounded it.

18. **overcome**

v. to fight successfully in a struggle or conflict

**get over, conquer, defeat**

Nesting on a narrow ledge has its own peculiar problems, and the bird’s behavior has become adapted to **overcome** them.

19. **texture**

*n.* the structure formed by smaller particles; the way the surface of a substance feels  
**fabric, feel**

*The **texture** of the soil can be determined by physically changing the shape of the soil with one's hands.*

20. **initiate**

*v.* to make something begin; to be responsible for starting  
**commence, launch, start**

*In addition, snowfall may be **initiated** when mountainous regions cause moist air to elevate.*

21. **drench**

*v.* to flow or make something flow in a thin stream or drops  
**drown, immerse, soak**

*Despite the long-term lack of rain, deserts occasionally are **drenched** by violent storms.*

22. **adjunct**

*n.* something attached or added to something else but which is not an essential part of it  
**appendage, attachment, accessory**

*In North America, potash making quickly became an **adjunct** to the cleaning of land for agriculture.*

23. **uneven**

*adj.* not smooth or flat; bumpy

**irregular, rough, rugged**

*Essentially, winds are nature's way of balancing the **uneven** distribution of air pressure over the Earth.*

24. **tepid**

*adj. slightly or only just warm*

**lukewarm, warmish**

*Hurricanes pose the greatest threat to human populations when they track eastward to the **tepid** waters of the Gulf of Mexico.*

25. **sporadically**

*adv. at irregular intervals; not continuously*

**occasionally, intermittently**

*Lichens and moss grow on the rocks while small tufts of grass spring up **sporadically** in between the boulders and stones.*

26. **obvious**

*adj. easily seen, recognized, or understood*

**clear, apparent, evident**

*No two comets ever look identical, but they have basic features in common, one of the most **obvious** of which is a coma.*

27. **plunge**

*v. to dive, throw oneself, fall, or rush headlong into something; to thrust or push something*

**fall, drop, pitch**

When the comet **plunged** into Jupiter's atmosphere and struck the planet, astronomers were watching as closely as they could.

28. **suitable**

*adj.* having the right qualities for a particular person, purpose, or situation

**appropriate, fitting, proper**

*If a **suitable** amount of water is found on the planet, it could enable colonies to be established there much more easily.*

29. **trek**

*n.* a long and hard journey

**trip, journey, hike**

*GPS receiving devices are becoming standard in most new car designs and are a favorite of hunters and fishermen making long **treks** in the wilderness.*

30. **peril**

*n.* grave danger, especially of being harmed or killed

**threat, risk, jeopardy**

*While high winds are commonly associated with the **perils** of hurricanes, the most destructive factor is the accompanying storm surge as it strikes land.*



## Chapter 03 UNIT 12 Applied Sciences

### 1. elaborate

*adj.* complicated in design; carefully planned or worked out

**intricate, painstaking, meticulous**

*Arriving in the New World during the 1600s, early American settlers had little resources for or interest in **elaborate** furniture.*

### 2. erect

*v.* to put up or build something; to set up or establish something

**construct, create, found**

*Many buildings in that style were **erected** nationwide thanks to government programs.*

### 3. rectangular

*adj.* relating to a four-sided figure with opposite sides of equal length

**square, four-sided, right-angled**

*Within its **rectangular** walls, permanent houses were built, replacing the thatched dwellings of the original Manhattanites.*

### 4. unify

*v.* to bring two or more things together to form a single unit

**combine, integrate, unite**

*All of the parks and squares were meant to supplement the major road, which was to remain the **unifying** factor for the entire system.*

5. **aptly**

*adv.* in an apt or suitable manner

**fitly, appropriately, properly**

*The road has been **aptly** called “the metropolitan corridor” of the American landscape.*

6. **eliminate**

*v.* to completely get rid of something that is unnecessary or unwanted

**remove, exterminate, obliterate**

*Certain species may be **eliminated** while others may survive for no particular reason.*

7. **aquatic**

*adj.* involving or happening in water

**marine, oceanic**

*Rodents dwell in various habitats, with some species being **aquatic** and others terrestrial.*

8. **efficient**

*adj.* producing satisfactory results with an economy of effort

**effective, proficient, economic**

*Believe it or not, diesel is both rich in energy and highly **efficient**.*

9. **habitat**

*n.* the natural home of an animal or plant

**home, niche, territory**

*Watching the behavior of diverse animal species in their natural **habitats**, Lopez and*

*Tinbergen observed behavior patterns that promote survival.*

10. **ensure**

v. to make something certain; to assure or guarantee something

**assure, confirm, guarantee**

*The behavioral **ensures** that the young will stay close to their mother and be protected from danger.*

11. **stress**

v. to emphasize or attach importance to something

**accent, underscore, spotlight**

*The woods' importance in the communities of colonial North America need hardly be **stressed**.*

12. **striking**

adj. unusual or interesting enough to be easily noticed

**extraordinary, remarkable, impressive**

*Perhaps the most unique aspect of butterfly diversity is the **striking** difference in species richness between tropical and temperate regions.*

13. **pliable**

adj. able to bend without breaking or cracking

**flexible, elastic, malleable**

*Platinum is harder than copper and is almost as **pliable** as gold.*

14. **teem with**

*ph.* to be very full of people or animals, which are all moving about  
**proliferate with, swarm with, overflow with**

*The waters off the east coast of the United States once **teemed with** immense schools of fish, some as many as a mile across.*

15. **obtain**

*v.* to get something that is necessary  
**acquire, gain, procure**

*Vitamin C is **obtained** from citrus fruits.*

16. **nutritional**

*adj.* relating to the substances in food that make or stay healthy  
**nourishing, nutritive, alimentary**

*If one's basic **nutritional** needs are being met, he or she should not need to take vitamin supplements.*

17. **deter**

*v.* to discourage or restrain from acting  
**inhibit, prevent, check**

*Another form of biological pest control is to include various plants in a garden or field that are known naturally to **deter** parasitic pests.*

18. **portable**

*adj.* easily carried or moved and usually designed to be so  
**transportable, carryable, handy**

Some stutterers carry a **portable** device that allows them to hear their own words with a time delay.

19. **populate**

v. to inhabit or live in a certain area

**settle, occupy**

*Skeletal muscles **populate** the human body more than any other kind of muscles.*

20. **precede**

v. to go or be before someone or something

**predate, lead, herald**

*Occasionally, the episode may be **preceded** by some visible drowsiness, but it usually just hits out of nowhere.*

21. **prescribe**

v. to advise a medicine as a remedy, especially by completing a prescription

**direct, specify, order**

*In herbal therapy, special herbs are **prescribed** by a doctor to be taken in a hot liquid form.*

22. **reaction**

n. a response to a stimulus

**reply, feedback, repulsion**

*A chemical **reaction** that absorbs heat is called endothermic.*

23. **respiratory**

*adj.* relating to breathing or the lungs

**breathing, respiring**

*Examples of smooth muscle can be found in the **respiratory** tissues.*

24. **at odds**

*ph.* at variance; in disagreement

**disagreeing, conflicting, on bad terms**

*Scientists, physicians, and psychologists have often been **at odds** about how the brain functions.*

25. **ingredient**

*n.* one of the parts that make up a whole

**constituent, element, factor**

*When the two **ingredients** are mixed together, under certain conditions, the results can be deadly.*

26. **noxious**

*adj.* causing or capable of causing harm; poisonous

**harmful, nocuous, toxic**

*One result of the industrial complex construction was an increased concentration of **noxious** chemicals in the air.*

27. **subject (to)**

*adj.* likely to be affected by something, especially something bad; being under domination, control, or influence

**vulnerable, prone, submissive**

Plants are **subject** to attack and infection by a remarkable variety of symbiotic species and have evolved a diverse array of mechanisms designed to frustrate potential colonists.

### 28. **protein**

*n.* a substance that exists in foods such as meat, eggs, and beans and which a body needs in order to grow and to remain strong and healthy

*A fever is caused when blood cells release **proteins** called pyrogens, which raise the body's temperature.*

### 29. **artificial**

*adj.* made by human effort; not occurring naturally

**man-made, unnatural**

*In a domed stadium, natural grass cannot be grown, so **artificial** turf is used on the playing field.*

### 30. **harness**

*v.* to control and use the natural force or power of something

**utilize, apply, exploit**

*Dams can **harness** the power of rivers, but they may also destroy their beauty.*

Chapter 03 UNIT 13 Humanities

1. **implication**

*n.* a possible effect or result of an action or a decision; something that is suggested or indirectly stated

**hint, insinuation, connotation**

*Pennsylvania's colonial ironmasters forged iron and a revolution that had both industrial and political **implications**.*

2. **accompany**

*v.* to go along or in company with; to join in action

**attend, go with, escort**

*Forms of music often **accompanied** the stories to instill emotion and climax in the history.*

3. **dexterous**

*adj.* skillful in physical movements, especially of the hands

**deft, artful, shrewd**

***Dexterous** with axes, snares, and fishing lines, these men blazed the trails, built the first log cabins, and confronted Native American tribes.*

4. **prevent**

*v.* to stop someone from doing something or from happening

**prohibit, inhibit, forestall**

*The availability of fresh meat was very limited; there was no way to **prevent** spoilage.*



5. **unrestricted** cf. *restrict*

*adj.* not limited by anyone or anything

**unlimited, unimpeded, free**

*The herds of cattle no longer had **unrestricted** use of the plains for grazing, and the fencing led to conflict between the farmers and the cattle ranchers.*

6. **administer**

*v.* to manage, govern, or direct one's affairs or an organization

**direct, manage**

*The National Marine Sanctuaries Program is **administered** by the National Oceanic Administration.*

7. **migrate**

*v.* to travel from one region to another; to leave one place to settle in another

**move, resettle, relocate**

*At this point, early groups of humans began to **migrate** both east and west.*

8. **funeral**

*n.* the ceremonial burial or cremation of a dead person

**burial, interment**

***Funeral** rites have always played important roles in human history.*

9. **innovative**

*adj.* introducing or using new ideas or ways of doing something

**creative, imaginative, ingenious**

One **innovative** approach on the functions of the stone tools involves studying damage and wear on them.

## 10. **frame**

- 1) v. to compose or design something
- 2) n. a hard main structure or basis to something
- 1) **construct, devise** 2) **structure, framework**

The questions behaviorists **framed** and the techniques they used were designed to help them understand how people behaved.

## 11. **recall**

- v. to bring back from memory
- recollect, remember, reminisce**

Some archeologists **recalled** complicated emotions when they had finally found the artifacts.

## 12. **excavate**

- v. to dig up or uncover something, especially historical remains
- unearth, uncover, expose**

It was not until the 1890s that archaeologists **excavating** in city-states to the south of Nineveh found many thousands of tablets inscribed only in Sumerian.

## 13. **isolated** cf. *isolate*

- adj. placed or standing alone or apart
- separated, secluded, unconnected**

The ideal situation for the creation of folk music is an **isolated** rural community.

#### 14. **fashion**

1) v. to make something into a particular shape

2) n. a way of making or doing something

1) **make, manufacture** 2) **manner, way**

*The Native Americans in northern California were highly skilled at basketry, using reeds, grasses, and roots to **fashion** articles of all sorts and sizes.*

#### 15. **coffin**

n. a box into which a corpse is put for cremation or burial  
casket, pall

*The climax occurs at the end of the feast, when the body is placed in a **coffin** and carried to its final resting place.*

#### 16. **conduct**

v. to carry out a particular activity or process; to lead or guide

**run, direct, manage**

*Recently, some anthropologists **conducted** an interesting case study in ethnology.*

#### 17. **evoke**

v. to cause or to produce a response or reaction

**invoke, raise, make**

*The purpose of a poem need not be to inform the reader of anything but rather to **evoke** a feeling to create a sensual, aesthetically pleasing experience.*

18. **genius**

*n.* someone who has an outstanding creative or intellectual ability

**brain, intellect, mastermind**

*Today, his work tends to be poorly known among historians though some call him an intuitive **genius** far ahead of his peers.*

19. **imitate**

*v.* to copy the behavior, manners, or appearance of someone; to use something as a model

**mimic, copy**

*Numerous assistants, who had been trained to **imitate** the artist's style, applied the paint.*

20. **exert**

*v.* to use power or influence in order to make something happen

**exercise, expend, use**

*The pressures **exerted** along the foot, together with the length of the stride, which averaged 87 centimeters, indicated that the hominids had been walking slowly.*

21. **deserving**

*adj.* worthy of being given support or a reward

**creditable, estimable, praiseworthy**

*Annual cash awards are given to **deserving** artists in various categories.*

22. **note**

*v.* to notice or pay careful attention to something

**observe, perceive, notice**

Other investigators have **noted** that when mothers talk to babies who are only a few months old, they exaggerate the pitch, loudness, and intensity of their words.

23. **infinite**

*adj.* having no boundaries or limits in size, extent, time, or space

**boundless, endless, limitless**

*In The Library of Babel, Borges describes an **infinite** library that contains all possible texts.*

24. **culmination**

*n.* the top or highest point; the attainment or arrival at the highest point of glory, power, or something else

**peak, zenith, climax**

*His death was simply a **culmination** of years and years of trouble, pain, and suffering.*

25. **consciously**

*adv.* with full awareness of what one is doing

**intentionally, deliberately, knowingly**

*In playing hot jazz, a musician **consciously** departs from strict meter to create a relaxed sense of phrasing that emphasizes the underlying rhythms.*

26. **idiosyncratic**

*adj.* peculiar to a specific individual; rather unusual

**eccentric, odd, strange**

*At first, the poems of Cummings gained notoriety for their **idiosyncratic** punctuation and typography, but they have been gradually recognized for their lyric power.*

27. **elastic**

*adj.* able to return to its original shape or size after being pulled or pressed out of shape  
**flexible, stretchable, pliable**

*Sound is any disturbance that travels through an **elastic** medium, such as air, ground, or water, to be heard by the human ear.*

28. **discrimination**

*n.* the ability to draw fine distinctions; biased judgment  
**discernment, prejudice**

*Babies enter the world with the ability to make precisely those perceptual **discriminations** that are necessary if they are to acquire aural language.*

29. **flamboyant**

*adj.* brightly colored and easily noticed; excessively showy  
**flashy, garish, eye-catching**

*In the 1960s, men's clothing underwent revolutionary changes in color and fabric, becoming **flamboyant** for the first time in the 20th century.*

30. **embrace**

- 1) *v.* to hold someone closely in the arms affectionately or as a greeting
- 2) *v.* to include something as a part
- 1) **hug, clasp** 2) **include, encompass**

*Some of these artists came to truly **embrace** life in small towns and to reject city life and so-called "sophisticated society."*

Chapter 04 **UNIT 14** Social Sciences

1. **precipitous**

*adj.* very sudden; dangerously high or steep

**abrupt, steep, sheer**

*Besides ruining many thousands of individual investors, the **precipitous** decline in the value of assets greatly strained banks and other financial institutions.*

2. **confront**

*v.* to face someone; to prepare to deal firmly with something

**encounter, face, defy**

*Staggering tasks **confronted** the people of the United States, both the North and the South, when the Civil War ended.*

3. **tedious**

*adj.* tiresomely long-winded or dull

**boring, overlong, monotonous**

*The use of robots and automated machinery has eliminated certain **tedious** factory jobs.*

4. **transition**

*n.* a change or passage from one condition or place to another

**alteration, change, conversion**

*The United States economy underwent a massive **transition**, and the nature of work was permanently altered.*

5. **virtually**

*adv.* in practice, though not strictly speaking

**substantially, practically, nearly**

*The land surrounding Boston had always been poor farm country, and, by the mid-eighteenth century, it was **virtually** stripped of its timber.*

6. **courteously**

*adv.* in a polite manner

**politely, considerately, respectfully**

*Workers in the service sector should be trained to act as **courteously** as possible.*

7. **seasoned**

*adj.* rendered competent through trial and experience

**trained, experienced, veteran**

***Seasoned** workers are more valuable to employers than beginners.*

8. **soar**

*v.* to rise or fly high into the air

**rise, increase, skyrocket**

*Cotton production **soared** as southern farmers turned their land into cotton plantations.*

9. **extraordinary**

*adj.* very unusual or surprising; much greater or more impressive than usual

**strange, abnormal, outstanding**



*The combination of new immigrants and old American “settlers” on America’s “urban frontier” in the late 19th century proved **extraordinary**.*

10. **magnify**

v. to make something seem bigger or louder, especially using special equipment

**amplify, enlarge, augment**

*Rapid industrialization and increased geographic mobility in the nineteenth century has special implications for women because these changes tended to **magnify** social distinctions.*

11. **makeup**

n. the combination of characteristics or ingredients that form something

**composition, constitution, arrangement**

*As the population grew, its **makeup** also changed.*

12. **merchandise**

n. goods that are being sold

**commodities, products, staples**

*The men bought or traded farm animals and acquired needed **merchandise** in the market.*

13. **metropolis**

n. a very large city that is the most important city in a country or area

**megalopolis, municipality**

*By 1930, the United States had ten giant **metropolises**.*

14. **corruption** cf. *corrupt*

*n.* a sinking to a state of low moral standards

**depravity, perversion**

*Most lived in small towns and believed cities to be centers of **corruption**, crime, and moral degradation.*

### 15. **descent**

*n.* family origins or ancestry

**lineage, bloodline, ancestry**

*Some cultures trace a person's ancestry back through the mother's line, which is known as the matrilineal system of **descent**.*

### 16. **circulation**

1) *n.* the passing of something from one person or place to another

2) *n.* the distribution of a newspaper or magazine

1) **distribution, diffusion** 2) **issuance**

*In fact, the **circulation** of weekly magazines exceeded that of newspapers in the period.*

### 17. **competitiveness**

*n.* the ability of a company, country, or a product to compete with others

**rivalry**

*In the context of extreme **competitiveness** and dizzying social change, the household lost many of its earlier functions.*

### 18. **disdain**

*n.* a lack of respect accompanied by a feeling of intense dislike

**contempt, scorn**

*Their disputes with Hamilton over his pro-business economic program and **disdain** for the common man contributed to the formation of the first U.S. party system.*

19. **constraint**

*n.* something that limits one's freedom of action or choice

**restraint, limitation, curb**

*The time **constraints** prevented the subjects from finishing the test on time.*

20. **budget**

*n.* an estimate of expected income and expenses for a given period

**fund, pool**

*The military was restricted by its minuscule **budget**.*

21. **particulars**

*n.* the facts and details about a job, property, or legal case

**details, specifics, minutiae**

*The study revealed **particulars** that seem to hold true for the general population.*

22. **step in**

*ph.* to become involved in an activity, discussion, or disagreement

intervene, intercede

*The town board was forced to **step in** and put a stop to the development in the area.*

23. **plead**

v. to ask someone for something in a very strong and serious way; to state in a court of law that one is guilty or not guilty

**petition, argue, assert**

*In 1977, Richard Helms **pleaded** guilty to charges of inaccurately testifying about CIA activities in Chile.*

#### 24. **attune**

v. to adjust or to prepare for a situation or something

**adjust, accord, harmonize**

*A new type of newspaper, one that was more **attuned** to the spirit and needs of the new America, appeared around this time.*

#### 25. **disgust**

n. a strong feeling of dislike, annoyance, or disapproval

**loathing, hatred, nausea**

*Eight pigeons were shown photographs of people displaying emotions of happiness, anger, surprise, and **disgust**.*

#### 26. **assessment**

n. the act of calculating or deciding the value or amount of something

**estimation, evaluation, judgment**

*One is a conscious, rational **assessment** of the danger, and the other is an unconscious, innate reaction.*

#### 27. **chance**

1) n. likelihood that something will happen, especially something desirable

2) *adj.* not planned or expected

1) **probability, prospect** 2) **accidental, causal**

*A **chance** conversation with a stranger may lead a person to discover how little is known of other religions.*

28. **integral**

*adj.* being a necessary part of a whole

**essential, fundamental, elemental**

*Education is a lifelong process that starts long before the start of school and is one that should be an **integral** part of one's entire life.*

29. **palatial** cf. *palace*

*adj.* like a palace in magnificence or spaciousness

**luxurious, grand, splendid**

*Miami Beach is a popular year-round resort, famous for its gold coast hotel strip, **palatial** estates, and recreational facilities.*

30. **adoption**

*n.* the act of taking and using as one's own

**acceptance**

*In 1923, he began a campaign to promote the **adoption** of an amendment to the United States Constitution mandating equal rights for women.*

Chapter 04 **UNIT 15** Natural Sciences

1. **minute**

*adj.* very small

**tiny, minuscule, little**

*Quarks are **minute** particles that are believed to be the fundamental unit of matter.*

2. **cross-sectional**

*adj.* made in horizontal sections

**cross-sectioned**

*The strength of a rope is directly proportional to its **cross-sectional** area.*

3. **spike**

1) *n.* a large metal nail

2) *v.* to rise dramatically

1) **peg, pin** 2) **skyrocket**

*The result was the most catastrophic nuclear disaster ever as radioactive levels **spiked** in the surrounding areas.*

4. **literally**

*adv.* according to the words and not the intention

**strictly, exactly, word for word**

*These animals were the pterosaurs, **literally**, the “winged lizards.”*

5. **merely**

*adv.* only as specified and nothing more

**only, simply, purely**

*The plovers' nests are **merely** scrapes in the sand or earth.*

6. **random**

*adj.* having no specific pattern

**accidental, haphazard, unsystematic**

*Far from being **random**, molting is controlled by strong evolutionary forces that have established an optimal time and duration.*

7. **rear**

*v.* to feed and educate children; to bring up

**nurture, raise, care for**

*Among the species of seabirds that use the cliffs on the Atlantic coast in Canada to mate, lay eggs, and **rear** their young are common murre.*

8. **recruit**

*v.* to enroll or obtain new members

**mobilize, draft, enlist**

*When they fight with insects from outside their colony, Argentine ants can quickly **recruit** a huge army from their network of nests.*

9. **refuge** cf. *refugee*

*n.* a shelter or protection from danger or trouble

**haven, asylum, sanctuary**

Wetlands provide **refuge** for many species of birds, reptiles, mammals, and amphibians.

10. **respiration**

*n.* the act of respiring or breathing

**exhalation**

*The process of **respiration** in plants involves a complex series of chemical reactions.*

11. **robust**

*adj.* strong and healthy; with a strong constitution

**vigorous, hardy, sturdy**

*This bird has a large, **robust** bill, yet it is not the most prominent feature on the animal.*

12. **rotting** cf. *rotten*

*adj.* decaying or causing to decay by a gradual natural process

**decomposing, decaying, spoiling**

*Both animals lived and foraged primarily in the soil and in **rotting** vegetation on the ground.*

13. **scramble**

*v.* to crawl or to climb, especially hurriedly or frantically

**clamber, scrabble, crawl**

*The animal's small size makes it easy for it to **scramble** for insects, flowers, or fruit among the twigs and branches in the canopy.*

14. **conspicuous**



*adj.* visibly noticeable or obvious

**prominent, outstanding, vivid**

*Many mountaineers wear orange and other bright colors in order to be as **conspicuous** as possible.*

15. **seep**

*v.* to pass slowly through small openings or pores

**leak, drain, ooze**

*Millions of years ago in the Oligocene Epoch of Earth's history, clear resin **seeped** from pine trees growing in the Baltic Sea basin.*

16. **dubious**

*adj.* feeling doubt; unsure

**doubtful, suspicious, ambiguous**

*They objected to the plan because the replenishment programs are costly and of **dubious** value.*

17. **edge**

*n.* the part farthest from the middle of something

**border, boundary, rim**

*Prehistoric people used flint to make tools and weapons because it could be chipped into shapes with sharp **edges**.*

18. **seismic**

*adj.* relating to or characteristic of earthquakes

*The way that **seismic** waves travel shows that the Earth's interior is far from uniform.*

19. **sort out**

*ph.* to separate from a mass or group

**classify, group, divide**

*To measure soil texture, the sand, silt, and clay particles are **sorted out** by size and weight.*

20. **squeeze**

*v.* to grasp or embrace tightly; to get or force out by squeezing

**compress, press, extract**

*The ability of oil companies to **squeeze** out more production by using new technology has added to the surplus.*

21. **tangled**

*adj.* untidy, knotted, and confused; involved especially in conflict

**entangled, twisted, intertwined**

*Since then, over 100 tons of fossils, including 1.5 million tons from vertebrates and 2.5 million tons from invertebrates, have been recovered, often in densely concentrated **tangled** masses.*

22. **consistency**

*n.* the state of always keeping to the same principles or course of action; the degree of firmness or thickness

**agreement, coherence, solidity**

*The **consistency** of the ocean floor determines what type of blast the trencher uses.*

23. **hazardous**

*adj.* very risky; dangerous

**perilous, unsafe, precarious**

*Working with toxic materials is a **hazardous** occupation.*

24. **major**

*adj.* great or greater in number, size, extent, value, or importance

**primary, principal, critical**

*Galaxies are the **major** building blocks of the universe.*

25. **subtle**

*adj.* not straightforwardly or obviously stated or displayed

**delicate, vague, abstruse**

*The available weather data are generally not detailed enough to allow computers to discern the **subtle** atmospheric changes that precede these storms.*

26. **primeval**

*adj.* of the earliest period in the existence of something

**early, prehistoric, primitive**

*For more than 15 years, astronomers have searched for such **primeval** galaxies, and many gave up the task after several surveys of the sky failed to find any.*

27. **graphic**

*adj.* described or shown vividly and in detail

**descriptive, explicit, lifelike**

*Dr. Dennis McCarthy, the chief of the branch that measures the Earth's rotation, expressed the*

meaning of a second in another, perhaps more **graphic**, way.

28. **solitary**

*adj.* habitually alone, especially by choice

**sole, single, lone**

*The **solitary** scientist making important discoveries by himself has been replaced by a cooperative scientific team.*

29. **molecule**

*n.* the smallest particle of an element or compound that can exist **independently**

*The molecular theory of matter, which considered all matter to be composed of tiny, indivisible entities called **molecules**, was developed.*

30. **realm**

*n.* a domain, province, or region; a field of interest, study, or activity

**territory, area, sphere**

*The invention of the visible-light microscope late in the sixteenth century introduced a previously unknown **realm** of single-celled plants and animals.*

Chapter 04 **UNIT 16** Applied Sciences

1. **install**

v. to put equipment or machinery in place and to make it ready for use

**position, place, settle**

*The Baltimore and Ohio Railroad **installed** the first air conditioning system for trains in 1931.*

2. **spawn**

1) v. to lay eggs; to give rise to something

2) n. an offspring of someone or something

1) **generate, create** 2) **progeny**

*One invention often **spawns** many others.*

3. **subsequent**

adj. happening after or following

**ensuing, following, succeeding**

*Modern architects have ignored the **subsequent** impact of industrialization on modern life.*

4. **stiffen** cf. *stiff*

v. to make or become firm

**harden, solidify, thicken**

*Until the George Washington Bridge was built, modern suspension bridges were **stiffened** with steel trusses and beams to limit their motion in traffic and wind.*

5. **borough**

*n.* a division of a large town

**town, city, municipality**

*The commercial center of New York City, the island of Manhattan is joined to the other **boroughs** by bridges and tunnels.*

6. **obligate**

*v.* to force or compel somebody to do something

**oblige, bind, compel**

*The Endangered Species Act of 1973 **obligates** the government to protect all animal and plant life threatened with extinction.*

7. **extinction**

*n.* the dying out of many animal species at more or less the same time

**death, loss, destruction**

*Perhaps the human species was driving others to **extinction** long before the dawn of history.*

8. **menace**

*v.* to show an intention to damage or harm someone

**threaten, intimidate, frighten**

*Bald eagles were hunted both for sport and because they were thought to **menace** livestock.*

9. **innate**

*adj.* belonging to or existing from birth

**inborn, inherent, intrinsic**

Scientists are exploring the **innate** weed-killing powers of living organisms, primarily insects and microorganisms.

10. **key**

adj. centrally important  
**essential, crucial, main**

*Sociality has several **key** advantages over solitary behavior.*

11. **preponderance**

n. the state of being greater in amount, number, or something else  
**supremacy, superiority, predominance**

*New World butterflies make up the **preponderance** of examples because they are the most familiar species.*

12. **profound**

adj. far below the surface; very strongly felt  
**deep, intense, great**

*The wrong policy has had a **profound** impact on Haiti's development and has resulted in Haiti being the poorest nation in the Western Hemisphere.*

13. **reveal**

v. to make a secret known; to disclose something  
**expose, display, let out**

*The fossil record **reveals** that extinctions have occurred throughout the history of Earth.*

14. **evade**

v. to escape or avoid something or someone by trickery or skill

**avoid, elude, escape**

*Many types of fish are continually stalking and **evading** one another.*

15. **bloodcurdling**

adj. causing a strong chilling fear or horror

**horrible, scary, gory**

*A more **bloodcurdling** example, especially to human beings and most other species of fish, is the shark.*

16. **puzzle over**

ph. to make a great effort of the mind in order to find the answer to a question

**ponder, contemplate, consider**

*Doctors and psychologists in the past **puzzled over** the cause of the disease.*

17. **skyrocketing**

adj. increasing rapidly

**soaring, rising**

*It was just a decade before this that many drug companies found their vitamin sales **skyrocketing**.*

18. **solely**

adv. only and not involving anyone or anything else

**alone, solitarily, exclusively**



Ear acupuncture is involved **solely** with the ear and its numerous activation points.

19. **nervous**

*adj.* relating to the nerves; easily agitated

**agitated, anxious, on edge**

The **nervous** system of vertebrates is characterized by a hollow, dorsal nerve cord that ends in the head region.

20. **onslaught**

*n.* a fierce attack; an onset

**assault, attack, raid**

In the face of this **onslaught**, living things have evolved a variety of defense mechanisms to protect their bodies from invasion by other organisms.

21. **ratio**

*n.* the number or degree of one class of things in relation to another

**proportion**

In the experiment, the **ratio** of helium to hydrogen nuclei remained about the same.

22. **cautious**

*adj.* careful to avoid risks

**wary, watchful, alert**

Workers must be very **cautious** when dealing with toxic substances.

23. **physiological**

*adj.* of or pertaining to physiology

*Alternative therapies can work wonders as preventative methods for **psychological** as well as psychological problems.*

24. **aversion**

*n.* a strong dislike

**hatred, animosity, hostility**

*A person suffering from claustrophobia has an **aversion** to confined spaces.*

25. **outrage**

*v.* to insult, shock, or anger someone greatly

**enrage, infuriate, offend**

*The patient survived, but the incident **outraged** the religious sensitivities of the times, and no further experiments were tried.*

26. **overlap**

*v.* to partly cover another object

**overlie, overlay**

*One reason that there is much less emphasis on whether a person is considered to be “right-” or “left-brained” is that there is such an **overlap** in these areas.*

27. **odor**

*n.* a distinctive smell, especially an unpleasant one

**smell, scent, stink**

*Each ant nest has its own **odor** as a result of its location, history, and local food supply.*

28. **petroleum**

*n.* a naturally occurring oil consisting of a dark and thick liquid mixture of hydrocarbons

*Pipelines transport huge quantities of natural gas and liquid **petroleum** products.*

29. **wholesome**

*adj.* good for the body or likely to produce good health

**healthy, nutritious, beneficial**

*Whole grains and fresh fruits and vegetables are **wholesome** foods.*

30. **murky**

*adj.* dark and unpleasant

**gloomy, dim, overcast**

*It's difficult for scuba divers to see when the water is **murky**.*

Chapter 05 **UNIT 17** Humanities

**1. record**

v. to set something down in some permanent form

**write down, register, document**

*By 1820, it was a city of more than 10,000 people, and, by 1880, it had **recorded** a population of over one million.*

**2. seize**

v. to take or grab suddenly, eagerly, or forcibly

**grasp, grab, capture**

*Many West Africans were **seized** and shipped unwillingly to the New World as slaves.*

**3. concrete**

adj. definite or positive, as opposed to vague or general

**actual, tangible, specific**

*A good writer supports his or her generalizations with **concrete** examples.*

**4. provisional**

adj. under terms not final or fully worked out or agreed upon

**temporary, interim, conditional**

*On February 7, the seven states adopted a **provisional** constitution for the Confederate States of America.*

## 5. traverse

v. to go across or through something

**cross, crisscross, intersect**

*The ships could **traverse** great distances and bring American and other Allied fighting forces to face the Axis powers.*

## 6. boost

v. to improve or encourage something or someone

**lift, raise, encourage**

*Throughout the wilderness, bands provided entertainment and **boosted** morale.*

## 7. employ

1) v. to use a particular object or method

2) v. to give work, usually paid, to someone

1) **utilize, apply** 2) **hire, recruit**

*The earliest way of keeping a count was by some simple tally method, **employing** the principle of one-to-one correspondence.*

## 8. expose

v. to remove the cover from something or to allow this to be the case

**uncover, reveal, unveil**

*The woolly mammoth and other mammals were periodically **exposed** in the tundra of Siberia.*

## 9. favored cf. favor

adj. enjoying favor or preferential treatment

**preferred, selected, favorite**

*If such hunters first competed with the larger predators and then replaced them, they may have allowed more young to survive each year, gradually increasing the populations of **favoured** species.*

### 10. glaze

v. to make something shiny; to cover plates or cups with a thin liquid

**polish, coat, enamel**

*Kilns were also used for **glazing** pottery when two firings were needed.*

### 11. indispensable

adj. absolutely necessary; essential

**requisite, vital, crucial**

*From the very beginning, music was regarded as an **indispensable** accompaniment that people simply needed to listen to.*

### 12. legacy

n. an amount of property or money left in a will

**heritage, bequest, inheritance**

*The empire did not last long, but its **legacy** was far reaching.*

### 13. inscribe

v. to write or engrave words on something, often as a lasting record

**engrave, etch**

*Many other tablets were **inscribed** in another language that was not previously unknown and thus could not be translated.*

#### 14. majestic

*adj.* having or showing majesty; grand in manner

**magnificent, imperial, grand**

*This high land ground is **majestic** but not forbidding.*

#### 15. conjecture

*v.* to form an opinion about something even without much information on it

**guess, suppose, estimate**

*It is **conjectured** that the Anasazi abandoned their settlements because of drought.*

#### 16. disguise

1) *v.* to change appearance in order to escape recognition

2) *n.* a disguised state

1) **mask, deceive** 2) **camouflage, coverup**

*Contrary to folk songs, popular songs' origins cannot be **disguised**, and therefore they belong primarily to the composer and not to a community.*

#### 17. excursion

*n.* a short trip, usually one made for pleasure

**journey, expedition, jaunt**

*The art society's activities also included organized sketching **excursions** along the Hudson River, where artists painted landscapes of the breathtaking scenery there.*

#### 18. outstanding

*adj.* very great or clear; extremely good  
**distinguished, remarkable, excellent**

*Mark Twain became the country's most **outstanding** realist author.*

### 19. epoch

*n.* a major division or period of history, or of a person's life  
**era, age, period**

*The year 1850 may be considered the beginning of a new **epoch** in American art.*

### 20. status

*n.* a rank or position in relation to others within society or an organization  
**standing, position, level**

*By the outbreak of the revolution in 1778, the **status** of the artists had already undergone changes.*

### 21. execute

*v.* to perform or carry out something  
**perform, fulfill, accomplish**

*Once again, an original portrait became a luxury that was commissioned by the wealthy and **executed** by the professional.*

### 22. flatter

*v.* to praise someone excessively or insincerely  
**compliment, butter up, fawn**

*While the nickname was not intended to be **flattering**, it was hardly inappropriate in his case,*



so he was not offended by it.

### 23. forefront

*n.* the very front; the most prominent or active position

**vanguard, head**

*The Enlightenment was a period of time in Europe in which people put human reason at the **forefront** of thought.*

### 24. dub

*v.* to give a name, especially a nickname, to someone

**call, name, entitle**

*Over time, the style of the intermezzo caught on and was put on separately, eventually being **dubbed** the opera buffa.*

### 25. exponent

*n.* a person who supports an idea, theory, or something else and persuades others that it is good

**proponent, advocate, supporter**

*France produced a number of outstanding **exponents** of the Art Nouveau style, so many artists moved there to attempt to learn from them.*

### 26. extol

*v.* to praise something very much

**praise, celebrate, glorify**

*In the United States as well as in Great Britain, reformers **extolled** the virtues of handcrafted objects, thereby driving up their prices.*

**27. mimic**

v. to imitate in a way that is meant to be amusing

**copy, imitate, mirror**

*The tree seemed to **mimic** the Old Testament prophet Joshua waving people, with upraised arms, on toward the Promised Land.*

**28. intuitive**

adj. attained by using feelings rather than by considering facts

**instinctive, insightful**

*The converser's tone can reflect **intuitive** sympathy or antipathy, lack of interest, fatigue, anxiety, or even excitement.*

**29. caustic**

adj. critical in a bitter or sarcastic way

**biting, harsh, scathing**

***Caustic** remarks can offend people, which is why people need to be careful of what they say in the presence of others.*

**30. skeptical**

adj. having doubts that a claim or statement is true or that something will happen

**doubtful, dubious, suspicious**

*They were **skeptical** about the plan; a railroad built through so challenging and thinly settled a stretch of desert, mountain, and semiarid plain could not make a profit.*

## Chapter 05 UNIT 18 Social Sciences

**1. stem from**

*ph.* to arise or originate from

**derive from, come from**

*The impressive gain in output **stemmed** primarily **from** the way in which workers made the goods.*

**2. commerce**

*n.* the buying and selling of commodities and services

**trade, business, merchandising**

*With the growth of international **commerce**, the economies of the world have become more interdependent.*

**3. savage**

*adj.* untamed or undomesticated; cruel

**wild, barbaric, brutal**

*The petroleum industry suffered from **savage** competition, and, in the 1870s, many oil industries failed.*

**4. sleek**

*adj.* smooth, soft, and shiny

**glossy, satiny, slick**

*Pan Am named the airplanes after the swift, **sleek** clipper ships that once sailed the world's oceans during the nineteenth century.*

## 5. recession

*n.* a period of reduced trade and business activity

**depression, downturn, slump**

*During a depression, economic conditions are far worse than they are during a **recession**, which also lasts for a shorter period of time than a depression.*

## 6. tranquil

*adj.* serenely quiet or peaceful; undisturbed

**serene, calm, placid**

*Manufactured in the **tranquil** New England town of Concord, the famous Concord Coach came to symbolize the Wild West.*

## 7. stock

*n.* the total shares issued by a particular company

**shares, funds, assets**

*Corporations often raise funds by the sale of **stock**.*

## 8. verge cf. on the verge of

*n.* a limit, boundary, or border

**margin, edge, brim**

*Unfortunately, by the late 1930s, the whooping crane was on the **verge** of extinction and required protection in order to survive.*

## 9. denounce

v. to inform against or to accuse someone publicly

**blame, condemn, criticize**

*Knight and Viner **denounced** economic imperialism, which viewed all social forces as having an economic explanation.*

## 10. era

n. a distinct period in history marked by an important event

**epoch, time, age**

*In every **era**, the lure of the city included a major psychological element for country people as it drew them to urban centers by the thousands.*

## 11. exceed

v. to be more than a particular number or amount

**excel, surpass, transcend**

*In 1872, only two daily newspapers could claim a circulation of over 100,000, but, by 1892, seven more newspapers **exceeded** that figure.*

## 12. forward-looking

adj. planning for and thinking about the future in a positive way

**going ahead, progressive**

*Ice was used in hotels, taverns, hospitals, and by some **forward-looking** city dealers in fresh meat, fresh fish, and butter.*

## 13. functional

adj. designed for efficiency rather than decorativeness

**practical, useful, effective**

Only New York possesses an easy-access **functional** connection to the vast Midwestern hinterland.

#### 14. burdensome

*adj.* difficult to carry, support, or tolerate

**cumbersome, troublesome, bothersome**

*At the same time, war taxes had to be reduced to less **burdensome** levels.*

#### 15. inadequate

*adj.* not sufficient or adequate

**deficient, insufficient, incomplete**

*In the 1950s and 1960s, the baby boom hit an antiquated and **inadequate** school system.*

#### 16. intensive

*adj.* requiring considerable amounts of effort within a relatively short period

**concentrated, focused**

*Even in this current era of large-scale, **intensive** research and development, the interrelationships between companies and universities are frequently misunderstood.*

#### 17. tout

*v.* to try to persuade people that something is important by praising it

**push, promote, talk up**

*The Freudians **touted** the impact of the personal subconsciousness on behavior, and the behaviorists emphasized external punishments and rewards.*

### 18. congestion

*n.* an excessive or abnormal accumulation

**overcrowding, jam**

*The confusion and **congestion** of individual citizens looking for their letters was itself enough to discourage use of the mail.*

### 19. secession cf. secede

*n.* the act of an area or group becoming independent from the country or larger group that it belongs to

**separation, breaking**

*The war led to the South's **secession** from the Union.*

### 20. position

*n.* a place where someone or something is

**stance, posture, job**

*Mary Goddard is considered to be the first woman to hold a federal **position**.*

### 21. prevalent

*adj.* common at a particular time, in a particular place, or among a particular group

**prevailing, common, widespread**

*The movie represents the idealism **prevalent** in America in the early twentieth century.*

### 22. supervision cf. supervise

*n.* the management by overseeing the performance or operation of a person or group

**superintendence, oversight**

*The Human Genome Project, surprisingly, is under the **supervision** of the Department of Energy.*

### 23. symbolize

v. to be a symbol of something; to stand for something

**denote, exemplify, typify**

*An image on a national flag can **symbolize** political ideals that would otherwise take many words to explain.*

### 24. revise

v. to change something because of new information or ideas

**amend, modify, alter**

*Lawmakers simply **revised** the vetoed bill and passed it again, daring the president to veto it despite its popular support.*

### 25. curb

v. to control or limit something in order to prevent it from having a harmful effect

**check, restrain, control**

*The government hopes to **curb** tax fraud, so it is simplifying the process of filing taxes to make it less confusing.*

### 26. authorize

v. to give someone the power or right to do something

**empower, entitle, license**

*The National Labor Relations Board is **authorized** to investigate allegations of unfair labor*



*practices on the part of either employers or employees.*

### 27. essential

*adj.* extremely important and necessary; relating to the basic

**indispensable, necessary, fundamental**

*Although there are several variations on the exact format that worksheets can take, they are all similar in their **essential** aspects.*

### 28. encounter

*v.* to meet someone or something, especially unexpectedly

**come upon, run into**

*The memory of a past **encounter** with a snake would make the impression of the snake much stronger.*

### 29. illegible

*adj.* difficult or impossible to read

**unreadable, indecipherable**

***Illegible** handwriting does not indicate a weakness of character as even a quick glance at the penmanship of George Washington reveals.*

### 30. expertise

*n.* special skill or knowledge in a particular subject

**know-how, knowledge**

*A new energy policy should be developed and guided by people with apolitical science and technology **expertise**.*



Chapter 05 **UNIT 19** Natural Sciences

**1. optical**

*adj.* relating to sight or to what one sees; connected with the relationship between light and sight

**ocular, visual, optic**

*The new X-ray microscopes considerably improve on the resolution provided by **optical** microscopes.*

**2. panel**

*n.* a rectangular board forming a section

**board, pane**

*The instrument **panel** of a light airplane has at least a dozen instruments the pilot must watch.*

**3. perseverance**

*n.* a continued effort to achieve something despite setbacks

**persistence, patience, endurance**

*The researcher's discovery was based on over thirty years of **perseverance** and sweat.*

**4. self-consistent**

*adj.* not self-contradictory

**self-evident, self-explaining**

*Although the phlogiston theory was **self-consistent**, it was awkward because it required that imaginative, even mysterious, properties be ascribed to phlogiston.*

## 5. scarce

*adj.* less plentiful than what is normal, necessary, or desirable

**scant, rare, lacking**

*The **scarce** fossils of the Proterozoic, mostly single-celled bacteria, provide little evidence for glaciation.*

## 6. assure

*v.* to state positively and confidently; to guarantee

**ensure, assert**

*Nesting material should be added in sufficient amounts to avoid both extreme temperature situations and to **assure** that the eggs have a soft, secure place to rest.*

## 7. concede

*v.* to acknowledge as true, just, or proper

**admit, accept, acknowledge**

*Darwin himself **conceded** that the missing fossil record could be used as an argument against the validity of his theory.*

## 8. principal

*adj.* first in rank or importance

**chief, primary, important**

*Darwin was an amazing man and was the **principal** founder of evolutionary biology.*

## 9. puncture

*v.* to make a small hole in something

**perforate, pierce, stab**

*The external surfaces of plants often carry spiky hairs known as trichomes, which either prevent feeding by insects or may even **puncture** and kill insect larvae.*

**10. reproductive**

*adj. producing new life or offspring*

**generative, procreative**

*These fish have not had a chance to mature long enough to become **reproductive**.*

**11. repertoire**

*n. the list of things that a performer is ready to perform*

**repertory, stockpile, collection**

*Plovers have an effective **repertoire** of tricks for distracting potential nest predators from their exposed and defenseless eggs.*

**12. deft**

*adj. skillful and quick*

**dexterous, handy**

*As a rule, large-billed crossbills are better at seeking seeds from large cones while small-billed crossbills are more **deft** at removing the seeds from small, thin-scaled cones.*

**13. squirt**

*v. to shoot a liquid or something else out in a narrow jet*

**spout, gush, jet**

*When the sea cucumber is attacked, it **squirts** all its internal organs into the water.*

#### 14. gear

v. to adjust to a particular situation in order to bring about satisfactory results

**adjust, fit, tailor**

*A consequence of right-hand dominance is that most common consumer products are **geared** to right-handers only.*

#### 15. free

v. to allow someone to move without restriction

**release, emancipate, liberate**

*The increasing water pressure under the glacier might lift it off its bed, overcoming the friction between ice and rock, thus **freeing** the glacier.*

#### 16. hazy

adj. not clear or exact

**foggy, faint, vague**

*When it comes to predicting an earthquake, it is a very **hazy** area.*

#### 17. nutrient

n. a chemical or food that provides what is needed for life and growth

**nourishment**

*Since the dam was built, the sediments, rich with **nutrients**, are fewer, and the fish are also fewer.*

#### 18. residue

*n.* what remains of something or is left over

**remainder, remains, rest**

*The water can be drawn off and evaporated, leaving a **residue** of clay, which can be weighed.*

### 19. sag

*v.* to bend, sink, or hang down, especially in the middle

**droop, dip, drop**

*Each piece of clay can stand only a certain amount of heat without losing its shape through **sagging** or melting.*

### 20. segment

*n.* a part of something that is different from the whole

**section, portion, fragment**

*The cable ship will move on to repeat the process and lay another **segment** of cable.*

### 21. segregate

*v.* to set apart or to isolate

**divide, separate, discriminate**

*The one riddle was that in the Western United States, two kinds of ejecta – quartz and melted rock – are not intermingled but are **segregated**; the quartz is layered just above the melted rock.*

### 22. convoluted

*adj.* coiled and twisted

**curled, entwined, coiled**

The **convoluted** folds of the Earth's surface and its fractured geological structure tend to absorb the seismic energy of an earthquake.

### 23. worth (of)

*adj.* equal in value to something specified; deserving of  
**valuable, qualified, meriting**

*Floods cause billions of dollars **worth** of property damage annually.*

### 24. spot

1) *v.* to search for; to mark with spots

2) *n.* a place; a small mark or stain

1) **detect, identify** 2) **site, stain**

*The geographical center of the North American continent is a **spot** near Balta, North Dakota.*

### 25. adjacent

*adj.* lying beside or next to something

**adjoining, bordering, touching**

*Meteorology studies the currents of free air that are not **adjacent** to the Earth's surface but which are higher up in the atmosphere.*

### 26. retain

*v.* to keep or continue to have something

**hold, preserve, save**

*On the moon, there is no air because the moon's gravitational field is too weak to **retain** an atmosphere.*



## 27. faint

*adj.* difficult to see, hear, or smell

**pale, dim, faded**

*Astronomers use photography and sighting telescopes to study the motions of all of the bright stars and many of the **faint** ones.*

## 28. glimpse

*v.* to see something or someone momentarily

**spot, glance, peek**

*This cometary train, glistening like a string of pearls, had been first **glimpsed** only a few months before its fateful impact with Jupiter.*

## 29. mutate

*v.* to change and develop a new form

**modify, alter, transform**

*The radioactive rays are especially dangerous to humans because they increase the risk of cancer and can negatively alter and **mutate** DNA.*

## 30. observation

*n.* the act of noticing or watching

**watching, viewing, notice**

*The scientist plans experiments, performs calculations, and makes **observations** to test hypotheses.*

Chapter 05 **UNIT 20** Applied Sciences

**1. folly**

*n.* a foolish action, practice, or idea

**idiocy, stupidity, absurdity**

*However, the artists' achievements were mocked by the artistic elite of Paris as expensive and ugly **follies**.*

**2. regardless of**

*ph.* in spite of; without regard for

**despite, notwithstanding, heedless of**

*Potters found it convenient to locate their workshops near their source of clay, **regardless of** their relation to the center of the settlements.*

**3. renovation**

*n.* the act of improving by renewing and restoring

**remodeling, reengineering, upgrade**

*The **renovation** of the building will take longer than what had been previously estimated.*

**4. spacious**

*adj.* having ample room or space; extending over a large area

**wide, capacious, extensive**

*By the opening decades of the twentieth century, **spacious** buildings finally transcended the light confinement of row house building lots.*

## 5. centripetal

*adj.* acting or moving toward the center of a circle; tending to unify

**centralized, unifying**

*Social life is thus **centripetal**; that is, it is focused around the community center, the village.*

## 6. compete

*v.* to strive to outdo another for acknowledgment, a prize, supremacy, or profit

**contend, vie**

*As the populations expanded, they may have **competed** with other game species for the same environmental niche.*

## 7. periodic

*adj.* happening at intervals, especially regular ones

**periodical, regular, cyclical**

*This **periodic** extinction might be due to the intersection of the Earth's orbit with a cloud of comets.*

## 8. perch

*v.* to sit or rest on an elevated place or position

**roost, rest, sit**

*In Alaska, where eagles **perched** on fish traps and scared away the salmon, hunters killed more than 100,000 eagles between 1917 and 1952.*

## 9. conversion

*n.* an act or process of changing something into a different state or form

## **alteration, metamorphosis, transformation**

*At least 5,000 years ago, in Europe, deforestation and the **conversion** of wildlands to pasture began.*

### **10. jolting**

*adj. moving suddenly and roughly; giving someone a sudden shock*

**jerking, shaking, shocking**

*The high rate of species extinctions in these environments is **jolting**.*

### **11. magnitude**

*n. the great size or importance of something*

**size, enormousness, greatness**

*However, nothing has ever equaled the **magnitude** and speed with which the human species is altering the physical and chemical world and demolishing the environment.*

### **12. perish**

*v. to die; to be destroyed or ruined*

**lose life, expire**

*When a species can no longer adapt to a changed environment, it may **perish**.*

### **13. poultry**

*n. birds such as chickens and ducks that are kept on farms in order to produce eggs and meat*

**domestic fowl**

*Ducks are less susceptible to infection than other types of **poultry**.*

#### 14. choke

v. to prevent or be prevented from breathing by an obstruction in the throat

**suffocate, smother, stifle**

*Oil and the pollutants it causes are **choking** the life from the planet.*

#### 15. combustion

n. the act or process of burning

**burning, flaming**

*Oil was in the depths of the planet for millions of years before man found a use for it in the internal **combustion** engine.*

#### 16. tempting cf. temptation

adj. attractive; inviting

**seductive, enticing, alluring**

*Many people find chocolate **tempting**, which accounts for the reason why the chocolate industry is so profitable.*

#### 17. when it comes to

ph. regarding; with regard to

**in relation to, as for, as to**

***When it comes to** our vision, all of the components of the eye are important.*

#### 18. impulse

n. a sudden push forward; a force producing sudden movement forward

**boots, urge, impetus, stimulus**

The cardiac muscle will continue to pump blood without any **impulses** from the brain or ANS.

### 19. in retrospect

*ph.* in looking back on past events

**in hindsight**

*In retrospect*, vitamin and mineral therapies were much less effective when applied to health-crisis conditions.

### 20. infection

*n.* the act or process of causing or getting a disease

**contagion, communication**

*His work was stimulated by the wartime need to find a cure for the fungus **infections** that afflicted many military personnel.*

### 21. challenging

*adj.* offering a challenge; testing one's ability, endurance, or something else

**defying, provoking, demanding**

*Still, the brain is a great unknown in myriad ways and remains one of the most **challenging** and fascinating areas in the medical field.*

### 22. bolster

*v.* to make something stronger or to hold something up

**support, reinforce, buttress**

*Ki is fundamental in giving human strength and energy as well as **bolstering** the immune system.*

### 23. conjunction

*n.* a combination of different things that have come together

**combination, union**

*Sometimes, herbal medicines are used in **conjunction** with acupuncture to magnify its effects.*

### 24. cerebral

*adj.* relating to or affecting the brain; involving complicated ideas

**intellectual**

*In most cases of epilepsy, **cerebral** electrical activity, also known as brain waves, demonstrates a characteristically abnormal rhythm.*

### 25. vessel

*n.* a container, especially for liquids; a ship or large boat

**container, holder, ship**

*An Erlenmeyer flask is a glass **vessel** used in chemistry labs.*

### 26. neutralize

*v.* to cancel out the effect of something; to make a substance chemically neutral

**negate, counteract, offset**

*The insects can **neutralize** or alter the poisonous substances that certain plants produce.*

### 27. nucleus

*n.* the positively charged tiny central part of an atom; the central part of something

**heart, core**

*Most of the mass of an atom is made up of the **nucleus**, which contains the neutrons and protons.*

**28. alchemist cf. alchemy**

*n. a scientist who tried to discover how to change ordinary metal into gold, especially in the Middle Ages*

*Through the centuries, the dream of medieval **alchemists** was to discover how to turn lead and other base metals into gold.*

**29. renowned**

*adj. known and admired by a lot of people, especially for a special skill, achievement, or quality*

**famous, celebrated, noted**

*His discovery of the electric light is what he is most **renowned** for.*

**30. defective**

*adj. having a defect or defects*

**imperfect, flawed, faulty**

*A **defective** battery can cause an electrical device to malfunction.*



Chapter 06 UNIT 21 Humanities

**1. settle**

- 1) v. to make or become quiet, calm, or still
- 2) v. to come to an agreement about something
- 1) **relax, tranquilize** 2) **decide, fix**

*The place functioned as a sanctuary where the elders met to plan festivals, perform ritual dances, **settle** pueblo affairs, and impart tribal lore to the younger generation.*

**2. oral**

*adj.* spoken; not written  
**verbal, vocal, voiced**

*Most African cultures were based on what is called an **oral** tradition.*

**3. peak**

*n.* a sharply pointed mountain top; the highest point  
**summit, pinnacle, apex**

*After the **peak** year of 1957, the birth rate in Canada began to decline.*

**4. initially**

*adv.* at the beginning  
**originally, incipiently**

*The characteristic of jazz is a rhythmic drive that was **initially** called “hot” and later “swing.”*

## 5. scope

n. the size or range of a subject or topic

**extent, range, reach**

*How long the recession is expected to last will affect the **scope** of measures the bank might adopt.*

## 6. tenuous

adj. slight; with little strength or substance

**thin, vague, meager**

*Oil prices were little changed last year although analysts said the stability was **tenuous**.*

## 7. staunch

adj. dependably loyal

**trusty, steadfast, reliable**

*The **staunch** members of the ladies' group would not give up their fight for the right to vote.*

## 8. oversee

v. to watch to see that work is being properly done

**supervise, superintend, direct**

*Before the deceased **oversee** and conduct the lives of the people they have left behind, an elaborate funeral celebration must take place.*

## 9. mercy

n. a willingness to forgive, not to punish

**pity, compassion, kindness**

*If the opponents killed their emissary or refused to surrender, the Mongols showed no **mercy**.*

### 10. **mandate**

v. to give authority or power to someone or something; to command to act in a certain way  
**order, dictate, command**

*In 1938, the Fair Labor Standards Act **mandated** a weekly maximum of 40 hours to begin in 1940.*

### 11. **marginal**

adj. on or in the margin of a page; small in importance or amount  
**borderline, insignificant**

*His tribe was one of the poorer ones, living north of the great Gobi Desert in areas with **marginal** resources.*

### 12. **meticulously**

adv. very carefully  
**painstakingly, particularly, scrupulously**

*In the past, things were not recorded as **meticulously** as they are today.*

### 13. **nomad**

n. a member of a people without permanent homes and who travel from place to place  
**migrant, rover**

*The Aborigines are probably the descendants of these early **nomads**, who made their way through southern Asia both by boats across narrow channels and across land bridges.*

#### 14. ornament

*n.* something that decorates or adds grace or beauty to a person or thing

**accessory, adornment, decoration**

*Articles for nearly every household activity and **ornament** could be bought in Rockingham ware.*

#### 15. engulf

*v.* to swallow something completely

**devour, swallow**

*Over the next ten years, a fierce civil war **engulfed** the Mongol tribes until Genghis was master of them all.*

#### 16. eternal

*adj.* lasting forever and without a beginning or an end

**timeless, everlasting, immortal**

*The essence of the individual is **eternal** and will continue to exist in this world until a proper funeral ceremony has been performed to send the person off to the next stage of existence.*

#### 17. primary

*adj.* first or most important

**chief, fundamental, principal**

*In addition to revealing the **primary** concerns of a society, the content of that society's art may also reflect the culture's social stratification.*

#### 18. prize

1) *n.* something won in a competition or lottery

2) *v.* to value or regard highly

1) **award, reward** 2) **treasure, cherish**

*The Art Nouveau style was widely copied in their time and is highly **prized** today.*

### 19. foremost

*adj.* first in place, order, or rank; leading

**primary, supreme, prominent**

*Theodore Dreiser, the **foremost** naturalist writer, grimly portrayed a dark world in which human beings were tossed about by forces beyond their understanding or control.*

### 20. stereotype

*n.* a fixed idea or image that many people have of a particular type of person or thing

**type-cast**

*The minstrel show featured white actors dressed in blackface and playing up racial **stereotypes**.*

### 21. identical

*adj.* exactly similar in every respect; exactly alike

**same, twin, indistinguishable**

*This type of writing describes an imaginary world that is **identical** to ours up to a certain point in history.*

### 22. representative

1) *adj.* being an example of what other members of the same group are like

2) *n.* a person or thing that represents another or others

1) **typical, symbolic** 2) **deputy, delegate**

*Most of these leaders were involved in public life as reformers, activists working for women's right to vote, or authors, and were not **representative** at all of the great mass of ordinary women.*

**23. district**

*n. a division of territory, as of a country, state, or county*  
**area, quarter, locality**

*The **district** in New York City known as Harlem was the capital of the Harlem Renaissance.*

**24. fabricate**

*v. to invent or make up a story or evidence; to make something*  
**imagine, fake, manufacture**

*Dreiser thought that writers should tell the truth about human affairs, not **fabricate** romance.*

**25. fade**

*v. to lose or cause to lose strength, freshness, or color; to become dim*  
**wane, dull, cloud**

*These writers, who can genuinely be said to have created a genre, the "railroad novel," are now mostly forgotten, their names having **faded** from memory.*

**26. feuding**

*adj. quarreling between families, individuals, or clans; having persistent enmity*  
**conflicting, quarreling, hostile**

*West Side Story transformed the Montagues and Capulets of Shakespeare's play into **feuding***

street gangs, the Jets and the Sharks.

## 27. originate

v. to bring or come into being

**begin, derive, stem**

*The term etiquette **originated** in France in the seventeenth century, but it is also a common term today in English.*

## 28. regarding

prep. being talked or written about

**with regard to, as to, as for**

*The importance of punctuality can be seen through the myriad proverbs and expressions almost every culture has **regarding** time.*

## 29. distinct

1) *adj.* noticeably different or separate

2) *adj.* easily seen, heard, or recognized

1) **different, separate** 2) **clear, explicit**

*Every Pomo basket maker knew how to produce from fifteen to twenty **distinct** patterns that could be combined in a number of different ways.*

## 30. lament

v. to feel or express regret or sadness

**sorrow, grieve, mourn**

*Deeply philosophical historians **lamented** the role that the new frenzy for business was playing in eroding traditional values.*





Chapter 06 UNIT 22 Social Sciences

**1. commodity**

*n.* something that is bought and sold, especially a manufactured product or raw material  
**product, merchandise**

*Corn, cotton, sugar, and many other goods are bought and sold in **commodity** markets.*

**2. convenient**

*adj.* fitting in with one's plans; not causing trouble or difficulty  
**suitable, handy, nearby**

*Automatic teller machines provide a **convenient** means of banking 24 hours a day.*

**3. monetary**

*adj.* belonging or relating to, or consisting of, money  
**financial, fiscal, pecuniary**

*Canada adopted the dollar as its **monetary** unit in 1878.*

**4. notion**

*n.* an impression, conception, or understanding  
**concept, idea, thought**

*The Depression years of the 1930s brought with them the **notion** of job sharing to spread available work around.*

**5. furnace**

*n.* an enclosed chamber in which heat is produced for smelting metal

*The **furnace** in the factory was turned up as high as possible.*

## 6. prolific

*adj.* producing plentiful fruit or offspring; producing many works

**productive, fertile, fruitful**

*As early as 1782, the **prolific** Delaware inventor Oliver Evans had built a highly automated, labor-saving flour mill driven by water power.*

## 7. routine

*n.* a regular or unvarying series of actions or a way of doing things

**custom, habit, procedure**

*The mass production of paper bags cost so little that a bag soon became a **routine** part of almost every purchase.*

## 8. monotonous

*adj.* lacking in variety; tediously unchanging

**repetitious, tedious**

*While factory work was less creative and more **monotonous**, it was also more efficient and allowed mass production.*

## 9. posture

*n.* the general way of holding the body; a way of behaving on a particular occasion

**position, pose, stance**

*The government established tariff barriers, provided loans and grants to build a*

*transcontinental railroad, and assumed a studied **posture** of nonintervention in private enterprise.*

### 10. **accommodating**

*adj.* helpful; willing to do what another person wants

**cooperative, hospitable, kind**

*The government was nothing if not **accommodating**.*

### 11. **content**

*v.* to satisfy or to make oneself or another satisfied

**please, gladden, gratify**

*Most other cities **contented** themselves with zoning plans for regulating future growth.*

### 12. **distinguish**

*v.* to make out or identify something

**discriminate, separate, differentiate**

*In 1870, the census officially **distinguished** the nation's "urban" from its "rural" population for the first time.*

### 13. **justify**

*v.* to prove or show something to be right, just, or reasonable

**legitimate, vindicate, rationalize**

*The slave owners **justified** slavery by saying it was the natural order of events and that the Africans' place in the world was as slaves.*

#### 14. oblige

v. to bind someone morally or legally; to compel  
**require, force, coerce**

*Slave owners were **obliged** to care for the nonproductive Africans, which included the young, aged, and infirm.*

#### 15. outbreak

n. a sudden, usually violent, beginning or occurrence  
**outburst, rash**

*In the fifteen years prior to the **outbreak** of the War of Independence in 1775, more than 200,000 immigrants arrived on North American shores.*

#### 16. overwhelming

adj. physically or mentally crushing; intensely powerful  
**overpowering, formidable, uncontrollable**

*The new play was so successful that the demand for tickets was **overwhelming**.*

#### 17. pack

v. to stow goods compactly in cases; to put goods into a container  
**cram, fill, package**

*Major cities were **packed** with people basically living on top of each other.*

#### 18. sprawling

adj. spreading or extending in an irregular, straggling, or untidy way  
**spreading, extending, stretching**

Los Angeles was a decentralized metropolis, **sprawling** across the desert landscape over an area of 400 square miles.

**19. counter**

v. to oppose, act against, or hit back

**contradict, retaliate, frustrate**

*One method to **counter** desertification that is being used is the planting of leguminous plants.*

**20. senator**

n. a member of a senate

**politician**

*A person must be at least thirty years old in order to serve as a U.S. **senator**.*

**21. temporary**

adj. lasting, acting, or used for a limited period of time only

**momentary, transient, provisional**

*The city of Memphis was an important Confederate military center during the Civil War and served as the **temporary** state capital in 1862.*

**22. property**

1) n. something which is owned

2) n. a quality, power, or effect that belongs naturally to something

1) **possessions, belongings** 2) **characteristic, trait**

*Fewer than 25 percent of the 245,000 who took up land under the act obtained final title to the **property**.*

### 23. campaign

1) *n.* an organized series of actions intended to gain support for or build up opposition to a particular practice or group

2) *v.* to organize or take part in a campaign

1) **operation, drive** 2) **run, electioneer**

*Campaigning on television means that, increasingly, our political world contains memorable pictures rather than memorable words.*

### 24. urge

*v.* to try very hard to persuade; to suggest strongly

**press, push, request**

*The League of Women Voters **urges** all citizens to vote.*

### 25. deploy

*v.* to spread out and position troops to get ready for battle

*The general was reluctant to **deploy** his troops into the enemy-controlled town.*

### 26. backlash

*n.* a sudden violent reaction to an action or situation

**backfire, counteraction, repercussion**

*Then came the **backlash** in the 1920s. America was tricked into the war by the British and French, said many.*

### 27. evidence

1) *n.* information or something else that gives grounds for belief

2) v. to be evidence of something; to prove

1) **proof, ground** 2) **demonstrate, reveal**

*Emotional health is **evidenced** in the voice by free and melodic sounds of the happy, by the constricted and harsh sounds of the angry, and by the dull and lethargic qualities of the depressed.*

## 28. concentrate

v. to give full attention and energy to something or someone

**focus, center, intensify**

*Adults sometimes mistake children's curiosity about everything as a lack of ability to **concentrate**.*

## 29. means

n. the instrument or method used to achieve some object

**process, manner, way**

*Increasingly, schools were viewed as the most important **means** of integrating immigrants into American society.*

## 30. compulsory

adj. required by the rules or law

**obligatory, mandatory**

*The use of seatbelts is **compulsory** in many states; failure to wear them may result in fines.*

Chapter 06 **UNIT 23** Natural Sciences

**1. outline**

- 1) *n.* a line that marks the outer edge of an object
- 2) *v.* to give a brief description of something

1) **contour, silhouette** 2) **delineate, draft**

*Charles Townes and Arthur Schawlow wrote a long paper **outlining** the conditions needed to amplify stimulated emission of visible light waves.*

**2. interchangeable**

*adj.* capable of being put or used in place of something else

**equivalent, identical**

*Potash and soda are not **interchangeable** for all purposes, but for glass- or soap-making, either will do.*

**3. mutual**

*adj.* having or based on the same relationship of one towards the other

**reciprocal, interactive**

*It seems that all allosaurs worked together for **mutual** protection and nourishment.*

**4. latent**

*adj.* present or existing in an undeveloped or hidden form

**dormant, potential, undeveloped**

*The primary source of energy for tropical cyclones is the **latent** heat released when water vapor condenses.*



## 5. ooze

v. to flow or leak out gently or slowly

**leak, exude, secrete**

*Precipitation such as rain and water can enter directly into the pool of nuclear waste, mix with it, and **ooze** out into the environment.*

## 6. herbivore

n. a plant-eating animal

*Any plant species often has many ways to defend itself from **herbivores**.*

## 7. hostile

adj. expressing enmity, aggression, or angry opposition

**antagonistic, inhospitable, unfriendly**

*The deep-ocean bottom is a **hostile** environment to humans.*

## 8. crawl

v. to move along the ground slowly; to move along on one's hands and knees

**creep, worm, squirm**

*A three-foot-long octopus can **crawl** through a hole less than one inch in diameter.*

## 9. intervention

n. an act of intervening, especially in the affairs of other people or countries

**interference, interruption**

Ordinary light is emitted spontaneously when atoms or molecules get rid of excess energy by themselves without any outside **intervention**.

### 10. nocturnal

adj. happening or active at night

**nightly**

Most mice are **nocturnal**, but the African grass mouse is active during daylight hours.

### 11. abyss

n. a deep and bottomless hole

**abysm, bottomless gulf**

In the dark **abyss** of the deep sea, the only light is produced by luminescent fish.

### 12. palatable

adj. having a pleasant taste

**appetizing, tasty, savory**

Menhaden are a small fish belonging to the haddock family, but they are not very **palatable** to humans.

### 13. fine-tuning

n. slight adjustments to something to obtain optimum performance

In the world of birds, bill design is a prime example of evolutionary **fine-tuning**.

### 14. grumble

v. to complain in a bad-tempered way

**complain, gripe, mutter**

*His letter the following year **grumbled** that his livestock was all dead.*

**15. sole**

*adj.* being the only one

**singular, unique, lone**

*Pheromones are the predominant medium of communication among insects but are rarely the **sole** method.*

**16. span**

*v.* to form an arch or bridge over; to go from one end to the other end of

**bridge, cross, stretch over**

*The plover's most famous stratagem is the broken-wing display, which is actually a continuum of injury-mimicking behavior **spanning** the range from slight disability to near-complete helplessness.*

**17. invade**

*v.* to attack or overrun; to enter a country by force with an army

**encroach, overrun, raid**

*Molten material wells out of the Earth's interior to **invade** the surface layers or to flow onto the surface itself.*

**18. interval**

*n.* a period of time between two events

**interim, intermission, pause**

However, at **intervals** of 10 to 100 years, these glaciers move forward up to 100 times faster than usual.

### 19. intricate

adj. full of complicated, interrelating, or tangled details or parts

**complex, tangled, involved**

The geyser is linked by an **intricate** plumbing network to some extremely hot rocks.

### 20. intrusion

n. an act or process of intruding, especially on someone else's property

**encroachment, interruption**

Man's **intrusion** into the deltas sometimes upsets the balance of nature.

### 21. margin

n. the blank space around a page of writing or print

**boundary, edge, rim**

New oceanic crust is formed along one or more **margins** of each plate by material issuing from deeper layers of the Earth's crust.

### 22. modify

v. to change the form or quality of something, usually only slightly

**revise, amend, adjust**

Rain dissolves, transports, and precipitates many chemical compounds and is constantly **modifying** the face of the Earth.

### 23. deduction

*n.* a process of reasoning using general rules or principles to form a judgment  
**conclusion, reasoning**

*Strictly speaking, the “true” natural science is in the set of facts, not the **deductions**.*

### 24. damp

*adj.* slightly wet

**moist, humid, dank**

*Florida has a humid climate. Summers there are particularly hot and **damp**.*

### 25. recede

*v.* to go or move back or backward

**retreat, withdraw, go back**

*At the end of the Ice Age, the glaciers began to **recede**.*

### 26. rudimentary

*adj.* of or relating to basic facts or principles

**basic, fundamental, elementary**

*In the early nineteenth century, the knowledge of the physics of heat, which was essential to the science of refrigeration, was **rudimentary**.*

### 27. altitude

*n.* the height, especially above sea level, of a mountain, aircraft, or something else

**elevation, height, level**

*At higher **altitudes**, the particle cools, and the moisture it carries is precipitated as rain or*

snow.

## 28. revolve

v. to move or turn, or to make something move or turn, in a circle

**turn, rotate, spin**

*All the planets in the solar system except Mercury and Venus have natural satellites, which are objects that around **revolve** planets.*

## 29. devour

v. to eat up something greedily

**gulp, swallow, gorge**

*Black holes are areas of massive gravitational energy that **devour** all things they pass, including stars.*

## 30. dominate

v. to have command or influence over someone or something

**control, govern, reign**

*The light from the nearby Virgo Galaxy set out when reptiles still **dominated** the animal world.*

Chapter 06 UNIT 24 Applied Sciences

**1. presumably**

*adv.* supposedly; probably

**supposedly, likely, seemingly**

*The rural pottery establishment on the island of Thasos produced many types of pottery and roof tiles, too, **presumably** to meet local demand.*

**2. picturesque**

*adj.* charming to look at, especially if it is rather quaint

**scenic, pictorial, attractive**

*With its charming shops and restaurants, Old Town is the most **picturesque** section of Albuquerque.*

**3. predecessor**

*n.* the person who formerly held a job or position now held by someone else; something formerly used

**forerunner, antecedent, forebear**

*Eighteenth-century houses showed great interior improvements over their **predecessors**.*

**4. recommendation**

*n.* an official suggestion about the best thing to do

**advice, counsel, guidance**

*The plan impressed the university officials, and, in time, many of its **recommendations** were implemented.*

## 5. convivial

*adj.* pleasantly merry and friendly

**gala, jolly, sociable**

*American hotels made other national conventions not only possible but also pleasant and **convivial**.*

## 6. pursue

*v.* to follow someone or something in order to overtake

**chase, follow, trace**

*Few predators fail to **pursue** such obviously vulnerable prey.*

## 7. raid

*v.* to attack on a person, place, or something else to do damage

**attack, invade**

*Even the few protected parts in Haiti are **raided** for their prized trees.*

## 8. wary

*adj.* looking out for danger; careful

**circumspect, vigilant, cautious**

*You must be **wary** when buying a used car; be sure the engine is in good condition.*

## 9. exposure cf. expose

*n.* the act of exposing or the state of being exposed

**disclosure, uncovering, baring**



*Human populations near the equator all have dark skin over many generations because of **exposure** to the fierce rays of the sun.*

### 10. generate

v. to produce or create something

**create, manufacture, breed**

*It is hoped that the errors **generated** by imperfect and incomplete taxonomy will be minimized.*

### 11. pungent

adj. sharp and strong; cleverly caustic or biting

**bitter, biting, tart**

*Certain spices give foods a **pungent** taste.*

### 12. render

v. to cause to be or become

**make, become**

*Rapid ecological change may **render** an environment hostile to a species.*

### 13. inhabit

v. to live in or occupy a place

**dwell in, reside in, live in**

*The fact that half of the known species are thought to **inhabit** the world's rainforests does not seem surprising.*

#### 14. genesis

*n.* an origin or generation

**origin, beginning, generation**

*Life's transition from the sea to the land was perhaps as much of an evolutionary challenge as was the **genesis** of life.*

#### 15. crunch

*n.* the moment of decision or crisis

**crisis, critical point, decision time**

*Hybrid cars have been around in one form or another since the early seventies during the oil **crunch** in the U.S.*

#### 16. impair

*v.* to damage or weaken something, especially in terms of its quality or strength

**damage, injure, harm**

*Alcohol can **impair** one's ability to drive.*

#### 17. potent

*adj.* having a very powerful effect or influence

**powerful, mighty, effective**

*Morphine, a form of synthetic heroin, is a **potent** painkiller.*

#### 18. curative

*adj.* able to or tending to cure

**remedial, restorative, therapeutic**

*Some people believe that the crystals of certain minerals have **curative** powers.*

**19. density cf. dense**

*n. the degree to which an area is filled with people or things*

**solidness, thickness**

*Our bone and muscle structures as well as their **density** are predetermined by our genes.*

**20. elongate**

*v. to lengthen or stretch something out*

**extend, prolong, lengthen**

*The actual eyeball is oblong and **elongated** length-wise from the front to the rear.*

**21. enthusiastic**

*adj. showing lively interest; extremely keen*

**passionate, eager, fervent**

*Some experts were **enthusiastic** about the medicine while others said it was only effective for a few months.*

**22. circulatory cf. circulate**

*adj. relating to the circulation of the blood or something else*

*Herbs have a more direct influence than acupuncture on the body's physical systems, such as the **circulatory** system.*

**23. concomitant (with)**

*adj. accompanying because of or as a result of something else*

**concurrent, coincidental, accompanying**

***Concomitant** with the increasing use of donor eggs, the proportion of women with multiple births over age 40 has increased as well.*

**24. crux**

*n. the most important part of a problem, question, argument, or something else*

**core, gist, pivot**

*The herbalists attempt to treat the source of the health problem rather than simply get rid of the symptoms, which is something that many argue is the flawed **crux** of Western medicinal techniques.*

**25. resistant**

*adj. able to resist something; not affected by something*

**defiant, unsubmitive, impervious**

*Ceramics can be harder, lighter, and more **resistant** to heat than metals.*

**26. impurity**

*n. something that renders something else impure*

**contaminant, pollutant**

*Emeralds get their beautiful green color from titanium and chromium **impurities** in the stone.*

**27. modulate**

*v. to vary the strength or nature of something; to change or alter*

**tune, adjust, regulate**

*The organism's ability to **modulate** a chemical signal is limited when compared with*

*communication by visual or acoustic means.*

## 28. alloy

*n.* a material consisting of a mixture of two or more metals

**composite, compound, mixture**

*Despite their light weight, aluminum **alloys** can be very strong.*

## 29. tolerate

*v.* to bear or endure someone or something

**bear, endure, stand**

*Another strategy of large desert animals is to **tolerate** the loss of body water to a point that would be fatal for non-adapted animals.*

## 30. expel

*v.* to drive or force out or away

**eject, dislodge, remove**

*A sponge feeds itself by drawing water through tiny pores on its surface, filtering out food particles, and then **expelling** the water through larger vents.*

Chapter 07 UNIT 25 Humanities

**1. vanish**

v. to become invisible or unnoticeable

**disappear, dissipate, evaporate**

*As the frontier **vanished**, great factories and vast agricultural holdings marked the land.*

**2. longing cf. long for**

n. an intense desire or yearning

**craving, desire, wish**

*Tulip bulbs were sent from Europe to the United States to satisfy the nostalgic **longings** of homesick English and Dutch settlers.*

**3. meteoric cf. meteor**

adj. belonging or relating to meteors; very rapid

**fleeting, swift**

*A number of circumstances contributed to the **meteoric** rise of Los Angeles.*

**4. novel**

adj. not like anything known before

**new, unusual, creative**

*The engine that became standard on western steamboats was a different and **novel** design.*

**5. obsolete**

*adj.* no longer in use or in practice

**out of date, outmoded, old-fashioned**

*Until refrigerators made it **obsolete**, the ice industry supplied city dwellers with blocks of ice.*

## 6. coerce

*v.* to force or compel someone to do something by using threats

**force, fore, oblige, make**

*As for Italians, the Russians only met the reluctant few whom Hitler managed to **coerce** for his Russian campaign.*

## 7. conquer

*v.* to gain possession or dominion over a territory by force

**defeat, subdue, vanquish**

*With his horse-riding, arrow-shooting hordes, he **conquered** a territory greater than any other leader either before or after him.*

## 8. consume

*v.* to use up time, money, goods or something else

**exhaust, deplete, expend**

*It is clear that humans began to carry their food to central places, called home bases, where it was shared and **consumed**.*

## 9. dispute

*n.* an argument or a disagreement between two people or groups

**debate, discussion, controversy**

The village chief dealt with land **disputes** and religious affairs.

### 10. plateau

*n.* an extensive area of relatively flat high land that is usually bounded by steep sides  
**mesa, tableland, highland**

*Mesa Verde is located in the high **plateau** lands near Four Corners, where Colorado, Utah, New Mexico, and Arizona come together.*

### 11. pore

*n.* one of the similar small holes in the surface of a plant or a rock  
**opening, orifice, hole**

*Fossils are frequently very dense because the **pores** and other spaces in the bones have become filed with minerals taken up from the surrounding sediments.*

### 12. sacred

*adj.* religious in nature or use  
**holy, divine, sainted**

*The **sacred** objects of the family were under the control of the oldest female.*

### 13. staple

- 1) *n.* an economically important product
- 2) *n.* a major constituent of a particular community's diet
- 1) **merchandise, provision** 2) **necessity, basic**

*Though others were sometimes used, these four materials were the **staples** of their finest basketry.*



#### 14. story

*n.* any of the levels on which a building is built

**floor, level, tier**

*The largest Pueblo buildings had five **stories** and more than 800 rooms.*

#### 15. exalted

*adj.* raised or elevated, as in rank or character; noble or elevated

**lofty, noble, honored**

*The artisans' products, primarily silver plates and bowls, reflected their **exalted** status and testified to their customers' prominence.*

#### 16. foe

*n.* a person who feels enmity or hatred toward another

**enemy, adversary, opponent**

*Humans organize their societies in such a way to obtain a measure of security from a harsh and hazardous environment made up of human **foes**, famine, and plagues.*

#### 17. realization

1) *n.* an awareness of something

2) *n.* making something real

1) **recognition, comprehension** 2) **actualization**

*Satire jars us out of complacency into a pleasantly shocked **realization** that many of the values we unquestioningly accept are false.*

#### 18. secure

v. to make free from danger or risk

**protect, guard, defend**

*In addition to **securing** an exhibition space in the Library Society Building in lower Manhattan, the society founded a small school for the instruction of watercolor painting.*

**19. ensconce**

v. to hide safely

**hide, conceal, cache**

*The key was **ensconced** under the welcome mat.*

**20. marked**

adj. obvious or noticeable

**conspicuous, pronounced, evident**

*Citizens of prosperous, essentially middle-class, republics have always shown a **marked** taste for portraiture.*

**21. medium**

n. something by or through which an effect is produced

**means, method, mode**

*Implicit in it is an aesthetic principle as well that the **medium** has certain qualities of beauty and expressiveness.*

**22. monopolize**

v. to have a monopoly or exclusive control of trade in a commodity or service

**control, dominate**

The older painters practiced in a mode that was often self-taught and **monopolized** by the subject matter of the landscape.

### 23. optimistic

adj. disposed to take a favorable view of events or conditions

**positive, hopeful, idealistic**

The ending of the poem is **optimistic**, making it very different from the dark, pessimistic outcome of Smith's.

### 24. tantrum

n. an outburst of childish or petulant bad temper

**blowup, rage, fury**

Spoiled children are apt to have **tantrums** when they do not get their way.

### 25. flush

v. to blush or to make someone blush or go red; to animate

**redden, excite, encourage**

The art movement known as Regionalism began in the United States when the Depression occurred, but it really **flushed** before the 1930s.

### 26. improvisation

n. the creative activity of immediate musical composition

**extemporization, ad-libbing**

Opera seria eschewed imagination and **improvisation** in favor of familiar storylines, most often Greek.

**27. strict**

*adj.* demanding obedience or the close observance of rules

**austere, rigid, rigorous**

*Many parents place **strict** limits on the kinds of shows their children may see and the number of hours allowed for television viewing.*

**28. utterance**

*n.* the act of speaking

**statement, expression**

*The sounds that an infant notices might be the words that often occur at the ends of **utterances**.*

**29. fidelity**

*n.* faithfulness; devotion

**loyalty, dedication**

*Most important was that the artists had all maintained, with a certain **fidelity**, a manner of technique and composition consistent with those of America's first popular landscape artist.*

**30. irrelevant cf. relevant**

*adj.* not connected with the subject at hand; beside the point

**unrelated, impertinent, inappropriate**

*Especially because of writers who place so much importance on sound itself, the meanings of the words become all but **irrelevant**.*

Chapter 07 **UNIT 26** Social Sciences

**1. durable**

*adj.* lasting a long time without breaking

**lasting, persistent, enduring**

*Economists define **durable** goods as ones intended to last more than four months.*

**2. indifferent**

*adj.* a lack of interest, feeling, or reaction toward something or someone

**unconcerned, detached, uncaring**

*Stockholders may be too **indifferent** to vote in corporate elections, so they let management vote for them by proxy.*

**3. expendable cf. expend**

*adj.* not valuable enough to be worth preserving

**dispensable, nonessential, unnecessary**

*Some workers lost their jobs when new technologies made their labor cheap or **expendable**.*

**4. insurance**

*n.* an agreement in which one party promises to pay another money in the event of a loss

**assurance**

*A number of **insurance** companies have their headquarters in Hartford, Connecticut.*

**5. kinfolk**

*n.* one's relations; the members of one's family

**kin, kindred, family**

*In towns and cities, the nuclear family was more dependent on its immediate neighbors than on **kinfolk**.*

## 6. lucrative

*adj.* affording financial gain

**gainful, profitable**

*Even today, North Atlantic commercial flights remain the most **lucrative** market in the world.*

## 7. appraise

*v.* to judge the worth, quality, or condition of someone or something; to find out the value

**estimate, evaluate**

*Jewelers are sometimes asked to **appraise** jewelry for insurance purposes.*

## 8. out-of-date

*adj.* out of style or fashion; outmoded

**old-fashioned, outdated, obsolete**

*Subsequent reforms have made the prior notions seem quite **out of date**.*

## 9. barn

*n.* a building in which grain or hay is stored or a building for housing animals

**stall**

*Other artisans worked in their homes or **barns**, relying on the help of family members or apprentices.*

## 10. collective

*adj.* belonging to or involving all the members of a group

**combined, communal**

*Expressive leadership is that which emphasizes the **collective** well-being of a social group's members.*

## 11. compact

1) *adj.* firm and dense in form or texture

2) *adj.* neatly concise

1) **dense, condensed** 2) **succinct, brief**

*City dwellers also developed other pleasures, which only **compact** communities made possible.*

## 12. affluent

*adj.* having more than enough money

**rich, wealthy, well-off**

*Scholarships allow students from less **affluent** families to attend college.*

## 13. ponderous

*adj.* slow and awkward because of great size and weight

**heavy, massive**

*These **ponderous** machines reaped the grain, threshed it, and bagged it, all in one simultaneous operation.*

## 14. proponent

*n.* a supporter or advocate of something; someone who argues in favor of a cause

**advocate, backer**

*Proponents of these reforms argued that public ownership would ensure widespread access to these utilities.*

### 15. deformity

*n.* an imperfection of the body, especially one that can be seen

**abnormality**

*The offspring of animals may sometimes be born with an injury or physical **deformity**.*

### 16. reap

*v.* to cut and gather grain or something else

**harvest, acquire, gain**

*The urban poor **reaped** few benefits from household improvements.*

### 17. brunt

*n.* the main force or shock of a blow or attack

**onslaught, violence, impact, shock**

*The Americans bore the **brunt** of the Pacific fighting during the war.*

### 18. censorship

*n.* the practice of censoring something

**suppression**

*Rarely could they see such a movie in the country due to **censorship** by the government.*



## 19. pledge

v. to promise money or something else to someone; to offer something as a guarantee

**promise, oath, vow**

*The Republican Party **pledged** the enactment of a law granting free homesteads to settlers who would help in the opening of the West.*

## 20. cozy

1) *adj.* snugly warm and comfortable

2) *adj.* marked by friendly intimacy

1) **snug, comfortable** 2) **intimate**

*Before 1754, Britain and the North American colonies had a **cozy** relationship, but, after that, their relationship became strained.*

## 21. outspoken

*adj.* saying exactly what one thinks; frank

**candid, direct, forthright**

*Roger Williams was the founder of the colony of Rhode Island and an **outspoken** advocate of religious and political freedom.*

## 22. penalize cf. penalty

v. to impose a penalty on someone for wrongdoing

**punish, handicap, sentence**

*Recycling is mandatory in most major cities today, and violators may be **penalized** up to five hundred dollars.*

### 23. poll

- 1) n. a political election; a survey of public opinion
- 2) v. to conduct an opinion poll among people
- 1) **vote, survey** 2) **sample, interview**

*A 1990 survey found that over 80 percent of those **polled** claimed to believe in God.*

### 24. promote

- v. to help something to develop or increase
- advance, boost, advertise**

*There is an act that presidents have relied on in the past to **promote** both the interests of the United States as well as their own.*

### 25. prospect

- n. an expectation of something due or likely to happen
- expectation, outlook, anticipation**

*People in the United States in the nineteenth century were haunted by the **prospect** that unprecedented change in the nation's economy would bring social chaos.*

### 26. spatial

- adj. belonging, referring to, or relating to space

*Los Angeles was a product of the auto age; its distinctive **spatial** organization depended on widespread private ownership of automobiles.*

### 27. observe

- 1) v. to notice or become conscious of something
- 2) v. to obey, follow, or keep a law, custom, or religious rite

1) **examine, monitor** 2) **obey, follow**

*For a long time, we've been able to **observe** the effects of fear on the human body but not in the brain.*

## 28. **circumstantial**

*adj.* based on something that appears to be true but is not proven

**presumptive, deduced, inferred**

***Circumstantial** evidence is that which is not drawn from the direct observation of a fact.*

## 29. **backbone**

*n.* the spinal column; a main support or major sustaining factor

**spine, buttress, pillar**

*By 1771, when entrepreneur Mark Bird established the blast furnace in Pennsylvania, iron making had become the **backbone** of American industry.*

## 30. **plague**

*n.* any of several epidemic diseases with a high mortality rate

**scourge, epidemic, pestilence**

*The **plague** then spread by sea trade on ships into the Mediterranean and to the island Sicily, where it got its first foothold on Europe.*

Chapter 07 UNIT 27 Natural Sciences

**1. ample**

*adj.* more than enough

**abundant, plentiful, sufficient**

*There is **ample** evidence that water once existed on the surface of Mars and might return in the future if the planet warms.*

**2. penetrate**

*v.* to find a way into something; to enter something, especially with difficulty

**pierce, puncture, go through**

*Cleaner water allows sunlight to **penetrate** to greater depths.*

**3. preliminary**

*adj.* occurring at the beginning; preparatory

**prior, initial, introductory**

*It takes about four years for a new aircraft model to move from the **preliminary** design stage to the full-production stage.*

**4. gravitation**

*n.* the force of attraction between any two masses

**gravity, attraction**

***Gravitation** keeps the moon in orbit around Earth.*

## 5. horizontal

*adj.* at right angles to vertical

**level, flat, plane**

*More air is involved in those **horizontal** movements than in vertical movements.*

## 6. induce

*v.* to persuade, influence, or cause someone to do something; to cause

**lead, urge, influence**

*Scientists hope to attach different chemicals to the tip of the scanning microscope to **induce** chemical reactions at precise spots.*

## 7. injection

*n.* an act of forcing liquid into something

**instillation, inoculation, shot**

*Fuel **injection** engines employ injectors instead of a carburetor to spray fuel into the cylinders.*

## 8. trait

*n.* a particular quality in someone's character

**characteristic, feature, property**

***Traits** such as hair color and eye color are inherited genetically from one's parents.*

## 9. courtship

*n.* the courting or wooing of an intended spouse

**courting, wooing**

*Bill clapping is a common part of **courtship** by storks, and bill snapping is a common threat by owls.*

### 10. jeopardy

*n. the danger of harm, loss, or destruction*

**hazard, peril, risk**

*When groups of chimpanzees become fragmented and isolated from each other, their own genetic makeup is placed in **jeopardy**.*

### 11. lair

*n. a wild animal's den*

**hole, burrow, cave**

*Dinosaurs had nests or **lair**s where they laid the eggs.*

### 12. from afar

*ph. far off; a long way off*

**from a distance**

*To lure their pollinators **from afar**, orchids use appropriately intriguing shapes, colors, and scents.*

### 13. depart from

*ph. to start doing something different or not planned*

**diverge, deviate, differ from**

*Desert mammals **depart from** the normal mammalian practice of maintaining a constant body temperature.*

#### 14. mature

adj. fully grown or developed

**adult, ripened, aged**

*Its features are striking, as a **mature** whooping crane is all white and stands five feet tall with a wingspan of about eight feet.*

#### 15. heretofore

adv. before or up to this time; formerly

**hitherto, theretofore, thus far**

*Researchers are confident that the discoveries will provide invaluable clues about this **heretofore** mysterious process.*

#### 16. pounce

v. to leap or swoop on a victim or prey, especially when trying to capture it

**jump, spring, leap**

*When a tiger spots its prey, it crouches and then **pounces**.*

#### 17. immunity

n. the state of being immune to a disease; the state of being protected from unpleasant things

**exemption, invulnerability, nonliability**

*The human immune system reacts defensively, and **immunity** is stimulated without illness.*

#### 18. rapidity

n. a rapid state or quality; quickness

**swiftness, speediness, promptness**

The last figure shows the importance of the ocean as the principal reservoir of the hydrosphere and also the **rapidity** of water transport on the continents.

### 19. rigid

adj. completely stiff and inflexible; unwilling to change

**firm, hard, stubborn**

The hard, **rigid** plates that form the outermost portion of the Earth are about 100 kilometers thick.

### 20. tap

v. to start using a source, supply, or something else

**use, utilize**

Geothermal energy is a potentially inexhaustible energy source that has been **tapped** by humans for centuries but, until recent years, only on a small scale.

### 21. grind

v. to crush something into small particles or powder between two hard surfaces

**pound, pulverize, mill**

Because of their hardness, industrial diamonds can be used for cutting, **grinding**, and drilling.

### 22. groundwater

n. water which occurs in the rocks beneath the surface of the Earth

**underground water, subsurface water**

Many communities are dependent on **groundwater** obtained from wells for their water supply.



**23. inaccessible**

*adj.* difficult or impossible to approach, reach, or obtain

**unapproachable, unobtainable, unreachable**

*Until about a century ago, the deep-ocean floor was completely **inaccessible**.*

**24. infringe (on)**

*v.* to break or to violate a law or oath

**intrude, impinge, trespass**

*While many anxious parents may welcome this, others are already beginning to wonder if the GPS revolution is just another way for the government to **infringe** on its citizens' privacy.*

**25. delta**

*n.* a more-or-less triangular area of sediments deposited at the mouth of a river

*The Amazon River has the largest **delta** in the world, and the Yellow River in China has the greatest sediment flow, which is very important in delta formation.*

**26. sturdy**

*adj.* thick and strong-looking

**strong, solid, well-built**

*Because they must be able to break a path through icebound waters, icebreakers have to be very **sturdy** boats.*

**27. instantaneously**

*adv.* in an instant; at a particular instant

**immediately, directly, promptly**

*Communications satellites can transmit data around the world cheaply and **instantaneously**.*

### 28. phenomenon

*n. something that happens or exists in society, science, or nature*

**event, happening, occurrence**

*The spectacular aurora light displays that appear in Earth's atmosphere around the north and south magnetic poles were once mysterious **phenomena**.*

### 29. compile

*v. to collect and organize information*

**put together, collect, gather**

*Modern computers can quickly **compile** and analyze a large volume of weather information.*

### 30. vast

*adj. extremely great in size, extent, or amount*

**great, enormous, huge**

*It is now known that the **vast** majority of the moon's craters were formed by the impact of solid bodies with the lunar surface.*

Chapter 07 **UNIT 28** Applied Sciences

**1. combine**

v. to join together

**connect, link, unite**

*Because of the urban heat island effect, several characteristics of urban areas **combine** to elevate artificially the ambient temperature.*

**2. projection**

1) n. the process of being projected

2) n. something that protrudes from a surface

1) **presentation** 2) **bulge, protrusion**

*The hatch dome is a smooth design with no **projections** to easily attach to.*

**3. meager**

adj. lacking in quality or quantity

**scant, sparse, thin**

*Seattle's park development was very limited, and its funding was **meager**.*

**4. mural**

n. a painting that is painted directly onto a wall

**wall painting, fresco**

***Murals** tell narrative stories through visual images.*

## 5. deck

*n.* a platform extending from one side of a ship to the other and forming a floor or covering floor

*The observation **deck** at the Empire State Building has been featured prominently in several movies.*

## 6. unique

*adj.* being the only one of its kind; unusually good and special

**single, only, unequaled**

*What unusual or **unique** biological trait led to the remarkable diversification and unchallenged success of ants for over 50 million years?*

## 7. ultimately

*adv.* at last; in the end

**finally, eventually, in the long run**

*Other species may become better adapted to an environment, resulting in competition, and, **ultimately**, the death of a species.*

## 8. rare

*adj.* not done, found, or occurring very often

**scarce, unusual, uncommon**

*On the **rare** occasion when a fine piece of sculpture was desired, Americans turned to foreign sculptors.*

## 9. ecosystem

*n.* a community of living things and their relationships to their surroundings

*Humans have become experts at destroying the world and the **ecosystems** in which they live.*

### 10. **measure**

*n. a system of measurement; the process of ascertaining the quantity of something*  
**gauge, scale, estimation**

*Absent an objective **measure**, therefore, the range of estimates is wide.*

### 11. **equivalent**

*adj. equal in value, power, or meaning*  
**comparable, corresponding, equal**

*Studies have shown that it costs the **equivalent** of about a dollar a gallon to recharge a plug-in hybrid's energy tank.*

### 12. **eschew**

*v. to avoid, keep away from, or abstain from something*  
**evade, escape, avoid**

*We should accept the responsibility of saving the environment by **eschewing** non-hybrid cars for more environmentally friendly plug-in hybrids.*

### 13. **eternity**

*n. time regarded as having no end*  
**perpetuity, infinity, timelessness**

*The animal may soon be another one lost for **eternity** to human greed.*

#### 14. custodian

n. someone who cares for something, like a public building or ancient monument

**caretaker, guardian, watchman**

*Therefore, both the ocean and the human body have a kind of **custodian** that maintains their bacteria levels.*

#### 15. debilitate

v. to make someone weak or weaker

**weaken, enervate**

*If bacteria levels increase and get out of control, they can take hold of a system, overrun it, and become **debilitating**.*

#### 16. flora

n. the wild plants of a particular region, country, or time period

**vegetation, greenery, herbage**

*These plans have been designed to protect the endangered **flora** and fauna as well.*

#### 17. aggravate

v. to make something worse; to exasperate or irritate

**exacerbate, worsen, bother**

*The treatment only **aggravated** the condition.*

#### 18. circulate

v. to move or to cause to move around freely, especially in a fixed route

**circle, flow, move around**

The heart must beat more forcefully if it is to **circulate** the same amount of blood.

### 19. blockage

*n.* the state of being blocked or prevented; something that is stopping movement in a narrow place

**obstruction, impasse**

*These pathways might suffer **blockage** or be disrupted for various reasons.*

### 20. clot

*n.* a thick, almost solid, mass formed when blood or milk dries

**coagulation, lump**

*This can cause serious problems. A **clot**, or a lump of blood, can form.*

### 21. compatible

*adj.* able to associate or coexist agreeably

**agreeable, consistent, harmonious**

*In a transfusion, a patient must receive a blood type that is **compatible** with his blood.*

### 22. besiege

*v.* to surround a town or stronghold with an army

**lay siege to, blockade, surround**

*Almost daily, the public is **besieged** by claims for “no-aging” diets, new vitamins, and other wonder foods.*

### 23. intoxication

*n.* a condition in which certain centers in the brain are affected by toxic substances  
**poisoning**

*A sudden increase in caffeine consumption can easily produce caffeine **intoxication**.*

#### 24. **chronic**

*adj.* long-lasting, usually of gradual onset, and often difficult to treat

**long-lasting, lingering, continuing**

*More often than not, **chronic** pain is untreated or undertreated, but it does not have to be this way.*

#### 25. **filter**

*v.* to pass something through a filter, often to remove impurities

**sieve, purify, refine**

*Commercial honey is heated and **filtered** in order to stabilize and clarify it.*

#### 26. **detonate**

*v.* to explode or to make something explode

**explode, burst, blow up**

*Dynamite is ordinarily **detonated** with a device called a blasting cap.*

#### 27. **duplicate**

*v.* to make or be an exact copy or copies of something; to repeat something

**copy, reproduce, repeat**

*In science, the results of an experiment are not generally accepted until they have been **duplicated** in other laboratories.*



**28. amenable**

*adj.* ready to accept someone else's idea, proposal, advice, or guidance

**agreeable, receptive, obedient**

*Glass is **amenable** to a greater number of heat-forming techniques than most other materials.*

**29. pupa**

*n.* the inactive stage during which a larva is transformed into a sexually mature adult while enclosed in a protective case

**chrysalis**

*Eight to eleven days later, an adult moth emerges from the **pupa**.*

**30. brilliant**

*adj.* very bright and sparkling; showing outstanding intelligence or talent

**shining, radiant, intelligent**

*Robert Goddard was a **brilliant** pioneer in the field of rocketry.*

## Chapter 08 UNIT 29 Humanities

**1. fragile**

*adj.* easily broken, shattered, or damaged

**brittle, feeble, frail**

*The fibers were short and **fragile**, but he predicted that spun glass fibers as thin as spider silk would be flexible and could be woven into fabric.*

**2. grueling**

*adj.* very difficult and tiring

**exhausting, laborious, arduous**

*The 26-mile-long Boston Marathon is a **grueling** foot race.*

**3. fixture cf. fix**

*n.* a permanently fixed piece of furniture or equipment

**appliance, fitting, equipment**

*The icebox became a **fixture** in most homes and remained so until the mechanized refrigerator replaced it in the 1920s and 1930s.*

**4. hollow**

*adj.* containing an empty space within or below; not solid

**empty, vacant, void**

*As they continued this oral tradition, they were able to fill up what was **hollow** and what was missing inside of them.*

## 5. intent

*n.* something which is aimed at or intended; a purpose

**intention, goal, object**

*Despite the **intent** of the law, speculators often managed to obtain large tracts of land.*

## 6. subterranean

*adj.* beneath the surface of the Earth

**underground**

*Separate **subterranean** rooms in three pueblos were set aside for religious ceremonies.*

## 7. be derived from

*ph.* to have arisen from something; to be traced back to something

**stem from, be originated from**

*The name of the ware was probably **derived from** its resemblance to English earthenware made in South Yorkshire.*

## 8. besides

*prep.* in addition to; apart from something or someone

**as well as, additionally, aside from**

***Besides** overhunting, at least three other reasons for the extinction have been suggested.*

## 9. blend

*v.* to mix different sorts or varieties into one

**mix, mingle, combine**

The funeral tradition of the Toraja people **blends** ancient animist beliefs with the Western influences of Christianity.

### 10. casual

1) *adj.* intended for informal situations

2) *adj.* happening by chance

1) **informal** 2) **accidental, fortuitous**

*Spoken language is generally more **casual** than written language.*

### 11. butt

*n.* a person who is often the target of jokes, ridicule, or criticism

**object, target, victim**

*These so-called couch potatoes are often the **butt** of jokes or regarded as being unintelligent.*

### 12. supernatural

*adj.* relating to phenomena that cannot be explained by the laws of nature

**paranormal, unnatural, mysterious**

*The belief in the **supernatural** powers of a stone or tree may cause a sculptor to be sensitive to that material.*

### 13. supposedly

*adv.* seemingly; probably

**presumably, allegedly, reputedly**

*English goods were **supposedly** being smuggled into that city at a time when the Dutch controlled trading in the area.*

#### 14. supreme

adj. highest in rank, power, or importance; most outstanding

**uppermost, prime, excellent**

*The anthropologist suggested that all human beings have the capacity to understand that there is a **supreme** god.*

#### 15. forge

v. to shape metal by heating and hammering; to develop something new

**mold, invent, form**

*Genghis was able to **forge** his people into the greatest class of warriors the world has ever known.*

#### 16. hearth

n. the floor of a fireplace or the area surrounding it

**fireplace, fireside**

*Most early pottery was fired over open **hearths**.*

#### 17. shield

1) n. a piece of armor consisting of a broad plate

2) v. to protect from danger or harm

1) **buckler** 2) **guard, defend**

*Locks and escutcheon plates - the latter to **shield** the wood from the metal key - would often be imported.*

#### 18. sketch

v. to do a rough drawing or drawings of something

**outline, delineate**

*Sometimes a talented man or woman who began by **sketching** family members gained a local reputation.*

### 19. outnumber

v. to exceed in number; to be more than

*The greatest musical expansions and experimentations have involved percussion instruments, which **outnumber** strings and winds.*

### 20. overtake

v. to go past a moving vehicle or person in the same direction

**overhaul, catch, reach**

*Art Nouveau was eventually **overtaken** by a new school of thought known as Functionalism, which had been practiced since the turn of the century.*

### 21. pessimistic

adj. emphasizing or expecting the worst

**negative, cynical, hopeless**

*Most people mix a **pessimistic** and an optimistic outlook to some degree.*

### 22. prevail

v. to be victorious; to be the common, usual, or generally accepted thing

**predominate, preponderate, spread**

*After the 1870s, a number of important authors began to reject the romanticism that had*

*prevailed* immediately following the Civil War.

### 23. prominent

*adj.* important or well-known; easily seen

**eminent, celebrated, conspicuous**

*Forty-two prominent artists living in New York City founded the American Society of Painters in Water Colors.*

### 24. inception

*n.* the start of an organization, institution, or something else

**beginning, outset, dawn**

*Since its inception in Italy around the year 1600, opera has experienced a number of shifts and trends.*

### 25. insanity cf. insane

*n.* the state of being insane

**lunacy, madness**

*Hers is a world of violence, insanity, fractured love, and hopeless loneliness.*

### 26. acculturation

*n.* the adoption of the behavior patterns of a surrounding culture

**socialization**

*One crucial outcome of these musical acculturations was the development by blacks of the so-called blues scale, with its “blue notes.”*

## 27. self-sacrificing

*adj.* forgoing one's own needs or interests for the sake of others

**selfless, self-immolating**

*The Hopi people of Arizona stress the institutions of family and religion in a harmonious existence which makes the **self-sacrificing** individual the ideal.*

## 28. snap

*v.* to break suddenly and cleanly with a sharp cracking noise

**crack, break, fracture**

*Before barbed wire came into general use, fencing was often made from serrated wire, which could **snap** in cold weather due to contractions.*

## 29. feed

*v.* to supply food to animals or something else; to supply a machine with fuel

**nurture, nourish, supply**

*The wire to make the barbs is **fed** into the machine from the sides and cut to length by knives that cut diagonally through the wire to produce a sharp point.*

## 30. hull

*n.* the frame or body of a ship or airship

**framework, structure, body**

*The clipper has a knifelike bow to slice easily through the water and a narrow **hull** so that the ship can move smoothly.*



Chapter 08 **UNIT 30** Social Sciences

**1. prudent**

*adj.* sensible and careful, especially by trying to avoid unnecessary risks

**wary, cautious, discreet**

*A **prudent** investor never takes unnecessary financial risks.*

**2. raw**

*adj.* not cooked; not processed, purified, or refined

**unprepared, untreated, crude**

*Raw materials have less economic value than processed ones.*

**3. cling (to)**

*v.* to hold firmly or tightly; to stick

**adhere, attach, stick**

*In the nineteenth century, the former colonies lagged behind Britain in industrial development because their supply of wood led them to **cling** to charcoal iron.*

**4. domesticate**

*v.* to train an animal for life in the company of people

**tame**

*Huge numbers of people began to rely on the grain they grew and the animals they **domesticated**.*

## 5. eager

*adj.* feeling great desire or enthusiasm; keen to do something

**avid, enthusiastic, longing**

*This new technology enabled them to build factories in the largest cities, taking advantage of urban concentrations of inexpensive labor and **eager** customers.*

## 6. reconstruction

*n.* constructing or forming again

**restoration**

*The desperate plight of the South eclipsed the fact that **reconstruction** had to be undertaken in the North as well.*

## 7. entrepreneur

*n.* someone who engages in business enterprises

**industrialist**

*North American **entrepreneurs** increased productivity by reorganizing work and building factories.*

## 8. bust

*n.* a failure; a sudden decline in the economic conditions of a country

**failure, recession**

*The more-or-less rhythmic succession of economic booms and **busts** is referred to as the business cycle.*

## 9. buttress

*v.* to support a system, idea, argument, or something else

**brace, sustain, reinforce**

*The population flow from farms to cities increased, and the labor force it provided was **buttressed** by millions of newly arrived immigrants.*

**10. clamp**

v. to put or hold something in a position so that it cannot move

**clasp, clip, fasten**

*In 1789, he invented a machine in which the cutter was **clamped** into a moveable slide that could be advanced precisely by a hand crank.*

**11. avail**

v. to provide with something useful or desirable

**benefit, pay, profit**

*With much of the labor force inducted into the army and with grain prices on the rise, northern farmers rushed to **avail** themselves of the new labor-saving equipment.*

**12. rational**

adj. related to or based on reason or logic

**logical, reasonable, sensible**

*Your **rational** mind tells you it's just a stick, but your innate mind tells you it could be a snake.*

**13. resolve**

1) v. to determine to do something

2) v. to find a solution for something

1) **decide, determine** 2) **solve, answer**

*They were quick to lighten serious moments with humor and tried to **resolve** issues that threatened to divide the group.*

#### 14. **afterthought**

1) *n.* a thought after a main plan has been formed

2) *n.* something added later

1) **reconsideration** 2) **addition**

*In most of the earliest books for children, illustrations were an **afterthought**.*

#### 15. **stimulate**

*v.* to cause physical activity or increased activity; to initiate or to get going

**rouse, spur, provoke**

*The agricultural revolution **stimulated** many in the countryside to seek new lives in the cities.*

#### 16. **superb**

*adj.* extremely good

**perfect, marvelous, excellent**

*The city had a **superb** natural harbor as well as excellent rail connections.*

#### 17. **tenement**

*n.* a large building divided into several self-contained flats or apartments

**apartment, flat**

*Urban slum wards often had no sewers, garbage collection, or gas or electric lines, and **tenements** lacked both running water and central heating.*

### 18. determinant

*n.* a thing that decides whether or how something happens

*Economics was probably the most important **determinant** for the baby boom.*

### 19. dilute

*v.* to make a liquid weaker; to make a quality or belief weaker or less effective

**water down, weaken, lessen**

*As a result, it changes far more slowly than regular DNA, which is **diluted** by fifty percent each generation.*

### 20. uniformly

*adv.* without variation or diversity

**consistently, evenly, equally**

*To be fair, laws must be **uniformly** applied to all people.*

### 21. inspection

*n.* a close look at or over someone or something in order to judge its condition

**scrutiny, examination, audit**

*The perishable commodities of trade generally came under state **inspection**.*

### 22. jury cf. juror

*n.* a body of people sworn to give an honest verdict

*Many Americans still feel that the **jury** system is at the core of their democracy.*

### 23. legislative

*adj.* concerned with making laws

#### lawmaking

*Members of congress have to spend most of their time in Washington taking care of their **legislative** duties.*

### 24. mock

1) *v.* to make someone or something the object of unkind laughter

2) *adj.* not real, but intended to be similar to a real situation or substance

1) **deride, ridicule** 2) **fake, sham**

*He was asked to be a juror in the **mock** trial which will take place at the law school next week.*

### 25. conspiracy

*n.* a secret plan made by two or more people to do something that is harmful or illegal

#### collusion, plot, intrigue

*The details of John Kennedy's death continue to elude the most relentless of **conspiracy** theorists.*

### 26. demographic

*adj.* pertaining to demography; relating to the dynamic balance of a population

*Today, the elderly comprise the fastest growing **demographic** group in many developed countries.*

### 27. characteristic

*n.* a quality or feature of something or someone that is typical of that thing or person and is easy to recognize

**mark, trait, property**

*These factors ensured that Chicago would become a great city regardless of the disadvantageous **characteristics** of the available site.*

**28. assign**

v. to give a task or something else to someone

**allocate, allot, apportion**

*In the research, each consideration is **assigned** a numerical value to reflect its relative importance.*

**29. sponsor**

v. to act as a sponsor for someone or something

**patronize, support, back**

*Classes for adult immigrants were **sponsored** by public schools, corporations, unions, churches, settlement houses, and other agencies.*

**30. dismay**

v. to break down the courage of completely, as by sudden danger or trouble

**discourage, dishearten**

*Some visitors were **dismayed** by the endless urban sprawl and dismissed Los Angeles as a mere collection of suburbs in search of a city.*

Chapter 08 UNIT 31 Natural Sciences

**1. candidate**

*n.* someone who is competing with others for a parliamentary seat or some other position

**runner, nominee, applicant**

*Mars would be a more successful **candidate** for exploration and settlement.*

**2. cushion**

*v.* to make the effect of a fall or hit less painful

**soften, mitigate, absorb**

*The big surprise, though, is the role of air resistance in **cushioning** the shock of collisions.*

**3. bewildering**

*adj.* thoroughly confusing, disorientating, or puzzling

**baffling, perplexing, confusing**

*Telescopic images of the planet permitted the cataloging of a **bewildering** array of land forms.*

**4. quantify**

*v.* to determine the quantity of something

**measure**

*Scientists have tried to **quantify** the proportion of the sun's energy.*

**5. refrigerate**

*v.* to freeze something or to make it cold



**chill, cool, ice**

*Florists often **refrigerate** cut flowers to protect their fresh appearance.*

## 6. condense

v. to decrease the volume, size, or density of a substance

**compress, compact, concentrate**

*The water stored as vapor in the atmosphere will **condense** to a liquid again, and the energy will be released to the atmosphere.*

## 7. constituent

n. a forming part of a whole

**component, element, ingredient**

*Helium nuclei have also been found to be **constituents** of cosmic rays that fall on the Earth.*

## 8. diffuse

v. to spread or to send out in all directions

**disperse, distribute, scatter**

*The nitrogen **diffuses** from the tissues into the blood and from the blood into the lungs.*

## 9. friction

n. the rubbing of one thing against another; disagreement or unfriendliness between people

**abrasion, scrape, conflict**

*The air of the upper atmosphere is dense enough to ignite meteors by **friction**.*

## 10. wander

v. to walk, move, or travel about with no particular destination

**ramble, roam, range**

*Some of the mice **wandered** around the box and did not appear to be bothered by being so exposed.*

## 11. ferocious

adj. violently unfriendly or aggressive

**fierce, savage, cruel**

*Barracudas are **ferocious** predators and are sometimes called the “tigers” of tropical waters.*

## 12. humidity

n. the amount of water vapor in the atmosphere

**dampness, moisture**

*When parrots incubate their eggs in the wild, the temperature and **humidity** of their nests are controlled naturally.*

## 13. instill

v. to impress ideas, feelings, or something else slowly or gradually

**implant, imbue, infuse**

*Through this process, the conservationists **instill** in the whooping cranes a natural sense of migration.*

## 14. intact

adj. not broken or damaged; untouched

**undamaged, unimpaired, unblemished**

*The finding of a perfectly **intact** massive dinosaur fossil may seem exciting, but to paleontologists, it is just evidence that one beast died for some reason.*

### 15. intake

*n. a thing or quantity taken in or accepted; the act of taking in*  
**consumption, ingestion**

*An important consideration of fat **intake** is the ratio of saturated fats to unsaturated fats.*

### 16. expenditure

*n. a payment made in the course of achieving a result*  
**outlay, expense, cost**

*Each of the functions of the body, even thinking, requires the **expenditure** of energy.*

### 17. incubator

*n. a transparent container in which a prematurely born baby can be nurtured*

*The eggs were placed in **incubators**, hatched, and continually monitored and eventually raised by specialists.*

### 18. ingest

*v. to take food or liquid into the body*  
**consume, eat**

*The nectar of flowers is **ingested** by worker bees and converted to honey in a special sac in their digestive systems.*

### 19. insulation

*n.* the state of being alone or kept apart from others

**isolation, secludedness, separateness**

*Fat acts as **insulation** against the cold and as cushioning for the internal organs.*

### 20. jostle

*v.* to push something in an annoying way

**hustle, jolt, push**

*Eventually, large rocks may be **jostled** around enough to be broken into sand-sized grains.*

### 21. submerge

*v.* to plunge, sink, or cause to plunge or sink under the surface of some liquid

**immerse, drench, dive**

*As the Bering land bridge had been **submerged** before the Eskimos came from Asia, they must have arrived by boat.*

### 22. decompose

*v.* to rot, usually as a result of the activity of fungi and bacteria

**decay, break down, disintegrate**

*It is the rock that gradually **decomposes** into clay.*

### 23. deposit

*v.* to put something down; to leave a layer of a substance on the surface of something

**place, store, bank**

*When a river overflows, the coarser sand sediment is sometimes **deposited** on the river banks,*

which forms natural levees.

#### 24. fine

adj. consisting of tiny particles

**dusty, floury, powdery**

*Table salt is **finer** than rock salt.*

#### 25. erode

v. to wear away, destroy, or be gradually destroyed

**wear down, grind down, corrode**

*Rock is **eroded** by wind and water, and many of the eroded parts end up in the water system at some point and, eventually, in the great rivers of the world.*

#### 26. give way to

ph. to give priority to; to collapse under pressure

**concede, succumb, yield**

*Beyond a depth of around 2,900 kilometers, a great change takes place, and the mantle **gives way to** the core.*

#### 27. labyrinth

n. a highly complex network of interconnected passages

**maze**

*Located inside Rainer's two ice-filled summit craters, these caves form a **labyrinth** of tunnels and vaulted chambers about one and one-half miles in total length.*

## 28. glowing

*adj.* giving out a steady heat or light without flames

**burning, luminous, incandescent**

*Viewed from outer space, auroras can be seen as dimly **glowing** belts wrapped around each of the Earth's magnetic poles.*

## 29. inflow

*n.* a flowing or coming in

**influx, inrush**

*For a snowfall to continue once it starts, there must be a constant **inflow** of moisture to supply the nuclei.*

## 30. evaporate

*v.* to change or cause something to change from a liquid into a vapor

**vaporize, boil off, dehydrate**

*Rain and melting snow quickly **evaporate** in the dry desert climate.*

Chapter 08 UNIT 32 Applied Sciences

**1. outlook**

*n.* a view from a particular place

**viewpoint, perspective, prospect**

*The town planning commission said that its financial **outlook** for the next fiscal year was optimistic; it expects an increase in its tax revenues.*

**2. inviting**

*adj.* attractive or tempting

**alluring, captivating, enticing**

*In spite of Hunt's **inviting** façade, the living space was awkwardly arranged.*

**3. loop**

*n.* a rounded or oval-shaped single coil in a piece of thread, string, or rope

**circle, hoop, ring**

*The Loop, which is the commercial heart of Chicago, is enclosed within a rectangular **loop** of elevated train tracks.*

**4. magnificent**

*adj.* splendidly impressive in size, extent, or appearance

**great, grand, impressive**

*Even though many are taller, the building's history and the **magnificent** view from the top have helped its popularity endure throughout the decades.*

**5. draw on**

*ph.* to utilize or make use of something as a source

**employ, exploit, use**

*A public library is a resource the entire community can **draw on**.*

**6. toxic**

*adj.* relating to the characteristics of poison or toxin

**poisonous, venomous**

*In her book Silent Spring, Rachel Carson wrote about insecticides and their **toxic** effects on animal life.*

**7. cosmic**

*adj.* relating to the universe

**universal**

*The extinction of the dinosaurs was caused by some physical event, either climatic or **cosmic**.*

**8. drastically**

*adv.* with force or violence; severely or extensively

**severely, violently, forcefully**

*The weather can change **drastically** in the desert over the course of a mere day.*

**9. bleak**

*adj.* cold and cheerless

**dreary, dismal, desolate**



With its massive population and **bleak** future, many Haitians are sneaking across the border and hoping for a better one in the Dominican Republic.

### 10. comparably

adv. in a similar way or to a similar degree

**similarly, equivalently, likely**

*Crows are less well known than many **comparably** common species.*

### 11. conserve

v. to keep safe from damage, deterioration, loss, or undesirable change

**keep, preserve, save**

*In winter especially, it is important for birds to **conserve** their precious food reserves.*

### 12. decline

n. a lessening of strength, health, or something else

**weakening, decrease, downturn**

*There are two major factors which contributed to the **decline** of the bird in the early twentieth century.*

### 13. deficient

adj. not good enough; not having all that is needed

**lacking, wanting, insufficient**

*If one of them is missing or **deficient**, an entire system can be placed in jeopardy.*

### 14. mitigate

v. to make pain, anger, or something else less severe

**moderate, relieve, lessen**

*One strategy for **mitigating** the impact of the heat island effect is to use construction materials in houses, pavements, and highways that reflect, not absorb, the sunlight.*

### 15. discrepancy

n. a failure of sets of information or something else to correspond to something

**disparity, disagreement, inconsistency**

*The two nations have followed different paths of forest management, which has resulted in the current **discrepancy**.*

### 16. exhale

v. to breathe out

**blow, puff**

*When the pressure inside the lungs increases, the air is **exhaled**.*

### 17. abuse

n. the wrong use of one's power; the excessive use of harmful substances

**perversion, misuse, ill-use**

*The therapy is excellent for treating individuals with eating disorders and drug **abuse**.*

### 18. come about

ph. to happen

**occur, take place, come up**

*The train wreck **came about** as a result of the engineer's negligence.*

### 19. methodically

*adv.* in a systematic way; systematically

**neatly, tidily, regularly**

*Hazen **methodically** screened and cultured scores of soil samples, which she then sent to her partner.*

### 20. ironic

*adj.* containing, characterized by, or expressing irony

**sarcastic, satirical, sardonic**

*It is somewhat **ironic** that without cholesterol, a person's body would not be able to function correctly.*

### 21. holistic

*adj.* considering a person or thing as a whole rather than as separate parts

*Many individuals are taking a more **holistic** approach to their bodies and health rather than simply looking for a quick cure.*

### 22. imbibe

*v.* to drink, especially alcoholic drinks

**drink, take**

*Traditionally, herbal teas are **imbibed** to boost the immune system.*

### 23. tissue

*n.* a group of cells with a similar structure and particular function

*Free radicals of oxygen, common byproducts of the metabolic processes in the body, are capable of causing **tissue** damage.*

#### 24. **alternative**

*adj. secondary or different, especially in terms of being less favorable as a choice*  
**substitute, surrogate**

*Natural gas really is an excellent **alternative** fuel to gasoline.*

#### 25. **cease**

*v. to bring or to come to an end*  
**end, halt, stop**

*By the time the universe was a few minutes old, helium production had effectively **ceased**.*

#### 26. **concise**

*adj. brief but comprehensive*  
**compact, succinct, abridged**

*The system of chemical symbols, first devised around 1800, gives a **concise** and instantly recognizable description of an element or compound.*

#### 27. **tarnish**

*v. to make or become dull and discolored*  
**sully, stain, spoil**

*In the metal industry, hydrogen is used to prevent metals from **tarnishing** while undergoing heat treatments.*

## 28. homology

*n.* the same relation; the quality of being similar or corresponding in position, value structure, or function

*The concepts of analogy and **homology** are probably easier to exemplify than to define.*

## 29. pectoral

*adj.* referring to or relating to the breast or chest

**thoracic**

*The **pectoral** fins of a fish, the wings of a bird, and the forelimbs of a mammal are all homologous structures.*

## 30. affliction

*n.* distress or suffering

**hardship, pain, disease**

*Future studies of the brain may make it possible to create microchips that can be implanted, thus curing stutterers of their **afflictions** for good.*

Chapter 09 UNIT 33 Humanities

**1. enthusiasm**

*n.* lively or passionate interest or eagerness

**fervor, passion, ardor**

*There seemed to be nothing that men are so afraid of as religious **enthusiasm**.*

**2. eradicate**

*v.* to get rid of something completely

**eliminate, obliterate, remove**

*Governmental attempts to **eradicate** the black market were less than successful.*

**3. trend**

*n.* a general direction or tendency

**inclination, leaning, direction**

*A generation in pop-culture terms measures about two years, and a **trend** can come and go in weeks.*

**4. progressive**

*adj.* favoring or advocating progress, change, improvement, or reform

**advancing, liberal, radical**

*The **progressive** movement is an umbrella term referring to some reform efforts that emerged in the early 1900s.*

## 5. crisscross

v. to cross one another in different directions

**weave, traverse**

*Wagons and coaches continued to **crisscross** the West wherever the rails had not yet been laid.*

## 6. designate

v. to name, choose, or specify someone or something for a particular purpose

**nominate, appoint, select**

*The Antiquities Act gives the president the unobstructed power to **designate** land as national monuments.*

## 7. attain

v. to complete successfully

**accomplish, achieve, reach**

*The natives **attained** one of the most complex social organizations of any nonagricultural people in the world.*

## 8. attribute

n. a trait or characteristic of something

**trait, quality, feature**

*The physical **attributes** of the Hole in the Rock in Arizona allow its use as a natural calendar.*

## 9. surmise

v. to conclude something from the information available

**suppose, assume, guess**

One might **surmise** that these dwellings were built for protection, but the Anasazi had no known enemies.

### 10. synonymous (with)

*adj.* having the character of synonyms or a synonym; equivalent in meaning  
**equal, tantamount, identical**

*They thought of the Industrial Revolution as **synonymous** with mechanization, with human labor replaced by machines.*

### 11. henceforth

*adv.* from now on; from this point forward  
**hereafter, henceforward**

*In 1926, he announced that, **henceforth**, his factories would close for the entire day on Saturday.*

### 12. immutable

*adj.* unable to be changed  
**changeless, invariable, constant**

*Adjustments in various places show that the standard is not **immutable**.*

### 13. imperative

*adj.* absolutely essential; urgent  
**necessary, requisite, pressing**

*With the gradual evolution of society, more complex counting became **imperative**.*



#### 14. **incise**

v. to cut into, especially precisely and with a specialized sharp tool

**cut, gash, slash**

*Some pots were adorned with **incised** or stamped decorations.*

#### 15. **incur**

v. to bring something unpleasant upon oneself; to become liable for debts

**draw, arouse, provoke**

*The reason is due to the cost since the family will **incur** heavy expenses because of the funeral.*

#### 16. **iridescent**

adj. having many bright rainbow-like colors which seem to change constantly

**opalescent**

*A favored device of the style was to imitate the **iridescent** surface seen on ancient glass.*

#### 17. **fate**

n. the apparent power that determines the course of events over which humans have no control

**fortune, destiny, doom**

*Some writers wrote of a world in which a cruel and merciless environment determined human **fate**.*

#### 18. **proclivity**

n. a natural liking or tendency, especially towards something bad

**inclination, preference, tendency**

*The **proclivity** to play hot distinguished jazz musicians from other instrumentalists.*

### 19. undergo

v. to experience something especially unpleasant or difficult

**suffer, bear, endure**

*The surrounding area was **undergoing** tremendous economic and demographic growth.*

### 20. revere

v. to feel or show great respect or reverence for someone or something

**respect, admire, worship**

*Founded by John Ruskin and William Morris, the movement **reversed** craft as a form of art.*

### 21. rotate

v. to turn or make something turn about an axis like a wheel

**revolve, spin, whirl**

*Committee membership **rotates** every year so that new voices and opinions are constantly heard.*

### 22. myriad

adj. an exceedingly great number

**countless, limitless**

*A series of mechanical improvements finally produced an instrument capable of **myriad** tonal effects.*

### 23. norm

n. a typical pattern or situation; a standard, especially for achievement in industry

**criterion, standard, model**

*The organization of the opera never deviates from the usual **norm**.*

**24. preoccupation**

*n. the state or condition of being preoccupied*

**obsession, absorption**

*An examination of the art of the Middle Ages tells us something about the medieval **preoccupation** with theological doctrine.*

**25. rage**

*n. a widespread, usually temporary, fashion*

**fashion, vogue, craze**

*In the late eighteenth century, portraiture was the **rage**, so Raphaelle Peale found few buyers for his still lives.*

**26. refreshing**

*adj. producing a feeling of comfort and new strength*

**invigorating, rejuvenating, exhilarating**

*Satire exists because readers appreciate a **refreshing** stimulus, an irreverent reminder they live in a world of platitudinous thinking.*

**27. exuberant**

*adj. overflowing with life and cheerful excitement*

**joyful, lively, vigorous**

*Self-image can be indicated by a tone of voice that is confident, shy, aggressive, or **exuberant**.*

## 28. delivery

*n.* the carrying of goods, letters, or something else to a person or place

**distribution, conveyance, transportation**

*The free **delivery** service was at first confined to cities, and soon home delivery became a mark of urbanism.*

## 29. insulting cf. insult

*adj.* rude or offensive with lack of respect

**contemptuous, rude, offensive**

*After the Civil War, Jefferson Davis, president of the Southern Confederacy, was the subject of an **insulting** popular Northern song.*

## 30. formidable

*adj.* causing fear, doubt, or anxiety; very impressive

**appalling, awesome, overwhelming**

*The northwest coast of the United States is uniquely characterized by the **formidable** Cascade Mountain Range.*

Chapter 09 UNIT 34 Social Sciences

**1. prior**

*adj.* existing or arranged before something else or before the present situation

**earlier, former, previous**

*Employers often require job applicants to have **prior** experience in the field.*

**2. output**

*n.* the quantity or amount of something produced

**production, yield**

*The innovations in manufacturing boosted **output** and living standards to an unprecedented extent.*

**3. capacity**

1) *n.* someone's ability to do something

2) *n.* the amount of space a container or room has to hold things or people

1) **ability, faculty** 2) **space, volume**

*The economic heart of Canada, Ontario accounts for more than 40 percent of the nation's productive **capacity**.*

**4. cohesion**

*n.* the process or state of sticking together; the tendency to unite

**cohesiveness, connection, bond**

*The airplanes contributed to a kind of international **cohesion**, which was beginning to emerge due to air travel across the oceans.*

## 5. colossal

*adj.* extraordinarily great in size, extent, or degree

**vast, gigantic, enormous**

*The Lincoln Memorial features a **colossal** statue of the sixteenth president.*

## 6. cramped

*adj.* uncomfortably restricted in size

**tight, crowded, close**

*Having a lower income generally forces people to live in more **cramped** quarters than those typically occupied by wealthier people.*

## 7. defunct

*adj.* no longer living, existing, active, usable, or in use

**extinct, outmoded, expired**

*The city cannot legally sign a contract with a **defunct** corporation.*

## 8. dictate

*v.* to say words for someone to write down; to tell someone what to do

**command, order, demand**

*The quality of the hinterland **dictated** the pace of growth of the cities.*

## 9. astounding

*adj.* so surprising that it is almost impossible to believe

**astonishing, shocking, stunning**

The circulation of *Ladies' Home Journal* reached an **astounding** 700,000 copies.

### 10. turmoil

*n.* a state of confusion, excitement, or anxiety

**disorder, confusion, unrest**

*There were a number of major causes for the social and religious **turmoil** experienced in Europe during the fourteenth century.*

### 11. valid

1) *adj.* based on truth or sound reasoning

2) *adj.* drawn up according to proper legal procedure

1) **concrete, sound** 2) **lawful, legitimate**

*In some societies, both male and female lines are considered equally **valid**.*

### 12. vigilance

*n.* the state of being watchful or observant

**alertness, watchfulness, caution**

*From this point until the first green corn could be harvested, the crop required labor and **vigilance**.*

### 13. exorbitant

*adj.* going beyond a normal or acceptable limit in degree or amount

**excessive, outrageous, disproportionate**

*Reformers argued that the privately owned utility companies would charge **exorbitant** rates for these essential services.*

#### 14. exponential

*adj.* becoming faster and faster

*Except for Boston, cities grew by **exponential** leaps through the eighteenth century.*

#### 15. filthy

*adj.* extremely dirty

**foul, tainted, unclean**

*The **filthy** living conditions were definitely a major reason why the Black Death was so devastating to Europe.*

#### 16. foothold

*n.* a place to put one's foot when climbing; a firm or secure position

**footing, bridgehead, base**

*The five-day working week gained a firm **foothold** in England during the past year.*

#### 17. foreshadow

*v.* to give or have some indication of something in advance

**augur, indicate, presage**

*The beginning of a major change was **foreshowed** in the later 1860s.*

#### 18. ghastly

*adj.* making someone very frightened, upset, or shocked

**awful, terrible, appalling**



The date of the pandemic's **ghastly**, horrific assault on Europe was probably around the mid-fourteenth century.

### 19. go along with

*ph.* to comply with something, even if reluctantly

**agree to, assent to, concur with**

The president would **go along with** the decision to hire more people if the department could bring in more revenue.

### 20. grant

*n.* something granted, especially an amount of money from a public fund for a specific purpose

**subsidy, subvention**

Many universities receive **grants** to do research for the federal government.

### 21. herald

*v.* to proclaim or usher in something

**announce, proclaim, declare**

The Declaration of Independence included the names of its signers and therefore **heralded** the support of all thirteen colonies.

### 22. discourse

*n.* an exchange of views for the purpose of exploring a subject or deciding an issue

**discussion, colloquy**

Much of what constituted the traditional political **discourse** of earlier ages has been lost.

### 23. emissary

*n.* a person sent on a mission, especially on behalf of a government

**messenger, envoy, legate**

*When the British sent **emissaries** demanding the surrender of the colony, the leader wanted to fight.*

### 24. entanglement

*n.* a difficult situation or relationship that is hard to escape from

**involvement, complication**

*The first president advised the nation to avoid foreign **entanglements**, and, for the first century, the country was quite adept at doing so.*

### 25. facilitation cf. facilitate

*n.* the act of making something easy or easier

**aid, assist, promotion**

*The goals of the federal government were the **facilitation** of western settlements and the development of native industries.*

### 26. fatigue

1) *v.* to exhaust or to become exhausted

2) *n.* tiredness after work or effort

1) **tire, exhaust** 2) **weariness, tiredness**

*People make more mistakes when they are **fatigued** than when they are fresh.*

### 27. insatiable

*adj.* not able to be satisfied; extremely greedy

**greedy, ravenous, unquenchable**

*One characteristic that many psychologists have agreed is common to creative types is an **insatiable** curiosity.*

## 28. antecedent

*n.* an event or circumstance which precedes another

**forerunner, precursor, predecessor**

*A book was generally bound simply, in boards or merely stitched in paper wrappers, which was an **antecedent** of modern-day paperbacks.*

## 29. blunder

*n.* a foolish or thoughtless, and usually serious, mistake

**error, mistake, howler**

*The airline **blundered**. It sent him to Atlanta but his luggage to Montreal.*

## 30. ideal

1) *n.* the best or most suitable that something could be

2) *adj.* perfect in every way

1) **perfection, nonpareil** 2) **supreme, complete**

*Many people feel that Hawaii has an almost **ideal** climate.*

Chapter 09 UNIT 35 Natural Sciences

**1. postpone**

v. to delay or put off something till later

**defer, adjourn, suspend**

*NASA sometimes **postpones** the launch of space vehicles on account of bad weather or technical problems.*

**2. atmosphere**

n. the layer of gas surrounding a planet; the general or prevailing climate or mood

**aerosphere, air, mood**

***Atmosphere** is crucial because it protects humans and all other life from the continuous bombardment of cosmic radiation.*

**3. axis**

n. an imaginary straight line around which an object, like a planet, rotates

*The **axis** is tilted so that Earth has various seasons at the northern and southern regions.*

**4. bypass**

v. to avoid a congested or blocked place by taking a route which goes round it

**evade, circumvent, sidestep**

*The moon's relatively harsh environment is the major reason why it should be **bypassed**.*

**5. related**

*adj.* connected with something or someone in some way

**associated, linked, allied**

*In science, a theory is a reasonable explanation of observed events that are **related**.*

## 6. capsize

*v.* to turn over completely

**invert, overturn, upset**

*Small sailboats can easily **capsize** if they are not handled carefully.*

## 7. abrasion

*n.* the process of rubbing a surface very hard so that it becomes damaged or disappears

**erosion, friction, wear**

***Abrasion** due to daily wear alters the surface features of beads.*

## 8. atom

*n.* the smallest unit of a chemical element that can display the properties of that element

*Physicists have known since the early nineteenth century that all matter is made up of extremely tiny particles called **atoms**.*

## 9. aurora

*n.* an atmospheric phenomenon consisting of bands of light caused by charged solar particles following the Earth's magnetic lines of force

*The colors of an **aurora** depend on the atoms emitting them.*

## 10. keen

- 1) *adj.* having a sharp edge or point
- 2) *adj.* enthusiastic about something or someone
- 1) **sharp, pointed** 2) **eager, enthusiastic**

*The rhinoceros has a poor sense of sight but a **keen** sense of smell.*

## 11. gigantic

- adj.* extremely large in size, amount, or degree
- enormous, huge, massive**

*Like the dinosaurs, some of the pterosaurs became **gigantic**.*

## 12. grasp

- 1) *v.* to take a firm hold of something or someone
- 2) *v.* to completely understand
- 1) **grip, seize** 2) **understand, comprehend**

*A couple of major contrasts between ant and human societies are perhaps easier to **grasp**.*

## 13. groundbreaking

- adj.* making new discoveries; using new methods
- innovative**

*The **groundbreaking** work of primatologists Louis Leakey and Jane Goodall has shown that the chimpanzee is not just another monkey.*

## 14. hibernation

- n.* passing the winter in a sleeping or inactive condition

Some animal activities, such as mating, migration, and **hibernation**, have a yearly cycle.

### 15. hue

*n.* a color or type of color

**tint, shade, tone**

*The bird's head is colored red and black, and its eyes are a deep, golden **hue**.*

### 16. fertilize

*v.* to make new animal or plant develop; to supply soil or land with extra nutrients

**impregnate, pollinate, enrich**

*The male ants serve one purpose only; to **fertilize** the eggs of the queen.*

### 17. lacerate

*v.* to cut skin deeply with something sharp; to wound or hurt someone's feelings

**gash, rip, wound, hurt**

*The weed has sharp, spiny leaves that can **lacerate** the flesh of ranchers and horses alike.*

### 18. litter

1) *n.* discarded rubbish lying in a public place

2) *v.* to make something untidy

1) **rubbish, debris** 2) **clutter, scatter**

*The ground under towering oaks is often **littered** with thousands of half-eaten acorns, each one only bitten from the top.*

### 19. huddle

v. to gather or crowd together in a close mass

**cluster, crowd, pack**

*The effect of sheltering is magnified by several birds, including wrens, swifts, and brown creepers, **huddling** together in the roosts.*

## 20. nostril

n. either of the two external openings in the nose

**nare**

*The sea otter is well adapted to its marine existence, with ears and **nostrils** that can be closed under water.*

## 21. summit

n. the highest point of a mountain or hill

**pinnacle, zenith, peak**

*The snow-covered **summit** of Mount Hood is the highest point in the state of Oregon.*

## 22. igneous

adj. of rocks formed when magma becomes solid, especially after it has poured out of a volcano

*Even today, approximately 95 percent of the entire crust is **igneous**.*

## 23. crack

n. a partial fracture in a material produced by an external force or internal stress

**split, crevice, rift**

*If there is a **crack** in the rock, a crack that runs from the aquifer to the surface pushes the*



water up through it.

#### 24. facet

*n.* any of the flat sides of something; an aspect of a problem

**side, aspect, phase**

*The more **facets** a diamond has, the more it glitters.*

#### 25. expedition

*n.* an organized journey with a specific purpose

**excursion, exploration**

*The Lewis and Clark **expedition**, sponsored by President Jefferson, was the most important examination of the high plains and the northwest before the War of 1812.*

#### 26. entomb

*v.* to put a body in a tomb; to bury someone or something

**bury, inter**

*Although they were **entombed** in rock for millions of years, many fossils have organic remains in them.*

#### 27. fleck

*n.* a spot or marking

**speck, dot, mark**

*The Glass Mountains of northwestern Oklahoma are covered with **flecks** of gypsum, which shine in the sunlight.*

## 28. oscillation

*n.* a movement of swinging or making something swing backward and forward

**fluctuation, vibration, swing**

*In the diurnal type of tidal **oscillation**, the alternate rise and fall of sea level, a single high water and a single low water occur each tidal day.*

## 29. consecutive

*adj.* following one after the other; in sequence

**successive, succeeding, sequential**

*The driest deserts are called hyper-arid, and rain is absent for at least twelve **consecutive** months.*

## 30. embed

*v.* to set or fix something firmly and deeply

**root, entrench, implant**

*When meteorites fell on the continent, they were **embedded** in the moving ice sheets.*

Chapter 09 **UNIT 36** Applied Sciences

**1. harmonize**

v. to form or be made to form a pleasing whole

**coordinate, conform**

*Frank Lloyd Wright is known for his highly original methods of **harmonizing** buildings with their surroundings.*

**2. intimacy**

n. a state of having a close personal relationship with someone

**familiarity, closeness, nearness**

*The American farmer is as free of the **intimacy** of the village as the urbanite.*

**3. impetus**

n. the force with which something moves; a driving force

**thrust, impulse, stimulus**

*Brick houses became common in Boston, where the danger of fire gave an **impetus** to using more durable materials.*

**4. edifice**

n. a building, especially a large and impressive one

**building, hall, palace**

*The Executive Mansion, constructed in the 1790s and now called the White House, is the oldest **edifice** in Washington, D.C.*

## 5. foliage

*n.* the green leaves on a tree or plant; the sprays of leaves used for decoration

**leafage, greenery**

*Art deco regularized the forms into abstracted repetitive patterns rather than presenting them as flowing, asymmetrical **foliage**.*

## 6. archaic

*adj.* from or relating to ancient times; old and no longer used

**antiquated, outmoded, out-of-date**

*In fact, hybrid technology was **archaic** as was battery technology.*

## 7. bark

*n.* the tough and protective outer layer which covers the stems and roots of woody plants

*The **bark** of a tree thickens with age.*

## 8. emission cf. emit

*n.* the act of sending out light, heat, or gas

**discharge, ejection, radiation**

***Emissions** from the new diesel release up to 30% less carbon dioxide into the air than gas burners.*

## 9. encroach (on)

*v.* to advance beyond proper, established, or usual limits

**intrude, trespass, infringe**

*As populations in Africa explode and **encroach** on chimpanzee societies, they begin to become*

*infected with disease, suffer, and die.*

### 10. entrench

v. to fortify something with trenches dug around it; to establish something firmly  
**establish, embed, fix**

*This combination of resources and technology is **entrenched** in man's way of life.*

### 11. environs

n. surrounding areas, especially the outskirts of a town or city  
**environment, neighborhood**

*The numbers of bacteria are vast, which allows them both to dominate and maintain a healthy balance within their **environs**.*

### 12. impede

v. to prevent or delay the start or progress of an activity or something else  
**obstruct, hamper, hinder**

*Weeds clog waterways, destroy wildlife habitats, and **impede** farming.*

### 13. epic

adj. having the features of an epic; very great and impressive  
**heroic, imposing, impressive**

*This is unfortunate since the loss of the menhaden spells an eco-disaster of **epic** proportions.*

### 14. forage

v. to gather food or provisions from an area

**graze, pasture**

*During the day, parties of birds will have spread out to **forage** over a very large area.*

**15. fraction**

*n.* a small part of something

**segment, portion, bit**

*Only a small **fraction** of all the organisms that have ever lived are preserved as fossils.*

**16. layman**

*n.* someone who is not a member of the clergy; someone who does not have specialized knowledge

**worldling, nonprofessional**

*Both doctors and **laymen** talk about both hemispheres of the brain as if each has specially assigned functions.*

**17. ailment**

*n.* an illness, especially a minor one

**sickness, affliction, disease**

*Anthrax is generally an **ailment** of sheep and cattle but may also be transmitted to humans.*

**18. nausea**

*n.* a sensation that one is about to vomit

**queasiness, squeamishness**

*Early signs characteristic of the acute phase of viral hepatitis are abdominal pain, **nausea**, and fever often accompanied by chills.*

### 19. perspiration

*n.* the secretion of fluid by the sweat glands of the skin

**sweating**

*Anyone working under conditions that cause a heavy amount of **perspiration** can suffer heat exhaustion.*

### 20. pharmaceutical

*n.* the preparation of drugs and medicines; medicine

**medication, drug**

*Thousands today claim that **pharmaceuticals** have done wonders, helping them manage stress better on a day-to-day basis.*

### 21. pulsate

*v.* to make sounds or movements that are strong and regular like a heart beating

**beat, throb, pulse**

*Ki is a kind of life force that **pulsates** through every human's body.*

### 22. rectify

*v.* to correct a mistake; to adjust something

**correct, revise, fix**

*Research has demonstrated that rapid weight loss can be **rectified** by providing adequate protein associated with certain foods.*

### 23. spinal cf. spine

*adj.* belonging, relating, or referring to the spine

*The **spinal** column is like the brain in that its main functions can be classified as either sensory or motor functions.*

## 24. stamina

*n.* energy and staying power

**vigor, robustness, indefatigability**

*Some teas build **stamina** and are good for digestive purposes.*

## 25. correlate

*v.* to have a connection or correspondence; to relate one thing to another

**link, associate, connect**

*One function of a virus that does not **correlate** with its size is its ability to cause a serious disease.*

## 26. corrosive

*adj.* capable of eating away; tending to cause corrosion

**caustic**

*The chemical element chlorine is a **corrosive**, greenish-yellow gas that has a sharp odor and is 2 1/2 times heavier than air.*

## 27. detergent

*n.* a liquid or powder used for washing clothes, dishes, or something else

**cleanser**

***Detergents** clean clothes by first removing particles of dirt from the fabric and then*



*suspending the particles until they can be washed away.*

**28. tart**

*adj.* sharp or sour in taste

**acidic, sour, tangy**

*Citric acid gives citrus fruit their **tart** taste.*

**29. haphazard**

*adj.* happening or done in a way that is not planned or organized

**casual, random, arbitrary**

*At first, the results of the experiment seemed **haphazard** , but a pattern finally emerged.*

**30. tamper (with)**

1) *v.* to interfere or to meddle

2) *v.* to handle thoughtlessly, ignorantly, or mischievously

1) **intervene** 2) **fiddle, mess**

*One should never buy food or medicine if the package has obviously been **tampered** with.*

Chapter 10 UNIT 37 Humanities

**1. fort**

*n.* a fortified military building, enclosure, or position

**fortress, base, stronghold**

*In addition to their military role, the **forts** of the nineteenth century provided numerous other benefits for the American West.*

**2. imposing**

*adj.* impressive, especially in size, dignity, or appearance

**majestic, magnificent, grand**

*The First Bank of the United States still stands in the **imposing** building constructed in the 1790s.*

**3. retract**

*v.* to refuse to keep an agreement, a promise, or something else

**withdraw, revoke, cancel**

*Once determined, little can be done to **retract** or stop the establishment of monuments.*

**4. apparent**

*adj.* easy to see or to understand

**obvious, evident, clear**

*The way in which a society views its environment is sometimes **apparent** in its choice and use of artistic materials.*

## 5. unearth

v. to dig something up out of the ground

**excavate, disclose, uncover**

*Vast quantities of tablets in Sumerian have been **unearthed** during the intervening years from numerous sites.*

## 6. utmost

adj. the greatest possible in degree, number, or amount

**paramount, ultimate, supreme**

*The clay used in prehistoric pot making was invariably selected with the **utmost** care.*

## 7. luster

n. the shiny appearance of something in reflected light

**radiance, luminosity, sheen**

*The distinctive color and **luster** of pottery were the results of skillful adjustments of the kiln's temperature.*

## 8. mundane

adj. connected with ordinary daily life rather than religious matters

**everyday, prosaic**

*A man remains a creation eternally torn between the divine and the **mundane**.*

## 9. ornate

adj. covered with a lot of decoration

**elaborate, flamboyant**

*These tools were highly **ornate**, with elaborate barbs and points on them.*

### 10. procure

v. to manage to obtain something or to bring something about

**acquire, gain, come by**

*Hunting is a precarious way of **procuring** food even when the person's diet is supplemented with seeds and fruits.*

### 11. ramble

v. to go where one pleases; to wander

**stroll, amble, meander**

*The Anasazi began to build their homes above ground and joined them together into **rambling** multistoried complexes.*

### 12. rebuke

1) n. a stern reprimand or reproach

2) v. to speak severely to someone

1) **criticism** 2) **reprove, scold**

*Fighting, bullying, or attempting to surpass others brings automatic **rebuke** from the community.*

### 13. sufficient

adj. as much as is needed for a particular purpose

**enough, adequate**

*They enjoyed **sufficient** patronage to allow them to maintain an image of themselves as*

*professional artists.*

#### 14. setting

*n.* a set of surroundings; a background within or against which action takes place  
**environment, background, scene**

*The museum featured paintings by Peale and his family and displays of animals in their natural **settings**.*

#### 15. solemn

*adj.* very serious and not happy; performed in a very serious way  
**grave, serious, sober**

*Within a very short time, the incongruity of playing lively music for a **solemn** film became apparent.*

#### 16. contrasting

*adj.* different or dissimilar between things or people that are being compared  
**different, dissimilar, distinct**

*The new taste demanded dramatic effects of **contrasting** stark outline and complex textural surfaces.*

#### 17. struggle

*n.* a long and hard fight to get freedom, political rights, or something else; a task requiring strenuous effort  
**fight, strife, effort**

*The Hudson River School seems to have emerged in the 1870s as a direct result of the **struggle** between the old and new generations of artists.*

### 18. prodigious

*adj.* very large or great in a surprising or impressive way

**huge, enormous, immense**

*Her productivity has been **prodigious**, as she has, in less than two decades, written nearly thirty works.*

### 19. protrude

*v.* to stick out from somewhere

**project, extend**

*The painter stands out with his life-sized painting of a woman's bent back from which **protrude** real thorns.*

### 20. score

*n.* a written or printed copy of music for several parts and which is set out vertically down the page

**music**

*The most famous **score** was composed and arranged for D. W. Griffith's film Birth of a Nation.*

### 21. spontaneous

*adj.* unplanned and voluntary or instinctive; not provoked or invited by others

**natural, instinctive, involuntary**

*Music began playing a greater role in opera, was **spontaneous**, and often mirrored the characters' emotions.*

## 22. criterion

*n.* a standard or principle on which to base a judgment

**standard, benchmark, touchstone**

*Some groups judged potential members through a complex set of **criteria** that often included class, education and skin tone.*

## 23. in vain

*ph.* without success; to no purpose

**unsuccessfully, vainly, fruitlessly**

*Supply ships were essential during the war because, without the supply ships, all would be **in vain**.*

## 24. rugged

*adj.* not having a level or smooth surface

**jagged, rough, bumpy**

*The glass fibers were brittle, **ragged**, and no longer than ten feet.*

## 25. in proportion to

*ph.* having due proportion

**corresponding**

*The high-pressure engine was far lighter **in proportion to** its horsepower and was much easier and cheaper to repair than the previous one.*

## 26. obsessed

*adj.* completely or constantly occupied by thoughts or the mind

**haunted, preoccupied, possessed**

Evans quickly became **obsessed** by the possibilities of mechanized production and steam power.

### 27. option cf. opt

n. the power, right, or opportunity to choose  
**choice, selection**

Their speed of travel made steamboats the most attractive and practical **option** for shipping as well as for human travel.

### 28. ridge

n. a long and narrow strip of relatively high ground with steep slopes on either side  
**crest, strip, top edge**

The distance was more than 350 miles, and there were **ridges** to cross and a wilderness of woods and swamps to penetrate.

### 29. resort (to)

v. to turn to something as a means of solving a problem  
**turn, fall back**

It is pleasant to imagine a woodworker carefully matching lumber and joining a chest together without **resort to** nails or glue.

### 30. aid

v. to help or support in the form of money, supplies, or services  
**assist, help, back**

The swamp's environment kept bacterial decay down, which **aided** in the preservation of plants



*and animals.*

Chapter 10 **UNIT 38** Social Sciences

**1. wage**

*n.* a regular payment from an employer to an employee

**salary, pay, earnings**

*Congress sets the minimum **wage**, which is the lowest amount of money workers may be paid per hour.*

**2. communal**

*adj.* for or by a group rather than individuals

**collective, shared, common**

***Communal** violence broke out in different parts of the country.*

**3. boom**

*v.* to become rapidly prosperous; to increase sharply in value

**prosper, flourish, roar**

*The glass factories of Toledo, Ohio, **boomed** after Michael Owens invented a process that turned out bottles by the thousands.*

**4. ploy**

*n.* a stratagem or maneuver to gain an advantage

**artifice, trick, wile**

*At this point, she may use one of several **ploy**s to deceive her enemy.*

## 5. follow suit

*ph.* to do the same thing; to follow the example of another

**follow in one's tracks, conform to**

*When Britain developed coke smelting, the colonies did not **follow suit** because they had plenty of wood.*

## 6. foment

*v.* to encourage or foster ill-feeling or something else

**agitate, inflame, provoke**

*The event was a major issue that **fomented** the break between England and the British colonies.*

## 7. implement

1) *v.* to take action or make changes that have been decided

2) *n.* a tool, especially one used for outdoor physical work

1) **execute, carry out** 2) **instrument, utensil**

*A plow is a farm **implement** used to break up soil and to prepare the land for planting.*

## 8. jolt

*n.* a jarring shake; an emotional shock

**bounce, blow, shock**

*The coach's rugged body and suspension system of leather straps could handle the hard **jolts** from rough roads.*

## 9. altogether

*adv.* wholly; with all or everything included

**entirely, totally, utterly**

*The interrelationship of science, technology, and industry is summed up, not **altogether** accurately, as “research and development.”*

**10. assassinate cf. assassin**

v. to kill suddenly or secretly

**kill, murder**

*A group who favored the restoration of the Roman Republic **assassinated** Caesar in 44 B.C.*

**11. optimal**

adj. most favorable; most suitable

**optimum**

*Proponents of the worksheet procedure believe that it will yield **optimal**, that is, the best decisions.*

**12. hygiene**

n. a condition of cleanliness that helps maintain health

**cleanliness, sanitation**

*City streets were crowded with citizens, and **hygiene** was not at the top of a fourteenth-century European’s list of priorities.*

**13. influx**

n. a continual stream or arrival of large numbers of people or things

**inflow, inrush**

*This black **influx** to cities increased during World War II as blacks came seeking jobs in the*

war industries.

#### 14. ingenuity

*n.* inventive cleverness, skill, or originality; inventiveness

**handiness, brilliance, creativity**

*Some functions of the park are direct results of the **ingenuity** of the citizenry.*

#### 15. instability cf. stability

*n.* a lack of physical or mental steadiness or stability

**insecurity, precariousness, shakiness**

*The rezoning plan would catalyze physical expansion and accelerate the inherent **instability** of urban life.*

#### 16. gulf

*n.* a portion of an ocean or sea partly enclosed by land; a large difference between two people or groups

**bay, cove, gap**

*A **gulf** that at times seemed unbridgeable was created between husbands and wives.*

#### 17. intriguing

*adj.* arousing curiosity or interest

**interesting, fascinating, immersing**

*The bustle and social interaction of urban life seemed particularly **intriguing** to those raised in rural isolation.*

## 18. cooperation

*n.* an act or instance of working or acting together for a common purpose

**collaboration, teamwork, interaction**

*The original motivation for the space station was to foster **cooperation** between the United States and the Soviet Union.*

## 19. accuse

*v.* to make a claim of wrongdoing against

**blame, denounce, indict**

*In the United States, every person **accused** of a crime has the right to a trial by a jury of his or her peers.*

## 20. eloquently

*adv.* in an eloquent manner; by powerful discourse

**fluently, persuasively, effectively**

*Few American politicians have spoken more **eloquently** than William Jennings Bryan.*

## 21. feeble

*adj.* lacking strength

**fragile, weak, infirm**

*The national government made a **feeble** attempt to reduce taxes.*

## 22. intertwine

*v.* to twist or be twisted together

**interweave, interlace, entangle**

*The American Constitution clearly states that religious worship and governmental activities shall not be **intertwined**.*

### 23. nominate

v. to suggest someone formally for a position, office, or something else

**appoint, designate, name**

*In 1884, Belva Lockwood, a lawyer who had appeared before the Supreme Court, became the first woman **nominated** for president of the United States.*

### 24. decree

v. to order or decide something formally or officially

**ordain, proclaim, pronounce**

*The president **decreed** that no more money would be spent on missile defense.*

### 25. fair

n. an event at which people or businesses show and sell their products; a market

**exhibition, exposition, bazaar**

*The **fairs** provided a means of bringing handmade goods from outlying places to would-be buyers in the city.*

### 26. bond

1) n. something used for tying, binding, or holding

2) n. a written agreement to pay money

1) **tie** 2) **contract, covenant**

*Investment banking deals with corporate stocks and bonds as well as the government **bonds**.*

## 27. condemn

- 1) v. to declare something to be wrong or evil
  - 2) v. to give someone a punishment after deciding the person is guilty of a crime
- 1) **criticize** 2) **convict, sentence**

*When Martin Luther was **condemned** as a religious outlaw, he experienced profound spiritual and physical torment.*

## 28. nurture

- 1) n. care or nourishment given to a growing child
  - 2) v. to nourish and tend to a growing child
- 1) **raising** 2) **foster, nourish**

*The other theory maintains that a child is defined by environment – **nurture** – not nature.*

## 29. statutorily

*adv. in terms of rules or laws which have been formally written down*  
**legally, legitimately**

*The name “charter” refers to the **statutorily** defined performance contract that the schools are expected to meet.*

## 30. intrude

v. to force or impose oneself without welcome or invitation  
**encroach, interfere, break in**

*The printed word, unquestionably, was **intruding** on the insulation that had characterized the United States society in an earlier period.*



Chapter 10 **UNIT 39** Natural Sciences

**1. fickle**

*adj.* likely to change suddenly and without reason

**capricious, inconstant**

*This, along with the **fickle** nature of hurricanes, adds to the turmoil that hurricanes inflict on the populations of the areas they hit.*

**2. celestial**

*adj.* belonging or relating to the sky

**astronomical, heavenly**

*The orbit of a **celestial** body is usually in the shape of an ellipse.*

**3. staggering**

*adj.* almost unbelievable

**amazing, surprising, unpredictable**

*The process could take hundreds or even thousands of years to complete, and the cost would be **staggering**.*

**4. contradict**

*v.* to assert the opposite of a statement or something else made by a person; to disagree with

**controvert, counter**

*Newton's idea of gravity as a force of attraction, which **contradicted** the idea of a universe that is static, was unchanging.*

## 5. crater

*n.* the bowl-shaped mouth of a volcano or geyser

**hole, cavity, pit**

*The roughness of the moon's surface is mostly caused by the abundance of **craters**.*

## 6. retreat

*v.* to move back or away from the enemy or to retire after defeat

**withdraw, recede, evacuate**

*Some 800 years ago, Alaska's Hubbard Glacier advanced toward the sea, **retreated**, and advanced again 500 years later.*

## 7. interstitial

*adj.* pertaining to, situated in, or forming a space or crack

*Some fossil bones have all of their **interstitial** spaces filled with foreign minerals.*

## 8. misconception

*n.* a wrong or misguided attitude, opinion, or view

**misapprehension, misjudgment, misunderstanding**

*That all deserts are hot is a common **misconception**.*

## 9. granular

*adj.* made of or containing tiny particles or granules

**grainy, gritty, particulate**

*As new snow falls and buries the older snow, the layers of **granular** snow further compact.*

## 10. hemisphere

*n.* one half of a sphere

*Logically, in the Northern **Hemisphere**, a north wind turns to bring colder weather and the south wind warmer weather.*

## 11. ornamental

*adj.* serving as an ornament

**decorative, adorning, beautifying**

*An **ornamental** plant is cultivated chiefly for its beauty.*

## 12. estimate

*v.* to judge or calculate size, amount, or value roughly or without measuring

**approximate, gauge, guess**

*A professor **estimated** that each large white oak produced between two and eight thousand acorns.*

## 13. disproportionately

*adv.* out of proportion, as in size or number

**asymmetrically, unevenly**

*Humans are **disproportionately** right-handed.*

## 14. stash

*v.* to put aside or away for safekeeping or future use, usually in a secret place

**cache, secrete**

The ant colony contains all of the ants' important possessions, such as the queen and their **stashed** food reserves.

### 15. forerunner

*n.* a person or thing that goes before; an earlier type or version

**predecessor, forebear, precursor**

Experts have concentrated their studies on the species called the Allosaur, a **forerunner** of the massive Tyrannosaurus Rex.

### 16. fragrant

*adj.* having a pleasant scent or aroma

**sweet-smelling, sweet-scented, aromatic**

The daylily is an attractive, **fragrant** flower.

### 17. dehydration

*n.* dryness resulting from the removal of water; an abnormal loss of water from the body

**evaporation**

**Dehydration** occurs when more water is lost through perspiration or diarrhea than is replaced by fluid intake.

### 18. obedient

*adj.* doing what one is ordered to do; willing to obey

**observant, docile, compliant**

They are wild animals and do not make **obedient**, domesticated pets.

### 19. impinge

1) v. to interfere with or encroach on something or someone

2) v. to make an impression

1) **infringe, encroach** 2) **impact**

*Florida's surrounding lushness cannot **impinge** on its desert scrubbiness.*

### 20. omnivorous

*adj.* eating any type of food, especially both meat and vegetable matter

**polyphagous**

*Chimpanzees are **omnivorous**, which means that they rely on meat, plant life, and fruit for subsistence.*

### 21. pandemonium

*n.* any very disorderly or noisy place or assembly

**chaos, turmoil, uproar**

*The chimpanzee's ability to use tools caused near **pandemonium** in the scientific world.*

### 22. transmit

*v.* to pass or hand on, especially a message, an inheritance, or disease

**transfer, convey, send**

*Paths, roads, and trails made journeys easier, and the creation of maps **transmitted** this knowledge to others.*

### 23. bound

*adj.* tied with or as if with a rope or other binding; stuck together

## fastened, tied, fixed

*The process by which individual crystals become **bound** together in a collection of ice crystals produces glacial ice.*

## 24. ore

*n. rock, earth, or something else from which metal can be obtained*

*The **ore** is broken up in a series of blasting operations.*

## 25. bunch

1) *n. a number of things fastened or growing together*

2) *v. to group together in or to form a bunch or bunches of something*

1) **bundle, cluster** 2) **collect, gather**

*In the polar regions, the magnetic lines of force of the Earth and of the solar wind **bunch** together.*

## 26. acronym

*n. a word made from the first letters of other words and pronounced as a word in its own right*

**abbreviation**

*The word laser was coined as an **acronym** for Light Amplification by the Stimulated Emission of Radiation.*

## 27. conflict

1) *n. a disagreement; a fierce argument*

2) *v. to be incompatible or in opposition; to fight*

1) **dispute, opposition** 2) **disagree, clash**

When Jules Verne wrote *Journey to the Center of the Earth* in 1864, there were many **conflicting** theories about the nature of the Earth's interior.

### 28. outfit

1) *n.* a set of equipment; an organization

2) *v.* to provide someone with an outfit

1) **apparatus, group** 2) **equip, furnish**

The cable ship crew will pull the trencher back up to the surface and **outfit** it with a burying apparatus.

### 29. percolate

*v.* to pass slowly through a material that has small holes in it

**filter, seep, permeate**

All of the minerals deposited within the bone have been recrystallized from solution by the action of water **percolating** through them.

### 30. insurmountable

*adj.* too large or difficult to be dealt with

**unbeatable, indomitable, invincible**

The difficulties involved in rapidly collecting and processing the raw weather data from such an old network were **insurmountable**.

Chapter 10 **UNIT 40** Applied Sciences

**1. commission**

v. to give a commission or authority to someone

**authorize, license, charge**

*The city's social leadership **commissioned** mansions while apartments and hotels began to sprout on multiple lots.*

**2. engage**

1) v. to take someone on as a worker

2) v. to involve or to occupy

1) **employ, hire** 2) **occupy, absorb**

*In 1903, the governing board of the University of Washington **engaged** a firm of landscape architects.*

**3. frenetic**

adj. wildly excited or active; in an uncontrolled way

**frantic, frenzied**

*Hotels were both creatures and creators of communities as well as symptoms of the **frenetic** quest for community.*

**4. hurl**

v. to throw something with force

**cast, throw, pitch**

*Passenger terminals, like the luxury express trains that **hurled** people over spots, spotlight the*



*romance of railroading.*

## 5. suspension

*n.* the act of suspending or the state of being suspended

*The George Washington Bridge is a **suspension** bridge between New York City and Fort Lee, New Jersey.*

## 6. arbitrary

*adj.* not based on any principle

**capricious, erratic**

*In constructing the botanical gardens, some **arbitrary**, practical decisions were made.*

## 7. fringe

*n.* a border of loose threads on a garment or something else

**border, edge, trimming**

*In terrestrial ecosystems and in **fringe** marine ecosystems, the most common problem is habitat destruction.*

## 8. germinate

*v.* to cause a seed to start growing; to show the first signs of development

**sprout**

*These acorn halves, many of which contain seeds, may later **germinate**.*

## 9. hack

*v.* to cut or chop something roughly

**hew, slash, slice**

*What is so worrisome is that acre upon acre of the animals' habitat is being **hacked** to the ground every day.*

**10. herbicide**

*n.* a substance used to kill weeds

**weed-killer**

*The **herbicides** are effective, but some pose serious problems, particularly if misused.*

**11. scurry**

*v.* to move hurriedly or briskly

**hurry, rush, dash**

*The ducks respond by **scurrying** to gather around her.*

**12. inclination**

1) *n.* the degree at which an object slopes away from a vertical line

2) *n.* a particular tendency

1) **tilt, slope** 2) **disposition, preference**

*Individual birds have markedly different interests, **inclinations**, and strategies.*

**13. infrastructure**

*n.* the basic inner structure of a society, organization, or system

**base**

*They have established another company to help develop the **infrastructure** of hydrogen separation and hydrogen supply points.*

#### 14. iron out

*ph.* to solve or get rid of problems or difficulties, especially small ones

**resolve, clear up**

*Until these basic problems are **ironed out**, hydrogen will not turn into a major source of energy.*

#### 15. lurking

*adj.* lying in wait, especially in ambush, with some sinister purpose in mind

**hiding, sneaking, slinking**

*Still, there is another predator **lurking** invisibly in the bodies of water of the world; bacteria.*

#### 16. stimulant

*n.* any substance that produces an increase in particular activity

**stimulus, spur, incentive**

*Occasionally, doctors will provide **stimulants**, but these can cause addiction and are usually avoided except in the most extreme cases.*

#### 17. stroke

*n.* a interruption to the supply of blood to the brain, thereby causing unconsciousness

**cerebral apoplexy, attack, seizure**

*If a blood clot goes to the brain, it can cause a **stroke** or even death.*

#### 18. stutter

*n.* an inability to form words at what is considered a normal speed of speech

**stammer, slur**

*The newest theories on **stuttering** concentrate on how the brain functions during speech.*

### 19. subconscious

*adj.* denoting mental processes which a person is not fully aware of

**subliminal**

*Specialists believe stutterers are listening to themselves as they talk but at a **subconscious** level of understanding.*

### 20. transfusion

*n.* the process of introducing blood directly into the bloodstream of a person

*You may know that, nowadays, blood **transfusions**, or the giving of one person's blood to another, are a common practice.*

### 21. transplanted

*adj.* having taken a living organ from someone and using it as an implant; having taken a plant out of the ground and put it in a different place

**relocated, uprooted, removed**

*The immune system takes action against foreign invaders and **transplanted** tissues that are treated as foreign cells.*

### 22. equilibrium

*n.* a state in which various forces balance each other

**balance**

*Illness can result when bodily systems are not in **equilibrium**.*

### 23. outage

*n.* a period of time during which a power supply fails to operate

**power failure, power cut**

*The 1979 power **outage** in New York City caused half of the city to be without electricity for several hours.*

### 24. infinitesimal

*adj.* infinitely small; with a value too close to zero to be measured

**tiny, minute, slight**

*A virus is so **infinitesimal** that it can be seen only with an electron microscope.*

### 25. inert

*adj.* tending to remain in a state of rest or uniform motion

**inactive, inanimate, motionless**

*These gases include helium, neon, and argon and are called **inert** because they bond with other elements only with extreme difficulty.*

### 26. integrity

*n.* the quality or state of being whole and unimpaired

**completeness, entirety, soundness**

*The colony odor allows ants to identify intruders and to maintain colony **integrity**.*

### 27. malleable

*adj.* able to be beaten into a different shape or bent without breaking

**flexible, pliable, tractable**

*The mixture becomes soft and **malleable** and can be formed into many shapes and sizes.*

**28. fortuitously**

*adv.* by chance or haphazardly

**incidentally, haphazardly, accidentally**

*On a 1948 vacation, Hazen **fortuitously** collected a clump of soil from the edge of a cow pasture in Fauquier County, Virginia.*

**29. prow**

*n.* the projecting front part of a ship

**bow, head**

*To ensure proper identification, the **prows** of Viking warships were either adorned with carved figures or vividly painted.*

**30. counterpart**

*n.* one of two parts which form a corresponding pair

**rival, equivalent, parallel**

*Digital cameras are likely to replace their traditional **counterparts** as prices of electronic components go down.*

Chapter 11 **UNIT 41** Humanities

**1. veil**

1) *n.* a fabric covering for a woman's head or face

2) *v.* to cover something

1) **cloak, curtain** 2) **conceal, hide**

*Eventually, stories arose which explained or **veiled** the mysteries of the rites.*

**2. worldly**

*adj.* relating to this world; material, as opposed to spiritual or eternal

**earthly, secular, mundane**

*An elaborate funeral celebration is also important to impress the gods with the individual's **worldly** importance and wealth.*

**3. relent cf. relentlessly**

*v.* to become less severe or unkind

**relax, soften**

*He could have **relented**, but he decided to attack.*

**4. sanitation**

*n.* the system that keeps places clean, especially by removing human waste

*In Sacramento, an excavation at a site revealed garbage in the building basement despite **sanitation** laws to the contrary.*

## 5. scorch

v. to burn or be burned slightly or superficially

**char, sear, roast**

*This timber might be **scorched** occasionally, but it was far enough in front of the rising column of heat to be safe from catching fire.*

## 6. stalk

1) v. to walk in a proud proud or angry way and with long steps

2) v. to hunt, follow, or approach stealthily

1) **strut, prance** 2) **chase, hunt**

*Many accounts say that Genghis Khan **stalked** and killed his older half-brother.*

## 7. stringent

adj. not allowing for any exceptions or loosening of standards

**rigid, strict, inflexible**

*The archaeologists stated that they have subjected their findings to **stringent** and numerous tests.*

## 8. subjugate

v. to dominate someone; to bring someone under control

**subdue, suppress, subject**

*The peoples **subjugated** by the Nazis labored, sometimes without pay and sometimes for a pittance.*

## 9. lavish

adj. spending or giving generously



**generous, unsparing, open-handed**

*In most cultures, it is traditional to prepare **lavish** meals to celebrate holidays.*

**10. vital**

*adj.* relating to or essential for life; extremely important and necessary

**essential, requisite, crucial**

*From colonial times, sailing ships were **vital** to the economy.*

**11. supplant**

*v.* to take the place of someone or something, often by force or unfair means

**replace, substitute, supersede**

*Modern dictators are using art to help their states **supplant** religion with political myths.*

**12. frustration cf. frustrate**

*n.* the fact that something is preventing someone from succeeding; the feeling of being frustrated

**prevention, disappointment, dissatisfaction**

*Expressionist drama often shows the influence of modern psychology by reflecting the inner **frustrations** of the dramatist.*

**13. trace**

1) *v.* to track by following clues

2) *n.* a sign of presence in a particular place

1) **pursue, shadow** 2) **print, footmark**

*Another theory **traces** the theater's origin from the human interest in storytelling.*

**14. vividly**

*adv.* in a very clear and detailed manner

**distinctly, clearly, lively**

*In his novel *The Red Badge of Courage*, Stephen Crane **vividly** describes a Civil War battle.*

**15. accomplished**

*adj.* expert or skilled

**versed, adept, proficient**

*An **accomplished** saxophonist and composer, John Coltrane began his career playing in the big bands of the early 1950s.*

**16. subject cf. be subject to**

*v.* to cause something to undergo something unpleasant

**expose, submit, lay open**

*When songs have been **subjected** to complex processes, their origins are usually impossible to trace.*

**17. unadorned**

*adj.* without unnecessary or special features or decorations

**undecorated, unornamented, unembellished**

*Many early jazz bands played **unadorned** published arrangements of popular songs.*

**18. inflection**

*n.* a change in the tone or pitch of a voice

**accent, intonation**

*Babies can detect the difference between syllables pronounced with rising and falling inflections.*

**19. vary**

v. to be different from each other in size, shape, or something else

**differ, diverge**

*In the early days of the United States, postal charges were paid by the recipient, and charges **varied** according to the distance carried.*

**20. apply (to)**

v. to use something like a method, idea, or law in a particular situation, activity, or process

**use, utilize, employ**

*This term was usually **applied** to a fabric of wool and linen used in heavy clothing and quilted petticoats worn in the wintertime.*

**21. periphery**

n. the edge or boundary of something

**perimeter, circumference, rim**

*Over 100 areas designated as conservation of wildlife preserves exist around the **periphery** of the Caribbean Sea.*

**22. persist**

v. to continue with something in spite of resistance and difficulty

**continue, preserve, insist**

Along with market days, the institution days of twice-yearly fairs **persisted** in Philadelphia.

### 23. indigenous

*adj.* belonging naturally to a country or area

**native, local, aboriginal**

The **indigenous** people of Australia were called Aborigines by the English settlers.

### 24. submission

*n.* a bending to the authority or control of another

**surrender, concession, obedience**

Genghis Khan often sent an emissary ahead to a city to ask for its **submission**.

### 25. thereby

*adv.* with the result that something else happens

**thus, therefore, hence**

Non-Western music typically divides an interval between two pitches more finely than Western music does, **thereby** producing a great number of distinct tones, or microtones, within the same interval.

### 26. agent

1) *n.* someone or something that affects or changes a situation

2) *n.* someone who represents an organization and acts on its behalf

1) **factor, means** 2) **proxy, representative**

Organisms must be buried rapidly to escape destruction by the elements and to be protected from **agents** of weathering and erosion.

**27. trickle**

v. to flow in a thin and slow stream or drops

**drip, drop, flow**

*The climate is dry, but tiny streams **trickle** at the bottom of deeply cut canyons.*

**28. perishable cf. perish**

adj. liable to rot or to go bad quickly

*Before refrigerators came into common use, people in rural areas often had a well or a springhouse to keep **perishable** foods fresh.*

**29. preside**

v. to take the lead at an event; to be in charge

**chair, supervise, oversee**

*Mr. Kennedy was scheduled to **preside** at 4 p.m. over a meeting of the National Security Council.*

**30. anonymous**

adj. having no name; from someone whose name is not known

**nameless, incognito, unidentified**

*The terminology by which artists were described at the time suggests their status: "limner" was usually applied to **anonymous** portrait painters up to the 1760s.*

Chapter 11 **UNIT 42** Social Sciences

**1. yield**

1) v. to give up or to give in

2) n. the amount of profits or crops that something produces

1) **surrender, hand in** 2) **production, output**

*Fertilizers can increase farmers' **yields**.*

**2. allot**

v. to give a share of something to each member of a group

**allocate, apportion, distribute**

*Rationing is a system for **allotting** scarce resources.*

**3. discriminate**

v. to recognize a difference between things; to treat a person or group differently from another in an unfair way

**differentiate, discern, segregate**

*It is illegal for universities and colleges to **discriminate** on the basis of sex, religion, or national origin.*

**4. lull**

v. to make someone relaxed and calm

**soothe, calm, tranquilize**

*Parents often sing to children to **lull** them to sleep.*

## 5. lure

v. to tempt or to entice, often by the offer of some reward

**tempt, attract, seduce**

*Many adults were **lured** to the cities by promises of steady employment.*

## 6. mason

n. someone who is skilled in shaping stones for building work

**stonecutter**

*Where stone was the local building material, a **mason** was sure to appear on the list of people who paid taxes.*

## 7. merger

n. a joining together, especially of business firms

**consolidation, amalgamation, combination**

*A **merger** is achieved when a company purchases the property of other firms.*

## 8. mint

v. to manufacture coins

**coin**

*Both the United States silver dollar and half-dollar, first **minted** in 1794, had the figures of Liberty on one side and an eagle on the reverse side.*

## 9. ratify

v. to give formal consent to a treaty or agreement

**approve, endorse, validate**

Congress must write and **ratify** the declaration much like a law.

### 10. reverse

v. to move backward or in an opposite direction

**invert, transpose, overturn**

*Today, there is a high demand for people who might be able to control or **reverse** the aging process.*

### 11. irrigation

n. the artificial application of water to land

**watering**

*The agricultural potential of the area was enormous if water for **irrigation** could be found.*

### 12. lineage

n. the way in which members of a family are descended from other members

**ancestry, genealogy, bloodline**

*It can always be proven that the members of a **lineage** share blood ties.*

### 13. divulge

v. to make something known; to reveal a secret

**expose, unveil, disclose**

*A person who has been accused of a crime cannot be forced to **divulge** any information that is self-incriminating.*



#### 14. monarchy

*n.* the system in which a country is ruled by a king or queen

**autocracy, absolutism, monocracy**

*Patrilineal descent is often used in **monarchies** to determine who has the best claim on the throne.*

#### 15. municipal

*adj.* relating to or belonging to the local government of a town or region

**civic, urban**

*Water and sewage systems were usually operated by **municipal** governments.*

#### 16. potential

*adj.* possible or likely, though as yet not tested or actual

**possible, dormant, latent**

*Real estate developers added 800,000 **potential** building sites to the Chicago region in just fifty years.*

#### 17. precarious

*adj.* not in complete control of something unsafe

**unreliable, perilous, risky**

*Thousands abandoned their **precarious** lives on the farm for more secure and better paying jobs in the city.*

#### 18. notoriety cf. notorious

*n.* the state of being known for something bad or unfavorable

**disgrace, dishonor, disrepute**

He achieved **notoriety** as chief counsel to President Nixon during the Watergate break-in.

### 19. prejudice

n. a biased opinion based on insufficient knowledge

**partiality, bias, prejudgment**

*Ethnic and religious **prejudice** often influences politics.*

### 20. split

n. a tear or crack in something; a separation or division through disagreement

**crack, rift, division**

*It was the **split** of eleven southern states from the Union in 1861 that led to the Civil War in the United States.*

### 21. appliance

n. a piece of equipment, especially something electrical

**gadget, contrivance**

*The electric toaster was one of the earliest **appliances** to be developed for the kitchen.*

### 22. loom

1) v. to appear in an enlarged form

2) v. to appear important or threatening and likely to happen soon

1) **appear, emerge** 2) **predominate**

*After the Civil War, financial problems **loomed** large in both the North and the South.*

### 23. dramatically

*adv.* forcefully in appearance or effect

**sensationally, strikingly, suddenly**

*Critics argue that urbanization has created many problems and has **dramatically** decreased people's quality of life in cities.*

### 24. snippet

*n.* a scrap of information, news, or something else

**snatch, extract**

*In **snippets**, politicians assert but do not argue.*

### 25. superintendent

*n.* someone whose job is to manage a department

**supervisor, overseer, foreman**

*She served as the **superintendent** of a group of hospital nurses for the federal government.*

### 26. pertinent

*adj.* relating to or concerned with something

**appropriate, pertaining, relevant**

*It is an ability to ask **pertinent** questions, recognize defensible answers, and reject spurious or irrelevant ones.*

### 27. trigger

*v.* to pull a trigger or detonating device; to start a train of events

**activate, propel, spark**

A sense of danger nearby, whether real or imagined, **triggers** various reactions in the body.

## 28. cursive

*adj.* having letters which are joined rather than printed separately

**flowing, running**

*The children moved from writing in block capital letters to **cursive** script.*

## 29. rank

1) *v.* to have a particular status in relation to others

2) *n.* a position of seniority within an organization

1) **rate, grade** 2) **status, standing**

*Despite its greater number of dead, the Russian effort **ranks** second place to the American effort during World War II.*

## 30. preoccupied

*adj.* lost in thought and unaware of one's surroundings or actions

**engrossed, absorbed, rapt**

*People were becoming more and more **preoccupied** with their own lives.*

Chapter 11 **UNIT 43** Natural Sciences

**1. descend**

v. to go or move down from a higher to a lower position

**get down, decline, slope**

*Smokejumpers are firefighters who **descend** into remote areas by parachute to fight forest fires.*

**2. inexorable**

adj. incapable of being made to change a position; unrelenting

**unavoidable, inevitable, merciless**

*A glacier's process is slow but **inexorable**.*

**3. docket**

n. any label accompanying a package; a list of things to be done

**tag, timetable, agenda**

*The moon is already on NASA's **docket** for further exploration within the next couple of decades.*

**4. commence**

v. to begin or start something

**begin, initiate, launch**

*The Space Age **commenced** in October 1957 when Sputnik was launched by the Soviet Union.*

**5. entity**

*n.* something that has a physical existence as opposed to a quality or mood

**being, object, thing**

*But none of the shapes on the list describes the largest single **entities** in the universe.*

## 6. extract

*v.* to pull or draw something out, especially by force or with effort

**extricate, pull, derive**

*Hydrogen can be **extracted** from water sources and used as fuel.*

## 7. rear

*n.* the back of something, as distinguished from the front

**back, end, hind part**

*As the cat rotates the front of its body clockwise, its **rear** and tail twist counterclockwise so that the total spin remains zero.*

## 8. intense

*adj.* very great or extreme, especially in quality or feeling

**powerful, severe, extreme**

*A laser uses a synthetic ruby to concentrate light into an extremely **intense** high-energy beam.*

## 9. plate

*n.* a thin and flat piece of metal; any of the rigid sections that make up the Earth's crust

**panel, layer**

*They can measure the movement of the **plates** but not when they will spawn an earthquake.*

## 10. kinetic

*adj.* relating to or producing motion

**motive**

*When each fragment slammed into the atmosphere, its immense **kinetic** energy was transformed into heat.*

## 11. lubricant

*n.* oil, grease, or something else used to reduce friction

*Subglacial streams of meltwater might act as a **lubricant**, allowing the glacier to flow rapidly toward the sea.*

## 12. extend

*v.* to make something longer or larger

**stretch, elongate, broaden**

*The evaporated water is replaced by water moving from inside the plant in unbroken columns that **extend** from the top of a plant to its roots.*

## 13. cast off

*ph.* to remove something or someone that becomes unnecessary

**throw off, shed**

*When attacked, the sea cucumber also **casts off** attached structures such as tentacles.*

## 14. colony

1) *n.* an area under the political control of a distant country

2) *n.* a group of the same kind of animals or plants

1) **settlement** 2) **community**

When it comes to ant **colonies**, certain kinds of ants are divided into highly specialized positions.

**15. porous**

adj. referring or relating to a material that contains pores or cavities

**spongy, permeable, pervious**

***Porous** rocks such as chalk and sandstone allow water to soak through them.*

**16. discard**

v. to get rid of something as useless or unwanted

**dispense with, dispose of, abandon**

*Using its bill and tongue, the bird cracks open and **discards** the woody seed covering and swallows the nutritious inner kernel.*

**17. counteract**

v. to reduce or prevent the effect of something

**counterbalance, neutralize, nullify**

*Increased protection by the mass roots is **counteracted** since they attract predators and are vulnerable if they are on the ground.*

**18. parasite**

n. a plant or animal that lives on or in other living things

**hanger-on, freeloader**

*Perhaps the most straightforward dependence of one species on another occurs with **parasites***



**19. peculiar**

*adj.* strange or unusual, especially in a way that is unpleasant or worrying  
**odd, weird, quaint**

*All birds have wings, too, but wings are not **peculiar** to birds.*

**20. predator**

*n.* any animal that obtains food by eating other animals

*Fish are not the only **predators** of menhaden as birds also depend on them as a source of nourishment.*

**21. dwindle**

*v.* to shrink in size, number, or intensity  
**decrease, diminish, reduce**

*The amount of open space has **dwindled** as more and more land is developed.*

**22. application**

*n.* the act of using something for a particular purpose  
**utilization, operation, use**

*The **applications** of GPS are wide-ranging.*

**23. primate**

*n.* a member of the group of animals that includes humans and monkeys

Their astonishing research reveals that these **primates** exhibit numerous highly developed physical as well as mental characteristics.

**24. pry**

v. to move, raise, or open by leverage

**lever, jimmy, prize**

*Squirrels **pry** off the caps of acorns and bite through the shells to get at the inner kernels.*

**25. benign**

adj. kind and gentle; not dangerous or likely to cause death

**gentle, mild, nonfatal**

*Following the early Proterozoic, the climate appears to have been fairly **benign** for a very long time.*

**26. hydraulic**

adj. moved or operated by the pressure of water or other liquid

***Hydraulic** elevators are still used in some old buildings, but almost all new buildings are equipped with electrical elevators.*

**27. discrete**

adj. separate and distinct from each other

**separate, individual, disconnected**

*By such ingenious adaptations to specific pollinators, orchids have avoided the hazards of rampant crossbreeding in the wild, assuring the survival of species as **discrete** identities.*

## 28. quarry

v. to dig stone or sand from a quarry

**mine, extract**

*One of the latest methods of **quarrying** stone is cutting the stone with a jet torch.*

## 29. scuff

v. to brush, graze, or scrape, especially shoes or heels while walking

**scrape, abrade**

*Caves are usually created by carbonate acid trickling down, but the cave was **scuffed** out by powerful acid that rose from below.*

## 30. sediment

n. solid particles that have settled at the bottom of a liquid

**deposit, grounds, remains**

*A delta can build up for many centuries, and, if there is enough **sediment**, it can produce islands.*

Chapter 11 **UNIT 44** Applied Sciences

**1. adjoin**

v. to be next to; to be contiguous to

**neighbor, abut, border**

*Their rooms on upper floors could be entered both by doorways from **adjoining** rooms and by a hole in the ceiling.*

**2. cluster**

1) n. a small group or gathering

2) v. to form into a cluster or clusters

1) **collection, bunch** 2) **gather**

*The motels **clustered** along transcontinental highways such as U.S. Routes 40 and 66.*

**3. lug**

n. a part of something that sticks out and can be used as a handle or a support

**grip, handle**

*Wood from a freshly cut tree was used for the **lug** pole, so it would resist heat.*

**4. sumptuous**

adj. very impressive and expensive

**costly, expensive, luxurious**

*Those who could afford the buildings were quite content to live in the more **sumptuous**, single-family homes.*

## 5. motif

1) *n.* an idea or subject repeated throughout a work

2) *n.* a single design

1) **theme, topic** 2) **pattern, figure**

*Stone carvers engraved **motifs** of skulls and crossbones and other religious icons of death into the tombstones in old burial grounds.*

## 6. aerial

*adj.* relating to or found in the air; from a plane

*An **aerial** view of the border between Haiti and the Dominican Republic shows a remarkable sight.*

## 7. mar

*v.* to spoil something; to make something less attractive or enjoyable

**damage, spoil, impair**

***Marring** our gardens is one of the milder effects of weeds.*

## 8. pneumatic

*adj.* filled with air; worked by air pressure

*Compressed air provides the power to drive **pneumatic** tools.*

## 9. paucity

*n.* less than is needed of something

**lack, shortage, scarcity**

Because of skyrocketing populations and the **paucity** of housing in many regions of Africa, developers are cutting back the jungle.

### 10. **perpetuation**

*n.* an endless existence for an indefinite period of time

**continuance, eternity, immortality**

*Migration is the second major hurdle the whooping crane and conservationists alike needed to overcome in order to secure the birds' **perpetuation**.*

### 11. **pesky**

*adj.* annoying

**troublesome, bothersome, disturbing**

*Are squirrels dispersers and planters of oak forests or **pesky** seed predators?*

### 12. **pillage**

*v.* to steal things from a place or region, especially in a war, by using violence

**loot, plunder**

*Once the eggs were **pillaged** from nests, future generations became placed even more in jeopardy.*

### 13. **pollutant** cf. **pollute**

*n.* any substance or agent that pollutes

**adulterant, contaminant, impurity**

*In the future, even water vapor might be considered an air **pollutant** under certain conditions.*

#### 14. proliferate

v. to reproduce rapidly; to increase in number

**grow, increase, multiply**

*The species will continue to expand and to **proliferate** in most regions of the world.*

#### 15. purification cf. purify

n. the act or an instance of cleansing or purifying

**cleansing, sanctification**

*Human output may temporarily overload the natural **purification** scheme of the cycle.*

#### 16. fracture

n. a crack or broken part in a bone or other hard substance

**break, breakage**

*We are able to repair damage such as bone **fractures** and injuries to the skin and muscles.*

#### 17. cranial

adj. relating to or in the region of the skull

*The peripheral nervous system is responsible for controlling **cranial**, spinal, and autonomic nerves.*

#### 18. dissection

n. the separation and identification of the parts of a whole

**breakdown, anatomizing**

*Early studies of anatomy were hampered by the authorities' disapproval of **dissections**, and by the lack of refrigeration.*

### 19. vein

*n.* one of the tubes which carries blood to the heart from other parts of a body

*Cholesterol tends to get built up as excess residue in the arteries and **veins** of the body.*

### 20. champion

*v.* to strongly support or defend a person or cause

**advocate, back, support**

*For many years, doctors have **championed** the view that cholesterol is a dangerous substance.*

### 21. acupuncture

*n.* a treatment for pain and disease that involves pushing special needles into parts of the body

*Two of the most popular forms of alternative therapies in the West today are **acupuncture** and herbal medicine.*

### 22. appendage

*n.* anything added or attached to a larger or more important part

**accessory, attachment, addition**

*The muscles are responsible for the actual, physical movement of our limbs and **appendages**.*

### 23. artery

*n.* one of the tubes that carries blood from the heart to the rest of the body

*The pulmonary **artery** carries blood from the right side of the heart to the lungs.*



## 24. complication

*n.* a second disease that arises as a result of an existing one

*A painful **complication** of diabetes may be caused by an underproduction of a hormone that nourishes and maintains the body's nervous system.*

## 25. microbe

*n.* an extremely small living thing that can only be seen under a microscope and that may cause diseases

**microorganism, germ**

*When fish populations become depleted due to factors like overfishing, **microbes** such as algae expand and threaten the fragile ecosystems of the ocean.*

## 26. resin

*n.* a thick and sticky liquid that comes out of some trees

*Amber is a hard, yellow-brown substance formed from the **resin** of pine trees that lived millions of years ago.*

## 27. saturated

*adj.* extremely wet; containing as much of a solute as can be dissolved

**drenched, soaked**

*All fats are combinations of **saturated** and unsaturated fatty acids.*

## 28. treble

*v.* to become three times as much or as many

**triple, threefold**

A baby usually doubles his birth weight at the end of four months and **trebles** it at the end of one year.

### 29. summon

v. to order someone to come to a place

**call, assemble, convene**

*Ultrasonic whistles, which cannot be heard by human beings, are audible to dogs and are used to **summon** them.*

### 30. helical cf. helix

adj. relating to or like a helix

**spiral, coiling, screwlike**

*Franklin used the technique known as X-ray crystallography to show that DNA has a **helical**, or spiral, shape.*

Chapter 12 UNIT 45 Humanities

**1. maritime**

*adj.* connected with the sea in relation to navigation; pertaining to the sea

**marine, nautical, oceanic**

*The Native American people of the north Pacific Coast created a highly complex **maritime** culture.*

**2. jolly**

*adj.* good-humored; pleasant and enjoyable

**joyful, cheerful, merry**

*The **jolly** character Falstaff is one of Shakespeare's finest comic creations.*

**3. shun**

*v.* to intentionally avoid or keep away from someone or something

**avoid, eschew, stay away from**

*The Shakers were a strict religious group that **shunned** all types of pleasure.*

**4. envision**

*v.* to picture mentally some future events

**envisage, imagine, visualize**

*Before hunting, hunters would draw and study migrating animals and **envision** having a successful hunt.*

## 5. depict

v. to describe something or someone in writing or to show someone or something in a painting

**describe, characterize, picture**

*In their novels, Joel Chandler Harris and Ellen Glasgow **depicted** life in the South.*

## 6. tremendously

adv. greatly in size, amount, or intensity

**enormously, vastly, utterly**

*During the Great Depression, the economy suffered **tremendously**.*

## 7. vigorous

adj. strong and active

**brisk, dynamic, energetic**

*The Board of Health took **vigorous** measures to bring the tenement houses of New York up to the best sanitary condition.*

## 8. vocalize

v. to utter or produce something with the voice

**articulate, verbalize, speak**

*The Malcolm X march has often been used as an outlet to **vocalize** discontent over the development of Harlem.*

## 9. puzzling

adj. confusing and difficult to understand or explain

**baffling, perplexing, bewildering**

*Sherlock Holmes, a fictional detective, solved many **puzzling** crimes.*

### 10. usher

v. to escort someone into a place

**guide, direct, lead**

*In 1839, the daguerreotype was introduced to America, **ushering** in the age of photography.*

### 11. complement

1) v. to make up a lack of something

2) n. something that completes or perfects another

1) **complete, enhance** 2) **supplement**

*Movie directors use music to **complement** the action on the screen.*

### 12. eerie

adj. strange and disturbing or frightening

**uncanny, weird, creepy**

*The writer H.P. Lovecraft wrote many **eerie** stories about the supernatural.*

### 13. entice

v. to tempt by arousing hopes or desires or by promising a reward

**seduce, lure, tempt**

*Vance Packard's book, *The Hidden Persuaders* deals with the tactics advertisers use to **entice** consumers.*

#### 14. jargon

*n.* the specialized vocabulary of a particular profession

**argot, cant, lingo**

*Technical **jargons** greatly accelerate changes in usage, often blurring the definitions of words and fracturing the grammatical rules of purists.*

#### 15. roll back

*ph.* to return to a lower level of prices, wages, or something else

*In 1979, Santa Monica's municipal government ordered landlords to **roll back** their rents to the levels charged in 1978.*

#### 16. maintenance

*n.* the process of keeping something in good condition

**continuance, persistence**

*Rental prices promote the efficient **maintenance** of existing housing and stimulate the construction of new housing.*

#### 17. kiln

*n.* a heated oven or furnace used for drying or for firing something

**furnace, oven**

*More and more large **kilns** were built to create the high-fired stoneware.*

#### 18. carve

*v.* to cut wood, stone, or something else into a shape

**hew, sculpt, engrave**

*Sculptors use hammers and chisels to **carve** statues out of stone.*

### 19. rehearse

v. to practice something before performing it in front of an audience

**exercise, practice**

*Musicians have to **rehearse** before performing.*

### 20. time-wise

adv. with regard to time

*Because the railroad was more efficient and reliable **time-wise**, it quickly became the dominant mode of transportation.*

### 21. mythology

n. ancient myths in general

**folklore, lore, stories**

*In the seventh and sixth centuries, potters depicted episodes from **mythology** and ancient Greek heroic narratives.*

### 22. deteriorate

v. to grow worse

**worsen, degrade**

*Fired clay does not **deteriorate** over time.*

### 23. homage

n. a display of great respect toward someone

**respect, admiration, esteem**

*The priests transcribed their **homage** in Egyptian and Greek using the three prevailing scripts of the day.*

**24. carcass**

*n. the dead body of an animal*

**corpse, remains**

*An important function of early stone tools was to extract highly nutritious food from large animal **carcasses**.*

**25. tactics**

*n. the art or science of disposing military forces for battle*

**maneuvers, strategy, plans**

*It is a reflection of the American and Russian commanders' battle **tactics**, with the former being more concerned with saving lives.*

**26. cathartic**

*adj. helping someone to remove strong or violent emotions*

**purgative, cleansing**

*Through songs and the oral tradition, slaves were able to be free in a sense, which became **cathartic** for them.*

**27. logistical**

*adj. relating to supplies carried by an army*

*A great **logistical** effort was required to support both its own forces and those of many other*



nations.

## 28. spectacular

*adj.* impressively striking to see or watch

**dramatic, splendid, sensational**

*D.W. Griffith was the first director of **spectacular** films. There were movies made on a colossal scale.*

## 29. unravel

*v.* to separate the strands of a knitted fabric; to explain something that is mysterious or complicated

**untwine, untangle, solve**

*The pot's history, manufacture, cultural context, economic role, and ornamental use are all points of information one hopes to **unravel**.*

## 30. obscure

*adj.* not clearly understood or expressed

**uncertain, confusing, ambiguous**

*The poetry of Ezra Pound is sometimes difficult to understand because it contains so many **obscure** references.*

## Chapter 12 UNIT 46 Social Sciences

**1. preach**

v. to deliver a sermon as part of a religious service; to talk about something in order to persuade people to accept it

**evangelize, sermonize, urge**

*Before the Great Depression, classical economics **preached** the theory of laissez-faire.*

**2. abound**

v. to present in large numbers

**teem, overflow**

*All sorts of fine trees were **abounded**, and those who pushed westward encountered new forests as well.*

**3. accelerate**

v. to increase the speed of something

**hasten, quicken, speed**

*The opening of the Erie Canal in 1825 **accelerated** the development of commerce on the Great Lakes.*

**4. pastoral**

adj. relating to the countryside or country life

**rustic, rural, provincial**

*Some hunters and gatherers continued the old **pastoral** and nomadic ways.*

## 5. plush

*adj.* expensively or showily luxurious

**luxurious, opulent, lavish**

*The accommodations were by no means **plush**.*

## 6. shrewd

*adj.* possessing or showing keen judgment gained from practical experience

**astute, clever, sharp**

*A **shrewd** businesswoman, Oprah has inspired trends in the marketplace simply by mentioning a product on the air.*

## 7. stabilize

*v.* to make or become firm or steady

**balance, steady, fix**

*The International Monetary Fund was created to **stabilize** exchange rates without interfering with the growth of trade.*

## 8. rejuvenate

*v.* to make someone feel young again

**reinvigorate, renew, revitalize**

*Music can help to **rejuvenate** or soothe the patient.*

## 9. vying cf. vie

*adj.* competing with someone for some gain or advantage

**competing, contending, struggling**

*In the 1880s, five railroads were **vying** for traffic between New York and Chicago.*

### 10. abolish

v. to put an end to customs, laws, or something else

**eliminate, terminate, obliterate**

*In 1864, the House resumed the consideration of the constitutional amendment to **abolish** slavery.*

### 11. precursor

n. something that comes before another and leads to it

**forerunner, harbinger, herald**

*The icebox was a **precursor** of the modern refrigerator.*

### 12. uncanny

adj. having a supernatural or inexplicable basis; beyond the ordinary

**supernatural, unnatural, unaccountable**

*Abraham Maslow possessed an **uncanny** intelligence that put him in the company of the greatest social thinkers of the day.*

### 13. reciprocal

adj. giving and receiving or given and received

**mutual, complementary, shared**

*The **reciprocal** relationship ensured that all would have a means of survival.*

#### 14. replicate

v. to reproduce or copy something exactly

**copy, duplicate, transcribe**

*Researchers make tools that **replicate** excavated specimens as closely as possible.*

#### 15. revolt

1) v. to rise up against a government

2) v. to provoke a feeling of disgust

1) **rebel, mutiny** 2) **disgust, offend**

*While infanticide may **revolt** the vast majority of people, it has its purpose within the animal kingdom.*

#### 16. gratify

v. to give pleasure to a person by satisfying desires

**please, satisfy, delight**

*He observed that individuals whose basic needs had been **gratified** performed differently from dissatisfied people.*

#### 17. sire

v. to be a father of young

**father, generate, create**

*Among some species, males that take over a group of females kill every child **sired** by the other males.*

#### 18. upheaval

n. a strong or violent change or disturbance, as in a society

**upset, disruption, disturbance**

*Political discontent arises when existing political parties fail to give voice to those frustrated by social **upheavals**.*

### 19. aspiration

*n.* a strong desire for high achievement

**ambition, dream, yearning**

*In addition to his political **aspirations**, he served as the leader of the Green Mountain Boys.*

### 20. coordinate

*v.* to integrate and adjust a number of different parts or processes

**systematize, organize, harmonize**

*Political parties help to **coordinate** the campaigns of their members.*

### 21. union

*n.* an association, confederation, or group of people united for a common goal; a trade union

**alliance, coalition, league**

*In 1886, many national **unions** formed the American Federation of Labor under the leadership of Samuel Gompers.*

### 22. autocratic

*adj.* pertaining to autocracy or exercising power or authority without interference by others

**tyrannical, despotic, dictatorial**

*An **autocratic** ruler who serves his people well is sometimes called a benevolent dictator.*

**23. lucid**

*adj.* bright or shining; clearly presented and easily understood

**luminous, distinct, clear**

*Julius Caesar is known for his political skills and for his **lucid**, informative writing.*

**24. morale**

*n.* the level of confidence or optimism in a person or group

**spirit, confidence, self-esteem**

*The USO is a service organization that entertains U.S. troops and improves their **morale**.*

**25. substantially**

*adv.* in real worth, value, or effect

**actually, practically, virtually**

*The effect of advertising increased **substantially** as ads for products like coffee, tea, and chocolate appeared in newspapers.*

**26. dogma**

*n.* a belief or principle laid down by an authority as unquestionably true

**creed, doctrine, tenet**

*The experiments with the animals eroded the behaviorist **dogma** that only humans have minds.*

**27. endow**

*v.* to provide a source of income for an organization

**donate, grant, contribute**

Massachusetts used much of its funds to **endow** the Massachusetts Institute of Technology.

**28. inevitably**

*adv.* without possibility of escape

**inescapably, unavoidably, certainly**

*The focus of educators **inevitably** turned toward the lower grades and back to basic academic skills and discipline.*

**29. wharf**

*n.* a landing-stage built along a waterfront for loading and unloading vessels

**pier, dock**

*The largest companies have fired many employees, and many of their vessels sit idle at the **wharf**.*

**30. arable**

*adj.* suitable or used for plowing and growing crops

*Land refers to all natural resources usable in the production process: **arable** land, forests, and so on.*



Chapter 12 **UNIT 47** Natural Sciences

**1. arid**

*adj.* having so little rain as to be very dry and unproductive

**desert, dry, torrid**

*Southern Arizona has an **arid** climate, and there are some deserts.*

**2. precipitation**

*n.* water that falls from clouds in the atmosphere to the Earth's surface

**rainfall, shower, downpour**

*Deserts are regions that receive less than 25 centimeters of annual **precipitation**.*

**3. rim**

*n.* the outside edge or border of, especially a round object

**edge, brim, border**

*The totally eclipsed moon will appear to have a bright **rim** along its southern edge.*

**4. incinerate**

*v.* to burn or reduce to ashes

**burn**

*The asteroid impact caused an explosion that quickly expanded as each icy mass **incinerated** itself.*

**5. inhospitable**

*adj.* not friendly or welcoming to others

**unwelcoming, unfriendly, unfavorable**

*According to the evidence gathered by space probes and astronomers, Mars is an **inhospitable** planet.*

## 6. intensity

*n.* the quality or state of being intense

**power, strength, forcefulness**

*The habitable zone is the region 75 to 140 million miles away from a star with the **intensity** of our sun.*

## 7. lethal

*adj.* causing or enough to cause death

**fatal, mortal, deadly**

*Mars has no ozone layer to screen out the sun's **lethal** radiation.*

## 8. ambient

*adj.* relating to the surrounding area

**surrounding**

*The report, which was prepared for the Environmental Protection Agency, stated that the level of lead in **ambient** air poses a significant threat to infants.*

## 9. acidic

*adj.* like, or containing, acid; very sour

**sour, tart**

Rain is slightly **acidic** even in unpolluted air.

### 10. ominous

*adj.* containing a warning of something evil or bad that will happen  
**foreboding, sinister**

*The black clouds of a gathering thunderstorm look quite **ominous**.*

### 11. radiation

*n.* the energy in the form of heat or light that is sent out as waves  
**emission, emanation, diffusion**

*The nuclear chamber continues to smolder and to emit harmful **radiation** into the air and water.*

### 12. resonance

*n.* the sound produced in an object by sound of a similar frequency from another object  
**vibration, echo, reverberation**

*The musical tone of an electric guitar is created not by the **resonance** of the body of the guitar but by electronic amplification.*

### 13. aggression

*n.* the act or tendency of attacking another person or country without being provoked  
**attack, belligerence, hostility**

*Within this colony, there is little **aggression** among ants from different nests.*

### 14. speculate

v. to consider the possibilities regarding something

**postulate, hypothesize, conjecture**

*Experts have **speculated** that there may have been a cycle of dry and wet seasons.*

### 15. **bizarre**

adj. weirdly odd or strange

**odd, peculiar, weird**

*What else can be said about the **bizarre** animal that eats mud is that it feeds almost continuously day and night.*

### 16. **carnivore**

n. an animal that feeds mainly on the flesh of other animals

*Our image of dinosaurs is either of massive herbivores like the Brontosaurus or of **carnivores** such as the Tyrannosaurus Rex.*

### 17. **torque**

n. the measured ability of a rotating element to overcome turning resistance

*While nobody can acquire spin without **torque**, a flexible one, like a cat, can readily change its orientation.*

### 18. **scale**

1) v. to climb up

2) n. an extent or level relative to others

1) **ascend, mount** 2) **range, scope**

*One of the most popular peaks for mountain climbers to **scale** is El Capitan in Yosemite*

*National Park.*

### 19. scavenger

*n.* a person or animal that searches among waste for usable items or food

**prowler**

*Like vultures, condors are **scavengers**, so they eat animals that are already dead.*

### 20. blistering

*adj.* viciously angry and aggressive

**harsh, critical**

*Its climate, despite more than 50 inches of annual rainfall, is **blistering**.*

### 21. untamed cf. tame

*adj.* undomesticated or uncultivated

**unsubdued, savage, wild**

*Hawaii's variety of **untamed** volcanic ranges and pristine beaches attracts many tourists who enjoy the diverse wilderness.*

### 22. accessible

*adj.* able to be reached easily

**approachable, attainable, available**

*Rivers also reveal clay along their banks, and erosion on a hillside may make the clay easily **accessible**.*

### 23. apparatus

n. the equipment needed for a specified purpose  
**device, gear, machine**

*Though delicate **apparatuses** are used, volcanoes have been great mysteries.*

#### 24. sieve

1) n. a utensil with a meshed or perforated bottom

2) v. to strain or sift with a sieve

1) **mesh, net** 2) **filter, screen**

*Clay is far too small to **sieve** accurately.*

#### 25. scourge

n. a cause of great suffering and affliction

**affliction, misery, plague**

*With their ability to disseminate numerous seeds quickly, weeds soon became the **scourge** of the prairies.*

#### 26. skim

v. to remove floating matter from the surface of a liquid

**cream, scoop, take off**

*The bubbles rose to the surface with the mineral particles attached, and they were **skimmed**.*

#### 27. trench

n. a long and narrow ditch in the ground

**channel, furrow, pit**

*The trenchers, which are complex machines that dig the **trench** for the cable, lay it in the*

*correct position and then bury it.*

**28. thruster**

*n. a rocket attached to a spacecraft used to control its attitude*

*In the back of the trencher, it contains ten fan **thrusters** that propel it through the water.*

**29. accumulate**

*v. to collect or gather something in an increasing quantity*

**amass, stock, pile up**

*There seem to have been several periods when water **accumulated** in these basins.*

**30. homogeneous**

*adj. made up of elements that are all of the same kind or nature*

**uniform, consistent, identical**

*Railroads have made the people of the United States **homogeneous** and have broken through the peculiarities and provincialisms.*

Chapter 12 **UNIT 48** Applied Sciences

**1. reorient cf. orient**

v. to set or arrange in a new or different determinate position

**modify**

*Railroads reshaped the North American environment and **reoriented** North American behavior.*

**2. deciduous**

adj. involving plants which shed all their leaves at a certain time of year

*This pest defoliates ornamental trees such as **deciduous** oaks.*

**3. expedient**

adj. useful or helpful for a purpose

**beneficial, effective, practical**

*He felt that there must be a more **expedient** way to send messages.*

**4. stake**

1) *n.* an interest, especially a financial one

2) *n.* a sum of money risked in betting

1) interest, share 2) bet

*Holding a large **stake** in the community, nineteenth-century American hotelkeepers exercised power to make it prosper.*

**5. adverse**



*adj.* going against; unfavorable to one's interests

**contrary, negative, hostile**

*Penicillin can have an **adverse** effect on a person who is allergic to it.*

## 6. replenish

*v.* to fill up or make complete again

**refill, restock, restore**

*There is no easy source of hydrogen to **replenish** the supply.*

## 7. resilient

*adj.* able to recover quickly

**elastic, flexible, springy**

*By ridding the ocean of weaker fish, predators allow the stronger ones to multiply, making their species more **resilient**.*

## 8. sanctuary

1) *n.* a holy or sacred place, like a church or temple

2) *n.* an area for birds or animals where they cannot be hunted

1) **sanctum, shrine** 2) **reservation**

*The designation of a marine **sanctuary** indicates that it is a protected area, just as a national park is.*

## 9. sedentary

*adj.* involving much sitting; not moving from one place to another

**seated, stationary, unmoving**

*Aphids are particularly vulnerable to predators because of their gregarious habits and **sedentary** nature.*

**10. stagnant**

*adj.* not flowing; not developing or growing  
**motionless, standing, stale**

*A cupful of **stagnant** water may contain millions of microorganisms.*

**11. suffocate**

*v.* to kill or be killed by a lack of air  
**choke, stifle**

*If the bacteria are not kept in check, they could **suffocate** the oceans.*

**12. nemesis**

*n.* a person or thing that causes serious harm as punishment  
**enemy, foe, rival**

*He believed AIDS is our collective **nemesis**.*

**13. hatch**

*v.* to break out of an egg; to produce young animals from eggs  
**breed, incubate, brood**

*Female sea turtles swim as much as 2,000 kilometers to return to the beaches where they were **hatched**.*

**14. surrender**

v. to admit defeat by giving oneself up to an enemy

**give up, concede, yield**

*The military was charged with defending the nation's forests and had orders to kill illegal loggers who did not **surrender**.*

### 15. **symbiotic**

*adj.* relating to a relationship in which organisms, people, or living things involved depend on each other

*A **symbiotic** relationship is when two organisms of different species “work together” and each benefit from the relationship.*

### 16. **glucose**

*n.* a natural form of sugar found in fruit and used in the body

***Glucose** does not have to be digested, so it can be put directly into the bloodstream.*

### 17. **prosthetic**

*adj.* relating to a device that substitutes for or supplements a missing or defective part of the body

*A **prosthetic** leg enables a person to function without the assistance of a wheelchair or crutches.*

### 18. **amnesia**

*n.* a loss of memory, either in part or completely

**forgetfulness**

*In cases of a minor injury to the brain, **amnesia** is likely to be a temporary condition.*

### 19. analgesic

*n.* a remedy that relieves or allays pain

**painkiller**

*Analgesics are used to relieve pain and reduce fever.*

### 20. antibiotic

*n.* a substance like penicillin which is used in the treatment of bacterial infections

*Fungi are the source of many of the most potent **antibiotics** used in clinical medicine, including penicillin.*

### 21. hypnosis

*n.* an induced sleeplike state in which a person is deeply relaxed

**hypnotism, mesmerism**

*Hypnosis is sometimes employed as a means of helping people to quit smoking.*

### 22. insomnia

*n.* a condition where the individual has trouble falling asleep or wakes up repeatedly during the night

**sleeplessness, wakefulness**

*The causes of **insomnia** are usually psychological in the form of stress, depression, and too much worrying.*

### 23. terminology

*n.* the words and phrases used in a particular subject or field

**jargon, lingo, argot**

*In very loose **terminology**, the right hemisphere of the brain controls the left side of the body.*

**24. ulcer**

*n. a sore place appearing on the skin inside or outside the body which may bleed or produce poisonous matter*

**sore, abscess, canker**

*People with **ulcers** must eat bland foods.*

**25. secrete**

*v. to form and release a substance*

**release, ooze, exude**

*Pheromones are **secreted** to the outside of the body and cause other individuals to have specific reactions.*

**26. volatility**

*n. the property of changing readily from a solid or liquid to a vapor*

*The chemical signal can be persistent depending upon the **volatility** of the chemical.*

**27. weld**

*v. to join two pieces of metal; to unite something together firmly*

**join, unite, combine**

*There are two gas tanks connected to the **welding** equipment; one is full of oxygen, and the other is full of acetylene.*

**28. streamlined**

*adj.* designed to offer the least possible resistance; optimally shaped

**hydrodynamic, aerodynamic, efficient**

*The challenge is to build a wing **streamlined** enough to fly at high speeds for long distances.*

**29. revolutionize**

*v.* to bring about revolution; to change dramatically

*Iron production was **revolutionized** in the early eighteenth century when coke was first used instead of charcoal for refining iron ore.*

**30. serene**

*adj.* calm and composed

**tranquil, peaceful, pacific**

*The architects emphasized the need for natural, **serene** settings where hurried urban dwellers could periodically escape from the city.*

Chapter 13 **UNIT 49** Humanities

**1. subsidize**

v. to provide or support with a subsidy

**finance, fund, sponsor**

*One award **subsidizes** a promising American writer's visit to Rome.*

**2. utter**

1) *adj.* having no exceptions or restrictions

2) v. to express a thought or emotion in words

1) **complete, thorough** 2) **state**

*This movie illustrates people's **utter** helplessness in the face of machines meant to serve their basic needs.*

**3. article**

1) *n.* an object

2) *n.* a short written composition in a newspaper

1) **item** 2) **essay, report**

*The Pomo people used four distinct variations on the basic twining process, often employing more than one of them in a single **article**.*

**4. convergence**

*n.* the coming together of two or more things to the same point

**confluence, conjunction, meeting**

*From this unity created by the **convergence** of artists from various social and geographical*

*backgrounds came a new spirit.*

## 5. hilarious

*adj.* very funny or humorous

**amusing, comical, merry**

*Shirley Jackson's sometimes chilling, sometimes **hilarious** stories were largely ignored by critics when they were published.*

## 6. jester

*n.* a colorfully-dressed professional clown

**clown, joker**

*This funny costume reminds you of a **jester** or even a woman.*

## 7. puppet

*n.* a type of doll that can be operated by strings or sticks

**marionette**

*Music based on Indonesian music was used in the shadow **puppet** theater of that region.*

## 8. memoir

*n.* a record of events written by a person having knowledge of them

**biography, life, reminiscence**

*A **memoir** is restricted in scope, and it is usually shorter than an autobiography.*

## 9. obscenity cf. obscene

*n.* the state or quality of being obscene



**bawdiness, vulgarity, filthiness**

*Also influential was a novel by Williams S. Burroughs, **Naked Lunch**, which also survived an **obscenity trial**.*

**10. prosaic**

*adj. not poetic; boring or ordinary*

**unimaginative, common, routine**

*For babies, language is a sensory-motor delight rather than the route to **prosaic** meaning that it often is for adults.*

**11. auditory**

*adj. referring to hearing or the organs involved in hearing*

**acoustic, aural, auricular**

*Babies' responses to the sound of the human voice are different from their responses to other sorts of **auditory** stimuli.*

**12. utensil**

*n. an implement or tool, especially one for everyday or domestic use*

**tool, implement, device**

*The fork has been used as an eating **utensil** at least since the twelfth century.*

**13. cumbersome**

*adj. difficult to use or operate, especially because of size, weight, or design*

**awkward, clumsy, unhandy**

*As a part of a **cumbersome** process, a pit was dug, and a platform was set up across it.*

#### 14. strategic

*adj.* done as a part of a plan, especially in a military or business

**tactical**

*Another area to take into consideration was the **strategic** bombing campaign.*

#### 15. coarse

*adj.* of low quality; not having a level or smooth surface

**crude, inferior, rough**

*The Egyptians made **coarse** fibers by 1600 B.C., and fibers survived as decorations on Egyptian pottery dating back to 1375 B.C.*

#### 16. infiltrate

*v.* to filter something like a liquid; to pass into a territory

**insinuate, permeate, sneak**

*Using the cover of darkness, the soldiers **infiltrated** the enemy's defenses.*

#### 17. niche

*n.* a shallow recess suitable for a thing; a position in life in which one feels fulfilled

**alcove, hollow, place**

*The archaeological site contained **niches** for ceremonial objects and a central fire pit.*

#### 18. eccentricity

*n.* an odd or peculiar habit

**unusualness, strangeness, peculiarity**

Playwright Oscar Wilde distinguished himself for his wit and **eccentricity** in dress, taste, and manners.

### 19. rote

*n.* the mechanical use of the memory to perform something without thinking  
**memory**

*John Dewey strongly believed that children should not be taught by **rote**.*

### 20. shard

*n.* a fragment of something brittle  
**chip, fragment, piece**

*By digging up different **shards** from different stratum layers, archaeologists can easily date the stages of a culture's development.*

### 21. chronicle

*v.* to record historical events in the order in which they occurred  
**record, list, document**

*The book vividly **chronicled** the writer's struggle to overcome alcoholism.*

### 22. libation

*n.* a liquid suitable for drinking; the pouring of wine or something else in honor of a god  
**drink**

*Large quantities of food and **libations** are consumed during the festivities.*

### 23. figurine

*n.* a small carved or molded figure

**figure, statuette**

*At the archaeological site, there were many poor-quality **figurines** and painted pots produced in quantity by easy, inexpensive means.*

### 24. conventional

*adj.* conforming to established practice or accepted standards

**customary, traditional, ordinary**

*The European influences on jazz can be heard in its use of such **conventional** instruments as the trumpet, string bass, and piano.*

### 25. betray

*v.* to be disloyal or unfaithful to

**sell out, let down, fail**

*Arthur Miller's masterpiece, *Death of Salesman*, is the tragic story of a salesman **betrayed** by his own hollow values.*

### 26. sentiment

*n.* a subjective response to a person, thing, or situation

**feeling, emotion**

*Modern Times does accurately reflect the **sentiments** of many who feel they are victims of an over-mechanized world.*

### 27. dilapidated

*adj.* falling to pieces because of neglect or age; in great need of repair

**ruined, destroyed, broken-down**

*These painters usually chose subjects that were interesting only because they were so ordinary; a closed-down gas station, an old man waiting for a bus, a **dilapidated** billboard.*

**28. aviation**

*n. the science of mechanical flight through the air; the industry that makes aircraft*  
**aeronautics**

*Charles Lindbergh's first transatlantic flight opened a whole new world of possibilities for **aviation**, especially commercial aviation.*

**29. pluck**

*v. to pull out something with one's fingers; to sound the strings of a violin or something else using the fingers*  
**pick, extract, draw out**

*The harp is a stringed musical instrument of ancient origin, and its strings are **plucked** by the fingers.*

**30. decode cf. encode**

*v. to translate a coded message into ordinary language*  
**decipher, interpret**

*In order to **decode** Egyptian numerals, long stretches of symbol groupings had to be sorted out and added together.*

Chapter 13 **UNIT 50** Social Sciences

**1. pivotal**

*adj.* constructed as or acting like a pivot; crucially important

**central, vital, crucial**

*The development of steam engines played a **pivotal** role in the spread of the factory system.*

**2. barter**

1) *n.* a trade by exchanging goods rather than by selling them for money

2) *v.* to trade or exchange goods or services without using money

1) **trade** 2) **exchange, bargain**

*Before currency came into use, people used the **barter** system to exchange goods directly for goods.*

**3. lay off**

*ph.* to stop employing someone because there is no work for that person to do

**dismiss, sack**

*The Brindley Corporation had to **lay off** ten percent of its employees due to decreased sales.*

**4. reprieve**

*n.* a delay or cancellation of someone's punishment

**postponement, suspension**

*To famers, factories offered a **reprieve** from the backbreaking work and financial unpredictability associated with farming.*

## 5. juggernaut

*n.* a mighty force sweeping away and destroying everything in its path

*They were the **juggernauts** of the sky and by far the largest commercial planes of their day.*

## 6. per capita

*ph.* by or for each individual person

**per head, per each person**

*Fifteen hundred dollars a year was the **per capita** income in the United States in 1950.*

## 7. arduous

*adj.* needing a lot of work, effort, or energy

**hard, laborious, exhausting**

*Mountain climbing is an **arduous** sport.*

## 8. frivolous

*adj.* not sufficiently serious; silly or amusing

**insignificant, trivial, childish**

*He was frustrated because his boss assigned him some **frivolous** work.*

## 9. consistent

*adj.* in agreement with something; in keeping with something

**conforming, accordant, constant**

*Decades of research have failed to produce **consistent** evidence.*

## 10. subdue

v. to overpower and bring under control; to reduce in intensity

**conquer, suppress, quell**

*Policemen armed with riot shields and batons were called in to **subdue** the angry soccer fans.*

## 11. patent

1) n. a sole right to make and sell a particular article

2) v. to obtain a patent for an invention

*Barbed wire, first **patented** in the United States in 1867, played an important part in the development of American farming.*

## 12. strain

n. a type of animal, plant, or disease

**family, bloodline, race**

*The second **strain** was the pneumonic plague, which was probably a mutation of the bubonic plague.*

## 13. abortion

n. the deliberate ending of a pregnancy at an early stage

**termination**

*In some societies like China, with its one-child policy, the preference for sons is a driving reason for **abortion**.*

## 14. census

n. an official count of a population carried out at periodic intervals



## poll

The United States **census** for 1970 showed that the French-speaking residents of Louisiana were one of the country's most compact regional linguistic minorities.

## 15. locale

n. the scene of some event or occurrence

**site, location, spot**

The information on the alarm pertained to the **locale** in which it would be used.

## 16. ovulate

v. to release an ovum or egg cell from the ovary

During estrus, a female is **ovulating** and can become pregnant.

## 17. put down

1) *ph.* to criticize someone to make that person feel silly

2) *ph.* to stop a revolution or something else by using force

1) **belittle, insult** 2) **overpower, suppress**

The leaders **put down** a rebellion in their country by appeasing the different groups.

## 18. falter

v. to move unsteadily; to become weaker

**totter, stumble, weaken**

After starting out in the lead, he began to **falter** near the finish line.

### 19. federal

*adj.* belonging to a country consisting of a group of states

*The **federal** system of government in Canada is similar to that of the United States.*

### 20. electorate

*n.* all the people in a city or country who have the right to vote

*The British Reform Bill of 1867 more than doubled the **electorate** by granting the right to vote to common working men.*

### 21. hierarchical

*adj.* classified according to various criteria into successive levels or layers

*Because of the fierceness of their army and their **hierarchical** organization, they became the largest Native American society.*

### 22. amendment

*n.* a small change or improvement that is made to a law or a document

**correction, alteration**

*The first ten **amendments** to the Constitution are known as the Bill of Rights.*

### 23. ammunition

*n.* bullets, shells, bombs, or something else made to be fired from a weapon

*Many of the Frenchmen had provided all sorts of things, from food to **ammunition**, for the Indians.*

## 24. bladder

*n.* a hollow sac-shaped organ in which liquid waste is stored before it is passed out of the body

**vesica**

*Your bowels and **bladder** prepare to empty their contents because, if they experience an injury, their contents could infect your body.*

## 25. ruthless

*adj.* having or showing a lack of sympathy or tender feeling; hard and cruel

**relentless, pitiless, merciless**

*The pirate Blackbeard had a reputation for being a harsh, **ruthless** man.*

## 26. incest

*n.* sexual intercourse between closely related people

*While virtually all cultures have rules prohibiting **incest**, the definition of what constitutes incest fluctuates widely.*

## 27. inaugural

*adj.* coming before all others in time or order; relating to a ceremony that officially marks the beginning of something

**initial, introductory, maiden**

*On the **inaugural** flight of the Dixie Clipper across the Atlantic, twenty-two passengers enjoyed a main sitting area equipped with plush sofas.*

## 28. soothe

*v.* to bring relief from pain or something else

**comfort, calm, mitigate**

*Food, drink, and celebration after the group work provided relaxation and **soothed** weary muscles.*

**29. interdisciplinary**

*adj. involving two or more subjects of study*

*Cognitive science is an **interdisciplinary** field of research that employs psychology, linguistics, and biology.*

**30. dignify**

*v. to make something impressive or dignified*

**ennoble, glorify, exalt**

*Agriculture was not even considered a science until it was **dignified** by the work of research stations.*

## Chapter 13 UNIT 51 Natural Sciences

**1. hexagonal cf. hexagon**

*adj.* having a plane figure with six sides and angles

*Simple snowflakes possess a variety of beautiful forms, most of which are **hexagonal**.*

**2. torrential**

*adj.* caused by or like a torrent; falling in large amounts

**rushing, streaming, violent**

*The **torrential** rains and heavy winds the hurricane brought are contributing to its storm surge.*

**3. luminous**

*adj.* full of or giving out light

**bright, shining, glowing**

*The most **luminous** objects seen by telescopes are probably ten thousand million light years away.*

**4. spiral**

*adj.* moving in a continuous curve that winds around a central point

**coiled, helical, screw**

*The Milky Way is a **spiral** galaxy, a flattish disc of stars with two spiral arms emerging from its central nucleus.*

**5. tentacle**

*n.* long and thin appendages which are used as sense organs

*Giant squid have eight short arms and two long **tentacles**.*

## 6. sinuous

*adj.* marked by a long series of irregular curves

**curving, twisting, winding**

*The large circular maria were seen as strange, and **sinuous** features were observed in the maria.*

## 7. rupture

*v.* to be broken or to burst apart; to burst or break apart something

**break, split, breach**

*This change in the volume of air may cause the lungs to distend and even to **rupture**.*

## 8. tension

1) *n.* a feeling of anxiety and stress that makes it impossible to relax

2) *n.* the state of being stretched tight

1) **nervousness, distress** 2) **strain, pressure**

*As water is lost from the surface of the leaves, a negative pressure or **tension** is created on it.*

## 9. translucent

*adj.* allowing light to pass diffusely

**semi-transparent, see-through**

*One cannot see through **translucent** materials, but light can pass through them.*

## 10. borealis

*n.* a luminous display of colors in the night sky of the Northern Hemisphere

*It is almost impossible to capture the beauty of the aurora **borealis** in photographs.*

## 11. reactor

*n.* a large structure used for the controlled production of nuclear energy

*In late April 1986, the number four **reactor** at the Chernobyl nuclear power plant exploded.*

## 12. oval

*adj.* with the outline of an egg or shaped like an egg

**egg-shaped, ovoid, elliptical**

*The pear tree has simple, **oval** leaves that are smoother and shinier than those of the apple.*

## 13. gyration

*n.* a rapid turning about on an axis or central point

**whirl, rotation, spin**

*The **gyrations** of the cat in midair are too fast for the human eye to follow, so the process is obscured.*

## 14. anomaly

*n.* something that is unusual or different from what is expected

**abnormality, freak, exception**

*If we stand above nature and if technology is all powerful, then AIDS is a horrifying **anomaly** that must be trying to tell us something.*

### 15. antler

*n.* either of a pair of solid bony outgrowths on the head of an animal

*Deer use their **antlers** chiefly to fight for mates or for leadership of a herd.*

### 16. epidermis

*n.* the outer layer of skin

**skin**

*The external surfaces of plants, in addition to being covered by an **epidermis** and a waxy cuticle, often carry spiky hairs.*

### 17. conifer

*n.* a tree with narrow needle-like leaves and which produce pollen and seeds in cones

*The **conifer**, which is among the tallest trees, has an unusually low root pressure.*

### 18. pique

*v.* to hurt someone's pride; to arouse curiosity or interest

**annoy, offend, intrigue**

*Although this impact event was of considerable scientific important, it especially **piqued** the public's curiosity and interest.*

### 19. phosphorescent

*adj.* producing a faint light in the dark; luminous without sensible heat

**light, radiant, luminous**



*Fish living in complete darkness at the bottom of deep-sea trenches have evolved incredibly sensitive eyes and **phosphorescent** organs.*

## 20. vascular

*adj. relating to the blood vessels of animals or the sap-conducting tissues of plants*

*Club mosses, considered to be advanced because they are **vascular**, often inhabit moist places.*

## 21. pollinate

*v. to put pollen into a flower or plant so that it produces seeds*

### **fertilize**

*Some honeybees are raised for their ability to **pollinate**, which ensures plant fertilization that increases fruit yields.*

## 22. unfurl

*v. to spread out or unroll something from a rolled-up state*

### **spread, unfold, open**

*The water **unfurls** in the sunlight with the colors of the rainbow playing across it.*

## 23. aquifer

*n. an area of rock underneath the surface of the Earth that absorbs and holds water*

*The first condition for a geyser's eruption is that water must be contained in an **aquifer**.*

## 24. cartographer

*n. a person who makes charts or maps*

### **mapmaker**

The task of a **cartographer** is to represent the Earth's surface at a greatly reduced scale.

**25. fault**

*n.* a break or crack in the Earth's crust resulting in the slippage of a rock mass

**slip**

*The original architects of the University of California at Berkeley built the campus directly on top of a **fault**.*

**26. parole**

*n.* the release before the end of one's sentence on the promise of good behavior

*GPS is even used to keep track of criminals on day leave or **parole**.*

**27. ensue**

*v.* to happen after or as a result of another event

**follow**

*In 1906, much of San Francisco was destroyed by an earthquake and the fires that **ensued**.*

**28. impending**

*adj.* being soon to appear or take place

**imminent, approaching, nearing**

*Even with our improved ability to identify hazardous areas and to warn of **impending** eruptions, increasing numbers of people face certain danger.*

**29. overcast**

*adj.* covered by clouds

**cloudy, gloomy, dark**

*Because ultraviolet light from the sun can penetrate clouds, it is possible to get a sunburn on an **overcast** day.*

### **30. gauge**

*n.* a standard against which things are measured; an instrument used to measure a quantity

**yardstick, measure, indicator**

*The **gauge** known as potential evaporation totals the water lost through both normal evaporation and the evaporation that occurs from plant life.*

Chapter 13 **UNIT 52** Applied Sciences

**1. minuscule**

*adj.* extremely small

**minute, tiny**

*In order to build his dream, he borrowed \$50 million, which sounds **minuscule** by today's standards.*

**2. ledge**

*n.* a narrow horizontal shelf or shelf-like part

**shelf, projection, overhang**

*Two **ledges** were built across from each other on the inside of the chimney.*

**3. tendon**

*n.* a cord of strong fibrous tissue that joins a muscle to a bone

*Muscle fibers are attached bones by **tendons**.*

**4. electron**

*n.* a particle which has a negative electric charge in atoms

*The proton has a positive charge, and the **electron** has a negative charge.*

**5. scaffolding**

*n.* a temporary framework of metal poles and planks

**frame, rack**

Construction workers have begun dismantling the **scaffolding** that has encased the Guggenheim Museum for nearly three years.

## 6. terrestrial

*adj.* relating to the land or to the Earth

**earthly, earthbound**

*Much has been written about the diversity of **terrestrial** organisms.*

## 7. thwart

*v.* to prevent or hinder someone or something

**impede, obstruct, block**

*Ocean predators play a critical role by **thwarting** bacteria growth and maintaining the oceans' equilibrium by reducing vulnerable links in the food chain.*

## 8. parched

*adj.* dried up; slightly roasted

**dry, torrid, burned**

*According to one of the scientists, most **parched** trees transmit their plight in the 50- and 500-kilohertz range.*

## 9. saline

*adj.* containing sodium chloride or salt

**briny, salty**

*When the **saline** water table rises to within two meters of the surface, evaporation concentrates salt at the surface.*

### 10. seemingly

*adv.* in appearance

**apparently, ostensibly, superficially**

*Why did the huge, **seemingly** successful mammoths disappear?*

### 11. bog

*n.* an area of low and wet muddy ground that sometimes contains bushes or grasses

**marsh, swamp, fen**

*Many animals became trapped in **bogs** overgrown by vegetation.*

### 12. propagation

*n.* multiplication by natural reproduction; dissemination

**proliferation, generation, spread**

*Our problems do not stem from evaporated water supplies but from a **propagation** of carbon dioxide and other greenhouse gases due to industrial and automobile emissions.*

### 13. groom

*v.* to clean the fur or skin of another animal or itself

**dress, neaten up, tidy up**

*Monkeys are highly social animals. A good example of this is the fact that they **groom** one another.*

### 14. cetacean

*n.* an animal belonging to the order which includes dolphins, porpoises, and whales

*It is widely believed that **cetaceans** are highly intelligent.*

**15. antigen**

*n. a foreign substance that stimulates the body's immune system to produce antibodies*

*Each blood cell has an **antigen**, a kind of protein, on its surface.*

**16. capillary**

*adj. having a very small diameter; relating to capillarity*

**hair-like**

*Oxygen and nutrients reach the body's tissues by passing from the blood through the **capillary** wall.*

**17. canine**

*n. one of the long, sharp, and pointed teeth in front of a human's or animal's mouth*

**cuspid, dogtooth**

*The front teeth are used to bite food, the **canines** to tear it, and the molars to grind it.*

**18. incisor**

*n. one of the eight sharp teeth at the front of the mouth and which are used for biting*

**front tooth, fore-tooth**

*A baby's first teeth to appear are generally the lower **incisors**.*

**19. diaphragm**

*n. the layer of muscle between the lungs and the stomach and which is used especially to*

control breathing

*The power required for breathing comes from the intercostal muscles and the **diaphragm**.*

## 20. iris

*n. the colored part of the eye that controls the opening and closing of the pupil*

*The **iris** is basically the aperture of the eye, which is similar to that of a camera.*

## 21. neurosis

*n. a mental disorder that causes obsessive fears and unreasonable behavior*

### **nervous breakdown**

*A **psychosis** is a severe mental disorder that is more serious than a **neurosis**.*

## 22. pneumonia

*n. an inflammation of the lungs, usually as a result of bacterial or viral infection*

*The symptoms of **pneumonia**, a lung infection, include high fever, chest pains, breathing difficulty, and coughing.*

## 23. pupil

*n. the dark and circular opening in the center of the iris*

*The **pupil** regulates the amount of light allowed into the eye.*

## 24. paralysis

*n. a temporary or permanent loss of muscular function or sensation*

### **numbness, palsy**



Although complete **paralysis** is rare with neuritis, it is common for some muscles to become weak.

## 25. arthritis

*n.* a disease that causes pain and swelling in one or more joints of the body

*Isadora Martinez invented a knee implant that lets people with **arthritis** bend their knees easily.*

## 26. viable

*adj.* capable of being done or carried out

**feasible, possible, practical**

*During the nineteenth century, further advances were made, notably Bessemer's process for converting iron into steel, which made the material more commercially **viable**.*

## 27. carbohydrate

*n.* a group of organic compounds which consist of carbon, hydrogen, and oxygen

***Carbohydrates** such as sugar or starches are important energy sources for humans and animals.*

## 28. viscosity

*n.* the degree to which a fluid can resist flowing

**cohesion**

***Viscosity** is a measurement describing the relative difficulty or easiness with which liquids flow.*

**29. pavilion**

*n.* a large and elaborate tent; a large ornamental building

*The Liberty Bell, formerly housed in Independence Hall, was moved to a separate glass **pavilion** in 1976.*

**30. prodigy**

*n.* a child of extraordinary brilliance; something extraordinary or surprising  
**genius, wonder, marvel**

*Edison has been referred to as a child **prodigy** since he began working on his first inventions at the age of twelve.*

Chapter 14 UNIT 53 Humanities

**1. caliber**

*n.* the level of quality or ability that someone or something has achieved

**talent, capacity, merit**

*The actors may be of the highest **caliber** or simply part-time novices.*

**2. cardinal**

*adj.* highly important; having other things based on something

**essential, main, principal**

*A **cardinal** rule for players of the lute, a stringed instrument, is that every note is sustained for as long as possible.*

**3. hiss**

*n.* a sound like a long ‘s’; unwanted background noise in a sound system

**sibilance**

*Environmental sounds and electrically generated **hisses** can be incorporated into a musical composition.*

**4. luminosity**

*n.* the property of emitting light

**radiance, glow, splendor**

*His paintings show the same **luminosity** and attention to detail that the works of the Dutch masters show.*

## 5. lurid

*adj.* too bright in color; arousing a strong and superficial interest or emotional reaction  
**flaming, sensational, startling**

*Paperback novels in the 1940s often had **lurid** covers to attract readers' attention.*

## 6. choreography

*n.* the arrangement of the pattern of movements in dancing

*It was around 1925 that an accurate, convenient system for recording the **choreography** of ballet was developed.*

## 7. punctuality

*n.* the quality or habit of arriving on time  
**promptness, timeliness**

*You will no doubt meet people with varying attitudes towards **punctuality**.*

## 8. babble

*v.* to talk or say something quickly  
**prattle, chatter, jabber**

*Between four months and eight months, infants begin to **babble** meaningless syllables.*

## 9. cliché

*n.* a phrase which has become stale and hackneyed through overuse  
**trite saying, banality**

*Some of the American expressions are so common they have become **clichés**; "Time is money,"*

“Time waits for no one,” and so on.

### 10. sprout

v. to develop a new growth of leaves, hair, or something else  
**come up, bud, germinate**

*Thanks to the steamboat, numerous towns and industries began to **sprout** up along the rivers.*

### 11. supplement

n. something that is added to make something else complete  
**addition, annex, accessory**

*Wagon freighting, stage coaching and steamboating became **supplements** of feeders for the first train.*

### 12. treacherous

adj. not to be trusted; ready or likely to betray  
**unreliable, faithless, disloyal**

*The early slave songs provided them with a kind of spiritual escape from the **treacherous** bonds of slavery.*

### 13. discretion

n. the right to make decisions; the quality of behaving in a discreet way  
**volition, discernment, discrimination**

*Establishing monuments is at the president’s **discretion**.*

### 14. feudal cf. feudalism

*adj.* relating to the feudal structure that was used in medieval Europe

*Although based on **feudal** models, the colony of Pennsylvania developed a reputation for a progressive political and social outlook.*

### 15. **mutiny**

*n.* a rebellion or an act of rebellion; open fighting against authority

**rebellion, revolt, uprising**

*The **mutiny** of a ship's crew signifies the breakdown of obedience and discipline.*

### 16. **detectable** cf. **detect**

*adj.* able to be noticed or discovered

**perceptible, observable, discernible**

*The fact that DNA in **detectable** amounts has survived for 40,000 years has given scientists hope that genetic material of other long-vanished species may be found.*

### 17. **limbo**

*n.* an area between heaven and hell

*The natives believe that only through a funeral are they able to break the **limbo** of their dead family member.*

### 18. **hominid**

*n.* a primate belonging to the family of modern man and his ancient ancestors

**human**

*A great deal can be learned from the actual footprints of early **hominids**.*

### 19. vault

*n.* an underground burial chamber

**crypt, catacomb**

*The body is placed in a horizontal **vault** and enclosed with stone or wood.*

### 20. freakish

*adj.* very unusual or unexpected

**odd, weird, peculiar**

*A trumpeter of **freakish** gift, Louis Armstrong will be remembered as the most influential jazz musician of all time.*

### 21. characterize

*v.* to describe something; to be a typical feature of something

**depict, label, mark**

*Her works can not be **characterized** in a few words.*

### 22. glorify

*v.* to make someone or something seem more important or beautiful than he, she, or it really is

**exalt, dignify, ennoble**

*The art did not **glorify** any specific rulers.*

### 23. delineate

*v.* to describe, draw, or explain something in detail

**describe, outline, portray**

The regional novel **delineates** the lives of people in a particular place to demonstrate how an environment influences its inhabitants.

#### 24. embark (on)

v. to begin a task, especially a lengthy one

**commence, launch, start**

The Dadaists **embarked** on their crusade by trying to shock the public by constructing offensive or outrageous works of art and literature.

#### 25. rekindle

v. to relight a fire; to revive or renew something

**restore, revitalize, renew**

In 1912, O’Keeffe’s creative spark was **rekindled** when she attended an art class at the University of Virginia summer school.

#### 26. relegate

v. to move someone down to a lower grade

**banish, exile, demote**

The show was hounded off the legitimate stage and found itself **relegated** to saloons and barrooms.

#### 27. come of age cf. constant

ph. to become established and accepted

Colonial coppersmithing also **came of age** in the early eighteenth century and prospered in northern cities.



**28. in regards to**

*ph.* with regard to; regarding or about

**as regards, in respect of**

*Pay particular attention to details, especially **in regards to** Poe's work, because they are there for a reason.*

**29. impostor**

*n.* someone who pretends to be someone else in order to deceive others

**pretender, deceiver, trickster**

*The character looks very much like a fool or even an **impostor**; that is, he might have wealth, but, essentially, he is a clown, a fake.*

**30. lyrics**

*n.* the words of a song

**libretto, book, words**

*Louis Armstrong was one of the first musicians to sing in the scat style, using rhythmic nonsense syllables instead of **lyrics**.*

Chapter 14 UNIT 54 Social Sciences

**1. spearhead**

v. to lead a movement, campaign, attack, or something else

**lead, initiate, pioneer**

*Taylor was an American engineer who **spearheaded** the Efficiency Movement at the beginning of the 20th century.*

**2. haul**

v. to pull with great effort or difficulty

**drag, draw, tow**

*Farm women had to **haul** large quantities of water into the house from wells or pumps for every purpose.*

**3. arithmetic**

n. the branch of mathematics that uses numbers to solve problems

**calculation, computation**

*Reading, writing, and **arithmetic** were the basics of an elementary school education.*

**4. encyclopedia**

n. a reference containing information on every branch of knowledge

*Publishers of **encyclopedias** employed hundreds of specialists and large editorial staffs.*

**5. protocol**

n. the version of an agreement; correct, formal, or diplomatic etiquette or procedure  
**treaty, manners, convention**

*This endless repetition, combined with strict schedules and office **protocol**, has a very wearing effect on workers.*

## 6. hinge on

ph. to be dependent or contingent on, or as if on a hinge  
**depend on, rely on, turn to**

*Industrial growth **hinged on** several economic factors.*

## 7. lathe

n. a machine tool used to cut, drill, or polish a piece of metal

*Until the late 1700s, metal could not be turned on a **lathe** to make it uniformly smooth and round.*

## 8. subsist

v. to live or to manage to stay alive  
**exist, live, survive**

*Many prehistoric people **subsisted** as hunters and gathers.*

## 9. heading

n. a word or series of words, often in larger letters, placed at the beginning of a passage in order to introduce or categorize  
**headline, rubric, title**

*The work of a factory worker and an office worker falls under the general **heading** of labor.*

### 10. disseminate

v. to make something be widely circulated or diffused

**disperse, spread, dissipate**

*Hollywood **disseminated** an image of the good life in Southern California on screens all across the nation.*

### 11. windfall

n. a fruit, especially an apple, blown down from its tree; an unexpected fortune

**jackpot, bonanza, lucky strike**

*The South received great financial **windfalls** from its agricultural produce.*

### 12. linger

v. to remain for a long time

**remain, stay, loiter**

*Some people like to **linger** after dinner over coffee and dessert.*

### 13. ideology

n. the body of ideas which forms the basis for a social system

**beliefs, doctrine, philosophy**

*The farmers' distrust of a city was caused, in part, by a national **ideology** that proclaimed farming the greatest occupation and rural living superior to urban living.*

### 14. litter

n. a number of animals born to the same mother at the same time

## offspring, young, brood

*Many animal species produce large **litters** at birth.*

## 15. puberty

*n. the stage of change in the human body from childhood to the adult state*

**adolescence, pubescence, teens**

*Adolescence is a transitional stage in human development from the beginning of **puberty** to the attainment of the emotional, social, and physical maturity of adulthood.*

## 16. chaos

*n. a state of utter confusion or disorder*

**disorder, pandemonium, turmoil**

*These new urbanities eagerly embraced the progressive reforms that promised to bring order out of the **chaos** of the city.*

## 17. institution

*n. a public body founded for a special purpose; a custom or tradition*

**establishment, foundation, practice**

*The **institution** of slavery has been a part of human history for thousands of years.*

## 18. gullible

*adj. easily tricked or fooled*

**innocent, naive, unwary**

*Con artists are criminals who take advantage of **gullible** people by tricking them and taking their money.*

### 19. pending

adj. waiting to be decided or dealt with

**impending, undecided**

*The **pending** plan for the improvement of New York Harbor was discussed at a conference, but, unfortunately, it was not agreed to.*

### 20. ravage

v. to cause extensive damage to a place

**demolish, destroy, raze**

*The country currently is being **ravaged** by ancient religious conflicts.*

### 21. epithet

n. a word applied to a person or thing to describe an actual quality

**nickname, label, tag**

*Even the name is an **epithet**, a synonym for the stunted, the scruffy, and the insignificant.*

### 22. cabinet

n. an executive policy-making body made up of senior ministers

**council, ministry**

*In the United States, the attorney general is the **cabinet** member in charge of the administration of the Department of Justice.*

### 23. credential

n. the personal qualifications that can be quoted as evidence of one's competence

**identification, reference, license**

*Whatever their opinion of Mr. Jelks was, he had very impressive **credentials**.*

**24. isolationism**

*n. the policy of not joining with other countries in international affairs*

*A whole movement, known as **isolationism**, which called for America to remain out of world affairs unless threatened directly, grew.*

**25. arena**

*n. a playing field where sporting events take place; a place of great activity*

**stadium, theater**

*In foreign affairs, he led the United States into the **arena** of international power politics, thrusting aside the American tradition of isolationism.*

**26. bowels**

*n. an intestine, especially the large intestine in humans*

**intestines, guts, innards**

*An estimated one in five Americans suffers from irritable **bowel** syndrome, a disorder that can cause disabling cramping, constipation, and diarrhea.*

**27. variable**

*n. a factor which may change or be changed by another*

*A worksheet can be especially useful when the decision involves a large number of **variables** with complex relationships.*

### 28. exaltation

*n.* the act of exalting or raising high  
**elevation, glory, praise**

*The Second Chicago School adhered to neoclassical economics and rejected the Keynesian **exaltation** of government regulation.*

### 29. cost-effective

*adj.* giving an acceptable financial return in relation to the initial outlay  
**profitable, economical, worthwhile**

*Pamphlets and chapbooks could be printed in large, **cost-effective** editions and sold cheaply.*

### 30. territory

*n.* an area of land, especially considered with regard to the government that owns or controls it  
**land, area, domain**

*Canada, which has a small population, covers slightly more **territory** than the United States does.*



Chapter 14 UNIT 55 Natural Sciences

**1. concentric**

*adj.* having a common center

*The planets in our solar system are arrayed on nearly the same flat plane, with their orbits forming roughly **concentric** ellipses around the sun.*

**2. wisp**

*n.* a thin and fine tuft or shred; a thin or delicate untidy piece

**bit, tuft, snippet**

*Daytime temperatures may reach above freezing, but because the planet is blanketed by the mere **wisp** of an atmosphere, the heat radiates back into space.*

**3. eclipse**

1) *v.* to cause an eclipse of a heavenly body

2) *v.* to surpass or to outshine

1) **veil, overshadow** 2) **surpass**

*The moon has been **eclipsed** by mankind, and it is only natural that Mars be the next step for space exploration.*

**4. skewed**

*adj.* sloping or twisted

**oblique, distorted**

*Made of hard wood, the boomerang is roughly V-shaped with arms slightly **skewed**.*

## 5. constellation

*n.* a group of stars which form a pattern and have a name

*In addition to the twelve ones of the Zodiac, thirty other **constellations** were familiar to people in ancient times.*

## 6. tributary

*n.* a stream or river that flows into a larger stream or river

**branch, offshoot, streamlet**

*A western **tributary**, called Valerie Glacier, advanced up to 122 feet per day.*

## 7. velocity

*n.* a rate of motion; a speed in a certain direction

**speed, pace, rapidity**

*The **velocity** of a river is controlled by the slope, depth, and toughness of the riverbed.*

## 8. refraction

*n.* a change in the direction of a wave of light when it passes from one medium to another

*Because of **refraction**, the water in a tank never looks as deep as it actually is.*

## 9. narcotic

*adj.* taking away pain or especially causing sleep

**anesthetic, hypnotic, soporific**

*Some doctors have questioned whether surgical treatments, injections, and **narcotic** pain medications are being used appropriately in many patients.*

### 10. petal

*n.* one of the modified leaves, often scented and brightly colored

*The most noticeable of the **petals** is called the labellum, or lip.*

### 11. hitch

*n.* a small and temporary setback or difficulty

**problem, snag, obstacle**

*There was a **hitch** in the program, which caused a two-hour delay.*

### 12. molt

*v.* to shed feathers, hair, or skin to make way for a new growth

**shed**

*All adult birds **molt** their feathers at least once a year.*

### 13. coronary

*adj.* denoting vessels, nerves, or something else belonging or relating to the heart

*Cholesterol may lead to **coronary** heart disease by building up in the arteries of the heart.*

### 14. hypersensitive

*adj.* unusually sensitive; having feelings which are too easily hurt

**temperamental, touchy**

*In an allergy, the animal's immune system is **hypersensitive** to some substances it encounters, called allergens.*

### 15. embryo

*n.* a developing young organism until hatching or birth

*Eggs should not become chilled to a point where the **embryo** can no longer survive.*

### 16. fauna

*n.* the animals of a given region or period considered as a whole

*Crows are probably the most frequently met and easily identifiable members of the native **fauna** of the United States.*

### 17. intestine

*n.* the long tube that carries waste matter from the stomach out of the body

**bowls, guts**

*Protein digestion begins in the stomach and ends in the small **intestine**.*

### 18. resilience

*n.* the power or ability to return to an original form or position after being bent, compressed, or stretched

**elasticity, springiness, flexibility**

*The tiny ant could be one of the most successful and marvelous species ever witnessed due to its unrivaled **resilience**.*

### 19. metabolism

*n.* the chemical reaction that occurs within the cells of a living organism

Virtually all species have biological clocks that regulate their **metabolism** over a 24-hour period.

## 20. crevice

*n.* a narrow crack

**fissure, cleft, cranny**

*Cactus range from the three-inch fishhook cactus nestled in a rock **crevice** to the towering Saguaro Cactus, which reaches heights of 30 to 40 feet.*

## 21. grid

*n.* a network of evenly spaced horizontal and vertical lines that can be superimposed on a chart

*On more modern GPSs used in vehicles, it even shows an animated car exactly where it is on a city **grid**.*

## 22. quicksand

*n.* wet sand that can suck down anything that lands or falls on it

*Although **quicksand** can be found all over the world, little was known about its composition until recently.*

## 23. dune

*n.* a ridge or hill, usually on a seashore or in a hot desert

*Sand **dunes** are made of loose sand built up by the action of the wind.*

## 24. geyser

n. a type of hot spring that intermittently spouts hot water and steam into the air

*Geysers have often been compared to volcanoes because they both emit hot liquids from below the Earth's surface.*

## 25. incandescent

adj. white-hot or glowing with intense heat

**glowing, flaming, flaring**

*Some geologists thought that the Earth's interior contained a highly compressed ball of **incandescent** gas.*

## 26. synchronize

1) v. to happen or make something happen in exact time with something else or each other

2) v. to set clocks and watches so that all show the same time

1) **coincide** 2) **coordinate, mate**

*The GPS receiver **synchronizes** its clock with that of the satellites' atomic clocks.*

## 27. basalt

n. a fine-grained dark volcanic rock formed by the solidification of molten lava

*The black obsidian cliffs of Yellowstone National Park are the result of a lava flow of **basalt** running head on into a glacier.*

## 28. stratum

n. a layer of sedimentary rock; a layer of the atmosphere or the ocean

**level, layer**

*The formation of snow begins with these ice crystals in the subfreezing **strata** of the middle*

*and upper atmosphere.*

### **29. weathering**

*n.* the action of weather on rocks making them change shape or color

**efflorescence, erosion**

*Weathering involves the interaction of the lithosphere with the atmosphere and hydrosphere.*

### **30. symmetrical**

*adj.* characterized by or exhibiting symmetry; proportionally balanced

**proportional, well-balanced**

*The elliptical galaxies have a **symmetrical** elliptical or spheroidal shape with an obvious structure.*

Chapter 14 **UNIT 56** Applied Sciences

**1. thaw**

v. to melt; to make snow or ice melt

**melt, deice, unfreeze**

*During the summer, the permafrost **thaws** enough so that plants are able to grow and reproduce.*

**2. crooked**

adj. bent or curved, angled, or twisted; not straight

**bowed, askew, distorted**

*Lombard Street in San Francisco, which zigzags its way up a steep hill, is known as the most **crooked** street in the world.*

**3. hoist**

v. to lift or heave something up, especially something heavy

**elevate, raise, uplift**

*During the construction of skyscrapers, cranes are used to **hoist** building materials to the upper floors.*

**4. opulent**

adj. having or showing great wealth

**affluent, wealthy, well-to-do**

*Many of the world's most **opulent** restaurants are located in luxury hotels.*



## 5. barge

n. a long and flat-bottomed boat used on rivers and canals

*Coal, grain, steel, and other products are often shipped by **barge** on inland waterways.*

## 6. peg

n. a little shaft of some wood shaped for any of various fixing

**pin, rod, bolt**

*Early carpenters, having no nails, had to use wooden **pegs** to secure their constructions.*

## 7. canal

n. an artificial channel or waterway

*It is said that George Washington was one of the first to realize how important the buildings of **canals** would be to the nation's development.*

## 8. vindicate

v. to prove that something is true or right; to clear someone of blame or criticism

**justify, support, exonerate**

*Carson's work was **vindicated** by a 1963 report of the President's Science Advisory Committee.*

## 9. roam

v. to ramble or wander with no fixed purpose or direction

**wander, range, rove**

*Millions of bison once **roamed** the plains of North America.*

## 10. pasture

*n.* an area of grasslands suitable or used for the grazing of livestock

**meadow, grassland, range**

*Overgrazing is a result of too much livestock being kept on a given area of **pasture**.*

## 11. pulverization cf. pulverize

*n.* the action of reducing to dust or powder

**grinding, shattering, crushing**

*The result of cattle grazing in an area is the reduction of the natural vegetation and the **pulverization** of the soil.*

## 12. enzyme

*n.* a specialized protein molecule that acts as a catalyst

*In fact the **enzyme** may cause a reaction to proceed billions of times faster than it would otherwise.*

## 13. stasis

*n.* a situation in which there is no change or development

**counterpoise, equilibrium, equipoise**

*Basil works together in conjunction with helpful predatory insects to create a state of **stasis** in which the levels of harmful pest damage are minimized without the use of any chemicals.*

## 14. mileage

*n.* the number of miles traveled or to be traveled

Tests have shown that the new diesel gets between 25% and 45% better **mileage** than gasoline.

### 15. tusk

*n.* one of a pair of long and projected teeth certain animals, like the elephant, have

*Mammoths were distinguished from today's elephants by their thick, shaggy coats and their huge, upward-curving **tusks**.*

### 16. camouflage

*n.* the way that the color or shape of something can make it difficult to see  
**cover, disguise, concealment**

*These snakes have **camouflage** patterns on them and can be very difficult to see.*

### 17. splice

*v.* to join two pieces of rope by weaving the strands of one into the other  
**knit, unite, bind**

*Another possible solution to the problem of overfishing is gene **splicing**, which can accelerate the reproduction of fish many times.*

### 18. arboretum

*n.* a botanical garden where trees and shrubs are grown

*In an **arboretum**, trees are cultivated for scientific and educational purposes.*

### 19. infrared

*n.* a wavelength between the red end of the visible spectrum and microwaves and radio waves

The greenhouse effect is a process by which the sun's **infrared** radiation is more readily absorbed by the atmosphere.

## 20. kingdom

*n.* a category in biological taxonomy; one of the five major groups into which all living things are organized

*Members of the animal **kingdom** have developed a variety of defense mechanisms for dealing with parasites.*

## 21. veterinarian

*n.* a person trained in the medical care and treatment of sick animals

*A dog should be checked regularly by a **veterinarian** to ensure that it remains in good health.*

## 22. slash and burn

*ph.* characterized by a system of agriculture in which trees are cut down and burned in order to make land available for crops

*This terrible loss of vegetation and farmland is due to the **slash and burn** agricultural practices used by the indigenous people.*

## 23. astigmatism

*n.* the inability of the eye to see properly because of its shape

*Symptoms of **astigmatism** are blurred vision and, in more extreme cases, headaches.*

## 24. dementia

*n.* a loss or severe lessening of normal mental ability

*Alzheimer disease is the most common form of **dementia**.*

## 25. hepatitis

*n. an inflammation of the liver caused by a viral infection*

*Early signs characteristic of the acute phase of viral **hepatitis** are abdominal pain, nausea, and fever often accompanied by chills.*

## 26. plasma

*n. the component of blood or lymph in which the blood cells are suspended*

*Blood is usually stored as whole blood or **plasma**.*

## 27. hypersomnia

*n. the condition of sleeping for excessive periods*

*Contrary to popular belief, many studies have shown that **hypersomnia** could actually be even more common than its nocturnal cousin, insomnia.*

## 28. ligament

*n. a band of tough connective tissue that holds two bones together at a joint*

**sinew, string**

*They are also the muscles that connect to tendons and **ligaments**, which connect them to our bones.*

## 29. anesthesia

*n. a reversible loss of sensation in all or part of the body*

## narcosis

*Frontier surgeon Ephraim MacDonald had to perform operations without **anesthesia**.*

### 30. pituitary gland

*ph.* a small and oval endocrine gland attached to the base of the vertebrate brain

*Endocrine is used to refer to glands like the thyroid and **pituitary glands**, which secrete products directly into the bloodstream.*

Chapter 15 UNIT 57 Humanities

**1. footage**

*n.* a clip from a film used in a TV program or a movie

*Scenes of factory interiors account for only about one third of the **footage** of Modern Times.*

**2. chisel**

*n.* a hand tool which has a strong metal blade with a cutting edge at the end of the blade, used for cutting into or shaping wood, stone, or something else

*Neoclassical sculptors seldom held a mallet or **chisel** in their own hands.*

**3. snide**

*adj.* expressing criticism or disapproval in an unpleasant manner

**scornful**

*Although many intellectuals make **snide** remarks about TV viewing, there are a number of “high-brow” shows.*

**4. intonation**

*n.* the rise and fall of the pitch of the voice in speech

**inflection, accent, tone**

*These differences in adult stress and **intonation** can influence babies’ emotional states and behavior.*

**5. vowel**

*adj.* pertaining to any of the human speech sounds in which the breath is let out without any closing of the air passage in the mouth or throat

*Most common are those words beginning with p, b, d, or n sounds followed by a **vowel** sound.*

## 6. stationary

*adj.* not moving; standing still

**fixed, immovable, static**

*As early as 1802, he was using a **stationary** steam engine of high-pressure design in his mill.*

## 7. surge

*v.* to move up and down or to swell with force

**wave, bulge, rise and fall**

*Most of the **surging** population growth came from a natural increase.*

## 8. salvage

*v.* to rescue property or a ship from potential destruction or loss

**save, rescue, retrieve**

*Even after a ship has sunk, its cargo can often be **salvaged**.*

## 9. hinterland

*n.* a region lying inland from the coast or the banks of a river

**interior, province**

*Philadelphia became an increasingly important marketing center for a vast and growing agricultural **hinterland**.*



## 10. semantics

n. the branch of linguistics that deals with the meanings of words

*One important branch of linguistics is **semantics**, which analyzes the meanings of words.*

## 11. utilitarian

adj. intended to be useful rather than beautiful

**functional, practical, useful**

*Pottery usually has **utilitarian** purposes, and sometimes it is designed purely for decorative reasons.*

## 12. derogatory

adj. showing disapproval, dislike, scorn, or a lack of respect

**depreciating, lowering, insulting**

*We used to call them Eskimos, but, today, that term is regarded by many Inuit as **derogatory**.*

## 13. polygamy

n. the custom of having more than one husband or wife

*Marriages were not always monogamous. Some men practiced **polygamy**.*

## 14. hieroglyphs

n. a symbol representing a word, syllable, sound, or idea

***Hieroglyphs** catered to religious rules and represented important concepts with stylized pictures.*

### 15. etch

v. to make designs on metal by using acid to eat out the lines

**engrave**

*The monument at Mount Rushmore is a giant sculpture of four United States presidents that is **etched** into the highest peak in the Black Hills mountain range.*

### 16. humanitarian

adj. concerned with improving people's lives and welfare

*She is remembered for her work in literature and also for her **humanitarian** work.*

### 17. evacuate

v. to leave a place, especially because of danger

**leave, vacate, decamp**

*The Bucks returned to China in the year 1927 only to be **evacuated** to Japan during the Chinese Civil War.*

### 18. hoard

v. to store or gather something especially for use in the future

**store, reserve, set aside**

*The famous miser Ebenezer Scrooge would **hoard** his money and never spend it.*

### 19. consort

v. to associate or keep company with someone

**mingle, mix, pal**

Some colonial urban portraitists **consorted** with affluent patrons.

## 20. gruff

adj. having a deep and rough voice

**hoarse, husky, rough**

Louis Daniel Armstrong is known for the beautiful, clear tone of his trumpet-playing and for his **gruff**, gravelly singing voice.

## 21. faction

n. an active or trouble-making group within a larger organization

**group, cabal, bloc**

Those who were pro-slavery joined the Democrats, and the anti-slavery **faction** switched to the Republicans, who were led by Abraham Lincoln.

## 22. morph

v. to form, shape, or structure

Their distinct styles reflected the social mentality of the era and its ability to **morph** and grow in a new direction.

## 23. fiddle

n. a violin, especially when used to play folk music or jazz

After work, the people of the frontier sang and danced to **fiddle** tunes or country dances.

## 24. prop

n. a small article, such as a weapon or piece of furniture, that is used on stage in the acting of

a play

*Provincial theaters frequently lacked heat and even minimal **props** and scenery.*

## 25. pretend

1) *adj.* imaginary

2) *v.* to make believe; to act as if

1) **imagined, fake** 2) **make believe, feign**

*In the experiment, the child was presented with a picture of some kind of **pretend** creature.*

## 26. lexicon

*n.* a dictionary; the vocabulary of terms used in a particular branch of knowledge  
**dictionary**

*Whether the term “couch potato” was first said in jest or not, it has stuck and is now a part of the **lexicon** of modern-day people.*

## 27. metaphysical

*adj.* belonging or relating to metaphysics

**abstract, psychic**

***Metaphysical** philosophy is concerned with the principles, structures, and meanings that underlie all observable reality.*

## 28. template

*n.* a piece of metal cut in a particular shape and used as a pattern when cutting out material  
**pattern, model**

*The Rainbow provided the **template** for a new generation of ships that amazed the world.*

**29. catalyze cf. catalyst**

v. to bring about a change in the rate of a chemical reaction; to alter significantly

*Mass transportation **catalyzed** physical expansion, it sorted out people and land uses, and it accelerated the inherent instability of urban life.*

**30. thermal**

adj. belonging or relating to, caused by, or producing heat

*Glass fibers were little more than a novelty until the 1930s, when their **thermal** and electrical insulating properties were appreciated.*

Chapter 15 **UNIT 58** Social Sciences

**1. premise**

*n.* a statement or idea assumed to be true as a basis for stating something further

**assumption, proposition, supposition**

*Keynes' **premise** was that the rate of economic growth depends on an aggregate demand for goods.*

**2. heyday**

*n.* the climax of the most success and prosperity

**golden age, best days**

*Clipper ships saw their **heyday** in the early to mid-1800s.*

**3. consensus**

*n.* a general agreement; the opinion of most of the people in a group

*The conference came to a **consensus**, overcoming a variety of challenges.*

**4. sweatshop**

*n.* a workshop in which the employees work hard, often in terrible conditions

*There were **sweatshops** in city tenements, where groups of men and women manufactured clothing or cigars.*

**5. depression**

1) *n.* a period of low business and industrial activity

2) *n.* a mental state of prolonged sadness and pessimism

1) **recession, slump** 2) **dejection, gloom**

*The Wall Street Crash of 1929 leads to years of economic **depression** in the United States.*

## 6. tariff

*n.* the tax to be paid on a particular class of goods imported or exported

*The federal government set up a system of **tariffs** that was basically protectionist.*

## 7. microcosm

*n.* any structure which contains, in miniature, all of the larger structure

*The settlement at Jamestown in Virginia was in many ways a **microcosm** of the economy of colonial North America.*

## 8. surplus

*n.* an amount that exceeds the amount required

**leftover, oversupply, excess**

*The administration raised the possibility that the slowing economy could drive the federal budget **surplus** down this year.*

## 9. embargo

*n.* an official order forbidding something, especially trade with another country

**ban, prohibition, proscription**

*The Nazi's **embargo** immediately affected the United States and many of its allies.*

## 10. laissez-faire

- 1) *adj.* with minimally restricted freedom in commerce
- 2) *n.* a policy of not interfering in what others are doing

*He reversed the traditional federal policy of **laissez-faire** and sought to bring order, social justice, and fair dealings to American industry and commerce.*

## 11. tenet

- n.* a principle or belief held by a person, group, or something else  
**creed, doctrine, dogma**

*Not all of the members accepted the church's **tenets**.*

## 12. pluralism

- n.* the belief or theory that reality consists of more than two kinds of substances

*Locke recommended a cultural **pluralism** through which artists could enrich the culture of America.*

## 13. decimal

- adj.* based on the number 10

*Canada adopted the **decimal** system of coinage in 1867.*

## 14. pseudo

- adj.* not actual but having the appearance of; false or spurious  
**quasi, sham, deceptive**

*According to the **pseudo**-science of racial classification, Africans were deemed inferior and unintelligent.*



### 15. **breadbasket**

*n.* an area which produces large amounts of grain for export

**rich grain district, granary**

*The regions around New York and Philadelphia became the **breadbasket** of North America.*

### 16. **genealogy**

*n.* the history of the members of a family from the past to the present; a person's direct line of descent from an ancestor

**pedigree, lineage**

*Today, individuals, driven by an urge to learn more about their family's history, often trace their personal lineages through online **genealogy** sites.*

### 17. **miscarriage**

*n.* a case of accidentally giving birth to a child too early for it to live

*Abortion exists in some animals as a natural phenomenon in the form of **miscarriages**.*

### 18. **commentary**

*n.* a spoken description of an event while it is happening, especially on the radio or television; a criticism or discussion of something

**comment, exposition, criticism**

*James Franklin was the first editor to see the newspaper as a means of expressing social and political **commentary**.*

### 19. **questionnaire**

*n.* a set of questions formulated as a means of collecting information

*One of the most important tools for research in social science is a well-written **questionnaire**.*

## 20. treaty

*n.* a formal agreement between states or governments

**agreement, compact, protocol**

*The defeated were forced to sign a **treaty** with their opponents.*

## 21. veto

1) *n.* the right to formally reject a proposal

2) *v.* to formally and authoritatively reject or forbid

1) **turndown, rejection** 2) **deny, proscribe**

*If it's not to the president's liking, the bill can be **vetoed** or killed in two other ways.*

## 22. bracket

*n.* a group or category fixed according to certain upper and lower limits

**class, group, rank**

*Unfortunately, such options are not available to all, especially those in a lower income **bracket**.*

## 23. egalitarian

*adj.* relating to the principle that all human beings are equal

*Olmstead's concept was to make the park a symbol of democracy and **egalitarian** ideals.*

## 24. cognition

*n.* the mental processes which enable humans to experience and process knowledge and information

*What psychologists call **cognition** is a general category that includes all mental states and activities.*

## 25. ethology

*n.* the study of animal behavior with an emphasis on their behavioral patterns

***Ethology** began to be applied to research on children in the 1960s but has become even more influential today.*

## 26. paranoia

*n.* a rare mental disorder characterized by delusions of persecution by others

*The memories of the terrible events were so powerful that they suffered from insomnia, **paranoia**, and other dramatic side effects.*

## 27. traumatic

*adj.* relating to, resulting from, or causing physical wounds; of an experience deeply and unforgettably shocking

*Anyone who has been in a car accident, been robbed, or been in any kind of **traumatic** event can suffer from post-traumatic stress disorder.*

## 28. supersede

*v.* to take the place of something

**displace, replace, supplant**

Plastic and fiberglass have **superseded** metal in the replacement of such body parts as eyeballs, teeth, and bones.

### 29. hub

*n.* the center of a wheel; the center of activity or importance

**center, core, pivot**

*Phoenix is the ninth largest city in the United States and is the **hub** of the rich agricultural region of the Salt River Valley.*

### 30. anarchy

*n.* lawlessness and social and political disorder caused by absence of government or control; any state of disorder and confusion

*The Dadaists' answer was to embrace **anarchy** and the irrational.*

Chapter 15 **UNIT 59** Natural Sciences

**1. tilt**

*n.* a sloping position or angle; a slant

**incline, pitch, slope**

*Earth's **tilt**, which gives us the seasons, is probably due to the impact of a large object at its birth.*

**2. nebula**

*n.* a mass of gas and dust among the stars, appearing often as a bright cloud at night

*Jupiter is the best-preserved sample of the early solar **nebula**.*

**3. tug**

1) *v.* to pull sharply or strongly

2) *n.* a strong, sharp and sudden pull

1) **draw, haul** 2) **drag, yank**

*Tides are caused by the **tug** of the moon's gravity.*

**4. elliptical**

*adj.* relating to, or having the shape of, an ellipse; rounded like an egg

**oval**

*The satellite is following an **elliptical** path 680 miles from the Earth at its farthest point.*

**5. plasma**

*n.* a gas that has a nearly equal number of positively and negatively charged particles

*The gas is stripped of its electrons by heat, and each atom thereby acquires a positive electric charge. In this form, the gas is called “**plasma.**”*

## 6. diffraction

*n.* the spreading out of light waves as they emerge from a small opening or slit

*Two young scientists boldly published the results of their experiments on the **diffraction** of light.*

## 7. spell

*n.* a period or bout of illness, work, weather, or something else

**interval, period**

*High-pressure cells may bring brief warm **spells** even in the middle of winter.*

## 8. imprinting

*n.* the process by which animals rapidly learn the characters of their own species

*Like all migratory birds, they have a natural instinct called **imprinting**, which means they will follow and trust the first object they open their eyes to.*

## 9. gill

*n.* a respiratory organ of a fish that extracts dissolved oxygen from the surrounding water

**branchia**

*Menhaden swim with their mouths open, allowing water to flow through their **gills**.*

## 10. herbarium

*n.* a classified collection of preserved plants in a room

*Unfortunately, no book described the weed, and no samples existed in any **herbaria** in the United States.*

## 11. biodiversity

*n.* the existence of different species of living organisms within a given area

*One definitive characteristic of tundra is a very low level of **biodiversity**.*

## 12. pathological

*adj.* of or pertaining to pathology; caused by or involving disease

**morbid**

*Some researchers have argued that some left-handedness may have a **pathological** origin, having been caused by brain trauma during birth.*

## 13. vertebrate

*n.* any animal that has a backbone

*The first flying **vertebrates** were true reptiles which had one of the fingers from their front limbs become very elongated.*

## 14. invertebrate

*n.* any animal that does not possess a backbone

*Some marine **invertebrates** migrate from deep water to shallow water to spawn during spring and early summer.*

**15. metamorphosis cf. metamorphose**

*n.* a change in physical form that occurs during the development process; a complete change  
**transformation, change**

*Butterflies undergo **metamorphosis** changing from caterpillar to pupa.*

**16. superficial**

*adj.* apparent rather than actual or substantial  
**external, shallow**

*There was only a **superficial** resemblance between the two creatures.*

**17. avalanche**

*n.* the rapid movement of a large mass of snow down a mountain slope  
**snowslide**

*Occurring predominantly in mountainous areas, **avalanches** are triggered by earthquake tremors, human disturbances, or excessive rainfall.*

**18. estuary**

*n.* the broad mouth of a river that flows into the sea

*Other deltas do not appear to be deltas at all but are more like **estuaries** because the strength of the tides and waves is so strong in those areas.*

**19. longitude**

*n.* the imaginary circles that pass through both poles measured from Greenwich

*Lines of **longitude** run from the North to South poles.*



## 20. coma

*n.* the envelope of gas which forms around the nucleus of a comet

*The visible **coma** is a huge cloud of gas and dust that has escaped from the nucleus.*

## 21. reclamation

*n.* the conversion of wasteland to commercial use

**recovery**

***Reclamation** is the successful attempt to make unusable land suitable for farming.*

## 22. congregate

*v.* to gather together into a crowd

**assemble, collect, cluster**

*Like stars, galaxies tend to **congregate** in clusters.*

## 23. granite

*n.* a hard and coarse-grained igneous rock widely used in buildings and roads

***Granite** is a coarse-grained igneous rock whose individual mineral crystals have formed to a size easily seen by the naked eye.*

## 24. lava

*n.* the magma that has erupted from a volcano; a rock in a very hot liquid state flowing from a volcano

*In its molten state, the material is called magma when it pushes into the crust and **lava** when it*

*runs out onto the surface.*

## 25. asteroid

*n.* a small rocky object or a celestial body orbiting a star

*Our solar system has 240 moons, or natural satellites, that circumnavigate the planets and **asteroids**.*

## 26. bulge

*v.* to swell outwards

**swell, protrude, stick out**

*A planet's rotation generally causes a slight flattening at the poles and **bulging** at the equator.*

## 27. scrap

1) *v.* to discard or cease to use

2) *n.* a small piece

1) **abandon, discard** 2) **piece, fragment**

*Denver's plan to build a subway system was **scrapped** in the 1970s.*

## 28. tectonics

*n.* the study of continental drift and how mountains and volcanoes form

*With an understanding of plate **tectonics**, geologists have put together a new history of the Earth's surface.*

## 29. latitude

*n.* the imaginary circles drawn around the Earth parallel to the equator

**Latitude** lines start at zero degrees at the equator and then run north to the North Pole.

### 30. stark

*adj.* barren or severely bare; harsh or simple

**vacant, severe, desolate**

*Mars is an inhospitable planet, more similar to Earth's moon than to Earth itself – a dry, stark, seemingly lifeless world.*

Chapter 15 **UNIT 60** Applied Sciences

**1. vicinity**

*n.* an area very near to or around a stated place

**neighborhood, environs, locale**

*A metropolitan area consists of a central city and any suburban areas in its **vicinity**.*

**2. feasibility cf. feasible**

*n.* the capability of being done or achieved

**practicability, workability, viability**

*The canal was never completed, but it showed the nation the **feasibility** of canals.*

**3. arch**

*n.* a curved and both-side supported structure forming an opening of a roof, post, or pillar

*The committee appointed by the mayor will undertake the erection of a memorial **arch** in honor of the soldiers who died in the war.*

**4. divergence**

*n.* the act of moving away in a different direction from a common point; a difference between two or more things

**separation, division, difference**

*Most domestic architecture during the first three-quarters of the eighteenth century displays a wide **divergence** of tastes.*

## 5. topography

*n.* the science of describing the character of an area; the natural and constructed features on the surface of land

### **terrain**

*He and his brothers believed that parks should be adapted to the local **topography**.*

## 6. order

*n.* the groups into which a class is divided and subdivided into more families

*Scientists cannot agree on how fleas are related to other **orders** of insects.*

## 7. environmentally-kind

*adj.* suitable to the surroundings; harmonizing with the circumstances

### **eco-friendly, nature friendly, green**

*There is a number of what we call green fuels, more **environmentally-kind** fuels, on the market right now.*

## 8. adrenal

*adj.* pertaining to the adrenal glands; relating to the kidneys

### **suprarenal**

*The **adrenal** glands, one on top of each kidney, secrete many important hormones.*

## 9. cardiac

*adj.* relating to or affecting the heart

*As the name implies, **cardiac** muscle is the tissue that surrounds the heart and allows it to pump blood throughout our bodies.*

## 10. inflammation

*n.* the presence of redness and swelling from an infection

*Encephalitis is an **inflammation** of the brain that can be caused by rabies.*

## 11. hyperopia

*n.* a condition in which distant objects are seen more distinctly than near ones

**farsightedness**

*As they grow and develop, sometimes the shape of the eye does as well, thereby alleviating the **hyperopia**.*

## 12. narcolepsy

*n.* a condition marked by sudden episodes of irresistible sleepiness

*Scientists believe that **narcolepsy** is a genetic disorder passed down through generations.*

## 13. antidepressant

*n.* a drug that prevents or relieves the symptoms of depression

*Seven out of ten practicing health care professionals in Alaska prescribe **antidepressants** to their patients.*

## 14. neutron

*n.* one of the electrically uncharged particles in the nucleus of an atom

*The **neutron** is neutral, meaning it has no charge.*

## 15. photosynthesis

*n.* the process of manufacturing carbohydrates from carbon dioxide and water by using light

*During the process of **photosynthesis** in green plants, light energy is captured and used.*

## 16. genetics

*n.* the scientific study of heredity and of its mechanisms

*Our body types are usually fixed by heredity, that is, **genetics**.*

## 17. antioxidant

*n.* a substance that slows down the oxidation of other substances

*One excellent example of an herbal remedy is mushroom tea, which is an excellent **antioxidant**.*

## 18. asthma

*n.* a long-lasting disease which causes difficulty in breathing

**chronic respiratory disease**

*Hot, humid weather can make an **asthma** sufferer's condition much worse.*

## 19. chromosome

*n.* the microscopic thread-like structures of a cell which contain all the genetic information

*Almost all the hereditary material of an individual organism resides in the **chromosomes**.*

## 20. endocrine

*adj.* relating to internal secretions or to a pathway or structure that secretes internally

*The **endocrine** system functions in close relationship with the nervous system.*

## 21. cornea

*n.* the convex transparent membrane that covers the front of the eyeball

*The **cornea** protects the internal workings of the eye from things like foreign debris.*

## 22. lens

*n.* a piece of round and transparent flesh behind the pupil in the eye

*The **lens** focuses the image before it moves inwardly onto the retina.*

## 23. myopia

*n.* a condition in which distant objects appear blurry

**shortsightedness**

*People with **myopia** have difficulty seeing objects far away but can see things up close very easily.*

## 24. measles

*n.* a highly infectious disease characterized by fever, a sore throat, and a blotchy red rash

**rubeola**

*Among the symptoms of **measles** are a high fever, the swelling glands and a cough.*

## 25. polio

*n.* a viral disease of the brain and spinal cord which can result in paralysis



## poliomyelitis

The **polio** vaccine was discovered by a physician named Jonas Salk.

## 26. receptor

*n.* an element of the nervous system adapted for reception of stimuli

*These are genes that are associated with particular nerve-cell **receptors** in the brain.*

## 27. kidney

*n.* an organ whose function is the removal of waste products from the blood

*The **kidneys** play a vital role in maintaining health by removing impurities from the bloodstream.*

## 28. pancreas

*n.* an organ that is situated behind the stomach and which produces insulin

*The hormone secretin travels through the bloodstream and stimulates the **pancreas** to liberate digestive fluid.*

## 29. isotope

*n.* one of two or more atoms with the same atomic number but with different numbers of neutrons

*Carbon can have **isotopes** like carbon-12, carbon-13, and carbon-14.*

## 30. proton

*n.* the positively charged particles that are found at the center of an atom

The number of **protons** in the nucleus of an atom varies from element to element.