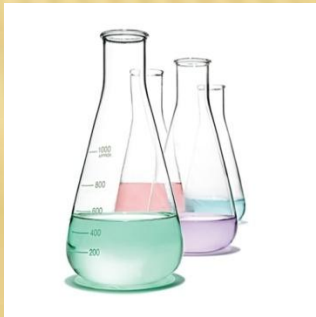
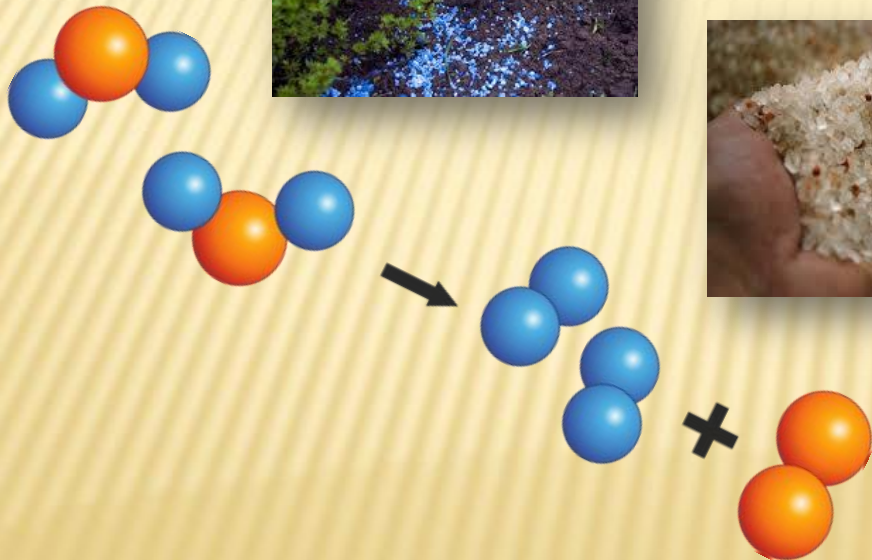


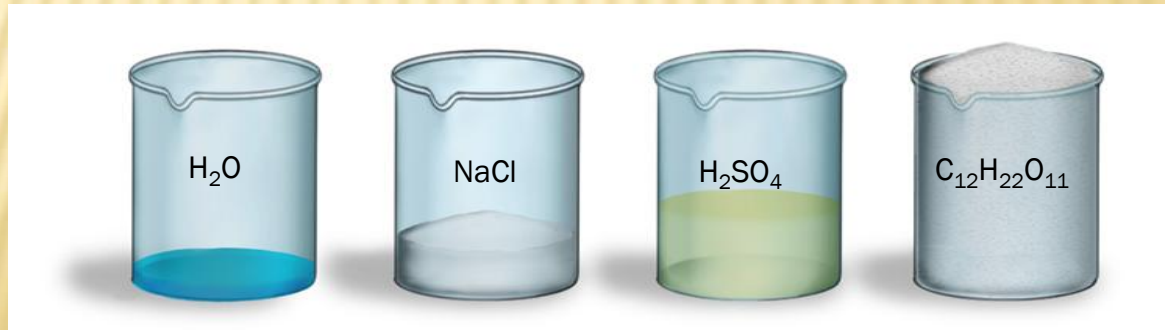


Кимёвий боғланиш ва унинг турлари



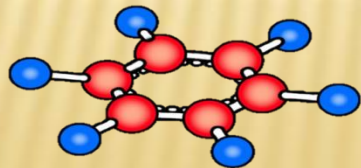
MAVZUNING DOLZARBLIGI.

- Mamlakatimizda ta'lim-tarbiya tizimini tubdan isloh qilish, uni zamon talablari darajasiga ko'tarish, kelajak uchun barkamol avlodni tarbiyalash ishlari Davlat siyosatining ustivor yo'nalishiga aylandi.
- O'zbekistonda olib borilayotgan islohotlardan asosiy maqsad, yurtimizda sog'lom va barkamol, bilimli, yuksak ma'naviy-ahloqiy fazilatlarga ega bo'lgan avlodni shakllantirishdan iborat. Aynan ana shu maqsadga erishish uchun muhtaram Prezidentimiz I.A. Karimov rahnamoligida yangi davrda yashaydigan, yangicha fikrlaydigan, yangi ishlab chiqarish, ijtimoiy sharoitlarda faoliyat ko'rsatadigan, zamonaviy kasbiy mahoratga ega bo'lgan mutahassis kadrlar tayyorlashning "O'zbek modeli" hayotga tadbiiq etilmoqda.



MAVZUNING MAQSADI.

- Kimyoviy bog‘lanish va uning turlariga doir bitiruv loyiha ishimizning asosiy maqsadi, kimyoviy bog‘lanish mavzusi yuzasidan o‘quv moduli ishlanmasini shakllantirish, o‘qitishni takomillashtirish bo‘yicha xulosa va tavsiyalar ishlab chiqarishdan iborat.
- Talabalarda kimyoviy bog‘lanish, ularning turlari, farqi va elektromanfiylik tushunchalari, xossalari hamda ular asosidagi kimyoviy o‘zgarishlarni tushuntirish asosiy maqsadlardan biri hisoblanadi.

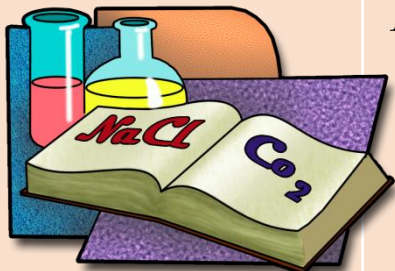
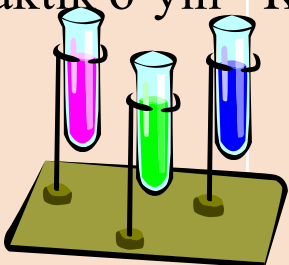





MAVZUNING AMALIY AHAMIYATI

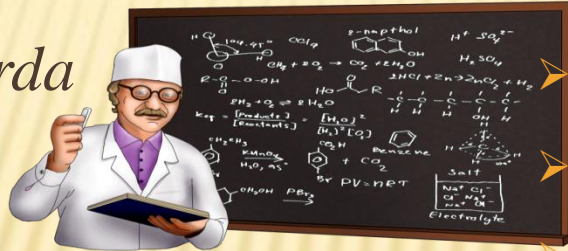
Shu bilan belgilanadiki, tadqiqot natijasida olingan xulosalar “Kimyoviy bog‘lanish” mavzusi bo‘yicha tashkiliy xarakterga ega bo‘lgan tavsiyalarni ishlab chiqish orqali oliy ta’lim muassasalarida noorganik kimyo fanining kimyoviy bog‘lanish mavzusini o‘qitishda va takomillashtirishda foydalanish mumkin.

AN'ANAVIY (MANBASIGA KO'RA) TA'LIM METODLARI TASNIFI

Og'zaki	Ko'rgazmali	Amaliy	Kitob bilan ishlash	Videometod
Hikoya Suhbat Tushuntirish Ma'ruza Munozara	Illyustratsiya Demonstratsiya 	Mashq Amaliy Laboratoriya Didaktik o'yin 	O'qish O'rganish Reja tuzish Konspekt qilish	Ko'rish, O'rganish, Nazorat qilish 

INTERAKTIV O'QITISH TEXNOLOGIYALARI:

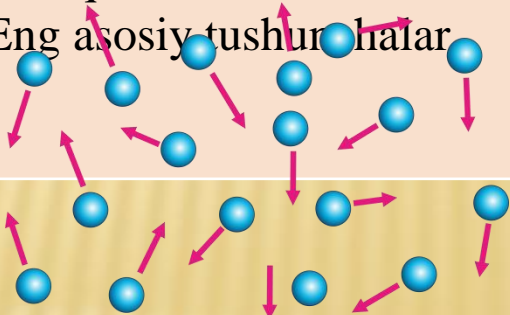
- *Ma'lumotli ma'ruza.*
- *Ko'rgazmali ma'ruza.*
- *Karusel.*
- *Kichik guruhlarda ishlash.*
- *Akvarium.*
- *Tugallanmagan so'zlar.*
- *Aqliy xujum.*
- *Echimlar daraxti.*
- *Binarli ma'ruza.*
- *Anjumanli ma'ruza.*
- *Ishbilarmonlik o'yinlari.*
- *Rolli o'yinlar.*
- *Matbuot anjumani.*
- *O'z pozitsiyasini egallash.*
- *Diskussiya va debatlar.*



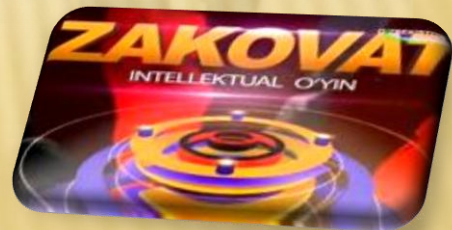
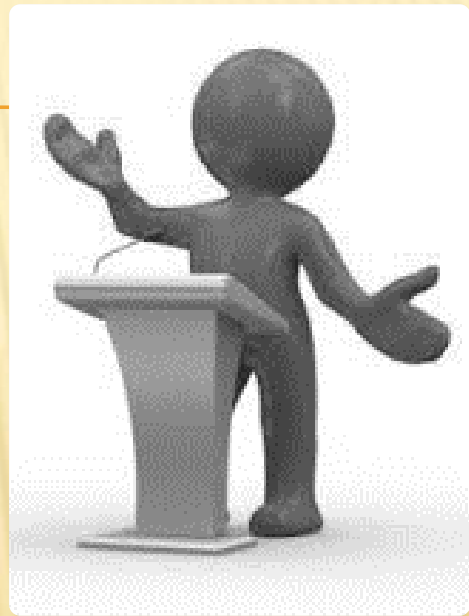


ИНТЕРФАОЛ МЕТОДЛАР

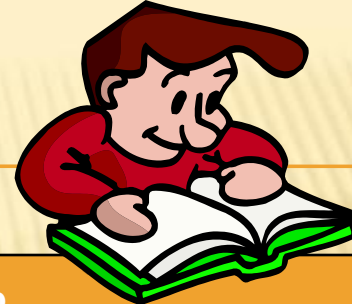


O'rganilayotganlarini o'zlashtirishga da'vat qilish metodlari	Yangi materialni anglash metodlari	O'rganilganlarini fikrlashga imkon beruvchi metodlar
<p>Erkin yozish. Klaster. Aqliy hujum. B-B-B chizmasi. CHalkashtirilgan mantiqiy zanjirlar ketma-ketligi. Semantik xususiyatlar tahlili.</p>	<p>Semantik xususiyatlar tahlili. B-B-B chizmasi. O'qitish bo'yicha qo'llanma. Bir-biriga o'rgatish. Bir-biridan so'rash. Ikki qismli kundaliklar. Eng asosiy tushunchalar</p> 	<p>Eng asosiy tushunchalar, takrorlash. T-chizma. Konseptual jadval. Venn diagrammasi. Nilufar guli. Besh minutlik esse. O'n minutlik esse.</p>





BLITS-SO'ROV SAVOL VA JAVOBLARI


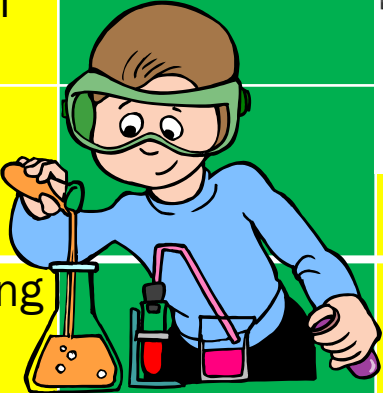


№	Savol	Javob
1.	Kovalent bog'lanish hosil qilish usullari	<ol style="list-style-type: none">1. Atomning tinch holatdagi toq elektronlari hisobiga.2. Atomlarning juft elektronlarini qo'zg'algan holatga o'tishi hisobiga.3. Donor akseptor bog'lanish hisobiga.
2	Kovalent bog'larning hosil bolishi	<ol style="list-style-type: none">1. qo'zg'alman atomdagi juftlashmagan elektronlar;2. qo'zgalgan atomdagi elektronlar juftining yakkalanishi;3. donor-akseptor usulida hosil bo'lishi mumkin.
3	Kovalent bog'ning yo'nalganligi.	Elektron bulutlarning shakli har xil bo'lgani uchun ularning bir-birini qoplashi ham har xil usullarda bo'ladi. Elektron bulutlarning qoplanishi va simmetriyasiga qarab bog'lar - σ (s-s), π (p-p) va Δ (d-d) bog'larga bo'linadi.



O'QUV JARAYONIDA QOLANILADIGAN INNOVATSION TEXNOLOGIYALAR.

B.B.B. texnologiyasi asosida muammolarni taxlil qilish.

No	Savollar	Bilaman	Bilishni xoxlayman	Bilib oldim
1	2	3	4	5
1.	Quyidagi molekullarning fazoviy konfiguratsiyalari shaklini ifodalang: BeH_2 , BF_3 , SiH_4 , PCl_5 , SF_6 . Ularda valent orbitallarning gibritlanish turini ko'rsating.	+		+
2.	Kovalent bog'lanish nima?			+
3.	.Valent orbitallarning gibridlanishi nima?		+	+

KONSEPTUAL JADVAL



Tavsiflar,

Toifalar,

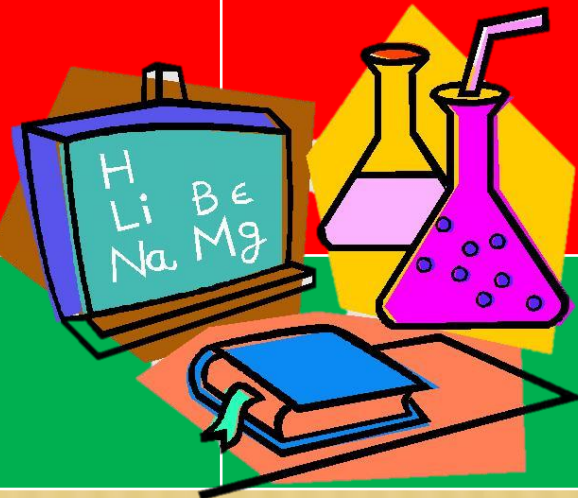
Ajralib
turadigan
belgilar.

O'hashligi.

**Kovalent
bog'lanishga xos
xossalar**



**Ion bog'lanishga xos
xossalar**





Estofeta



1. Guruh

Na, O, Fe(II), P(V) :
Mn₂O₇, CO, HNO₃, Al(OH)₃



2. Guruh

K, Zn, Cu(II), N(III),:
CaO, H₂S, NaOH, K₂CO₃



3. Guruh

Hg(I), S (II), Cl (V), As(III):
BaO, H₂SO₄, Ca(OH)₂, Na₂CO₃



TESKOR SAVOL-JAVOB

MENDAN SAVOL



BIZDAN JAVOB



“MUAMMOLI VAZIYAT” JADVALINING KO‘RINISHI

Muammoli vaziyat	Muammoli vaziyatning kelib chiqish sabablari	Vaziyatdan chiqib ketish harakatlari
<p>Gibridlanish nazariyasi</p>  <p>The illustration shows a teacher with a beard and glasses, wearing a white shirt and red trousers, pointing with a stick at a chalkboard. The chalkboard contains several mathematical formulas, including $1000 \cdot 6 \cdot 9 \cdot 16 \cdot 100^2 \cdot (2 \cdot 10^{11})$, $86 \cdot 1000 \cdot 28 \cdot 10^7 \cdot 1000$, and $1000 \cdot 1000 \cdot 1000 \cdot 1000$.</p>	<p>Atomlar orasidagi bog‘lanish odatda har xil energetik holatlarda bo‘lgan elektronlar orasida yuzaga keladi. Atom orbitallarning o‘rniga hosil bo‘lgan gibrid orbitallar molekula hosil qilishini sababini tushuntiring.</p>  <p>The illustration depicts a glass flask containing a yellow liquid with a stopper, placed next to an open book. The book's pages show chemical structures, including a benzene ring and a molecular diagram.</p>	<p>Valent orbitallarning gibridlanish nazariyasi 1934-yilda J.Slater va L. Poling tomonidan ishlab chiqilgan. Bu nazariyaga ko‘ra kimyoviy bog‘ aralash yoki gibrid orbitallar hisobiga amalga oshadi. Gibridlanish jarayonida orbitallarning energiyasi va shakli o‘zgaradi. Gibrid orbitallarning qoplanishidagi yuza alohida olingan orbitallardan ko‘ra ko‘proq bo‘ladi. Gibridlanish jarayonida dastlabki atom orbitallarning soni o‘zgarmay qoladi.</p>

“T - SXEMA” JADVALI.



M.O. nazariyasi

Yutug'i

Valent bog'lanishlar usulidan molekular orbitallar usuli bir qancha afzalliklarga ega:

- -bu usul har qanday yadrolar sistemasi va elektronlar barqarorligini tushuntira oladi;
- molekular orbitallar usuli molekularlarning va kompleks birikmalarning magnit va optik xossalarni to'g'ri tushunturadi;
- molekuladagi har bir elektronning holatini baholash imkoniyatini beradi.

Kamchiligi

- ba'zi moddalarda elektron juftlar yordamisiz bog'lanish yuzaga kelib chiqadi. Masalan, XIX asrning oxirida Tomson molekular vodorod ionini vodorod (H_2^+)molekulasini elektronlar bilan bombardimon qilib oldi. Bunga asoslanib 2 yadro bir-biri bilan birgina elektron yordamida bog'lana oladi degan xulosa kelib chiqadi.
- tarkibida toq elektronlar bo'lgan moddalargina magnitga tortiladi. Kislorodni valent bog'lanishlar usuliga asoslanib unda toq elektronlar borligini ko'rsata olmaymiz. Lekin kislorod qattiq holda magnitga tortiladi. Buni valent bog'lanishlar usuli tushuntirib bera olmaydi.
- erkin radikallar tarkibida ham juftlashmagan elektronlar bo'ladi.
- benzolga o'xshash aromatik uglevodorodlarning tuzilishini valent bog'lanishlar tushuntirib bera olmaydi.
molekula hosil bo'lishida toq elektronlarning rolini ko'rsatadigan nazariya

MAVZUGA OID KEYSLAR



• 1 - GURUH

Kimyoviy bog‘lanish turlarini sinflashda qaysi olimlarning hissasi katta?

Keys topshiriqlari:

Bilgan olimlaringizni ishlarini harakterlang. Ular kimyoviy bog‘lanish turlarini necha sinfga ajratganlar? Jadval tuzing.

Kovalent bog‘lanish va ionli bog‘lanishni tushuntiring? Ular o‘rtasidagi farqni aniq misollar va reaksiya tenglamalari bilan izohlang.

Keys topshiriqlari:

Kovalent bog‘lanish necha sinfga bo‘linadi? Tegishli misollar keltiring. Jadval tuzing.



• 3 - GURUH

Donor – akseptor bog‘lanishni tushuntiring. Kompleks bog‘lanishni xosil qiluvchi birikmalarga misollar keltiring?

Keys topshiriqlari:

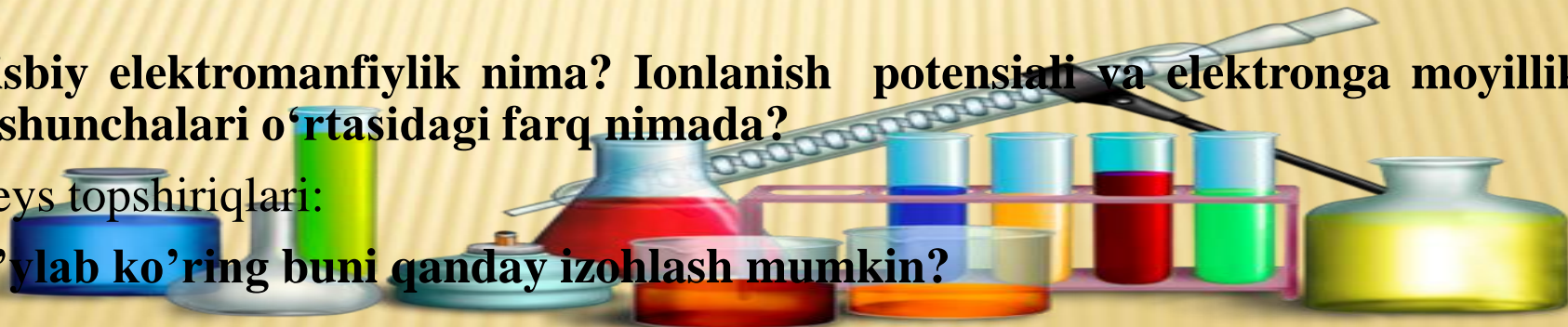
**Kompleks birikmalar hosil qilishdagi kimyoviy bog‘lanishni izohlang
Fikringizni yozma esse tarzida bayon eting.**

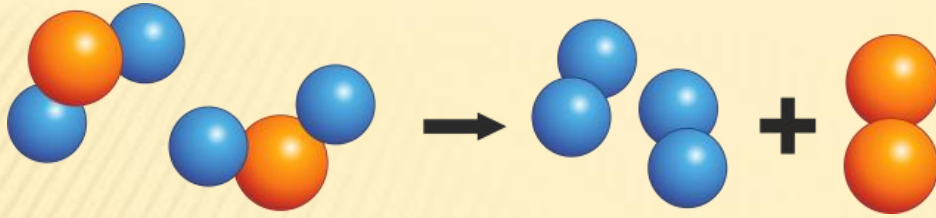
• 4 - GURUH

Nisbiy elektromanfiylik nima? Ionlanish potentsiali va elektronga moyillik tushunchalari o‘rtasidagi farq nimada?

Keys topshiriqlari:

O‘ylab ko‘ring buni qanday izohlash mumkin?

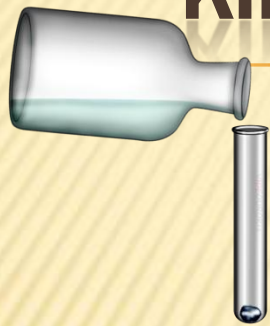




ҚУТБСИЗ КОВАЛЕНТ БОҒЛАНИШ



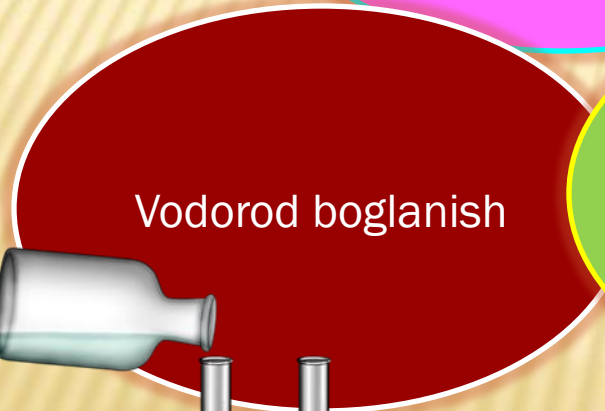
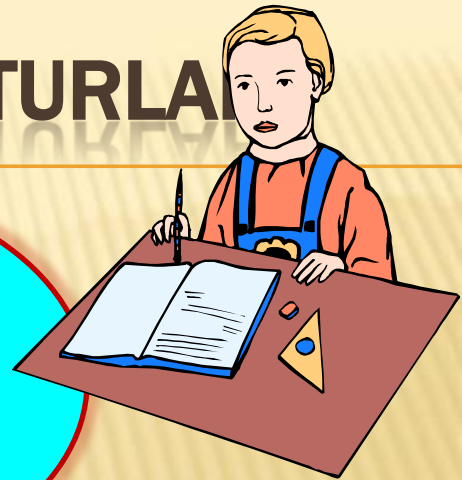
KIMYOVIIY BOG'LANISH VA UNING TURLARI



Kovalent boglanish



Ion bog'lanish



Vodorod boglanish



Metal bog'lanish

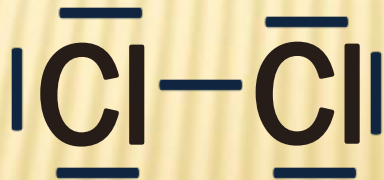
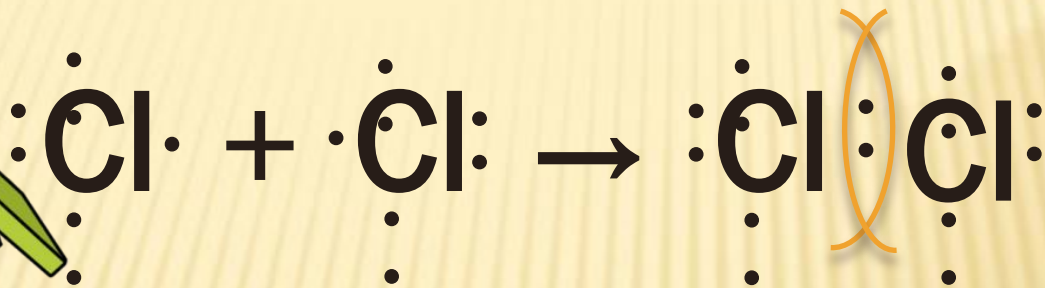
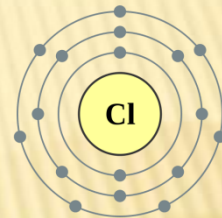


Donor-aktseptor bog'lanish

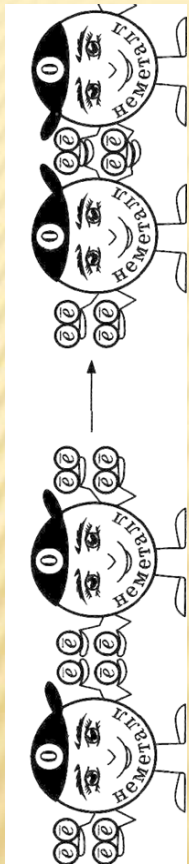


N_2, O_2, Cl_2, H_2

VII A группа



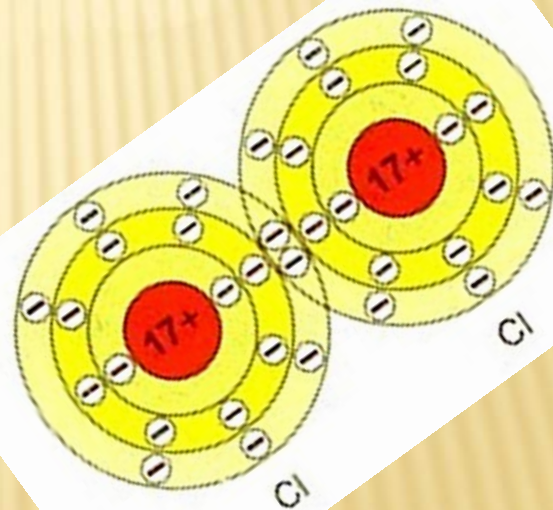
Ковалент ёки атом боғланиш – бу атомларни умумий электронлар жуфти воситасида боғланиши



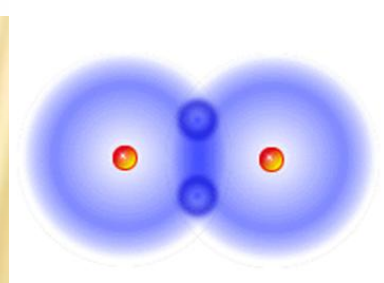
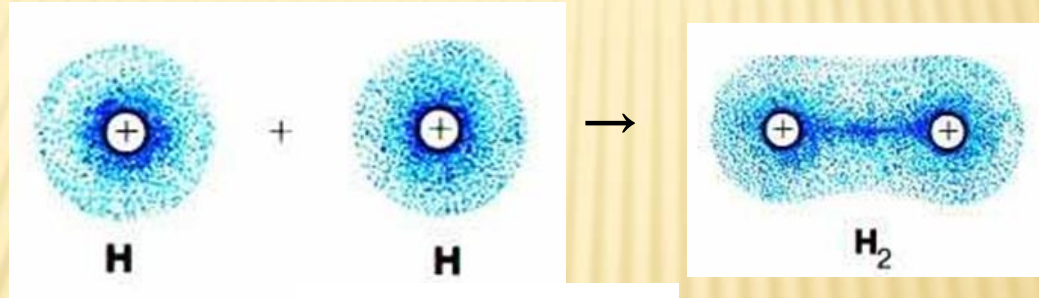
Металмасларнинг атомлари

Умумий жуфт электронлар ҳар иккала атомларга бир хил тегишли

Кутибсиз ковалент боғланиш



I A группа

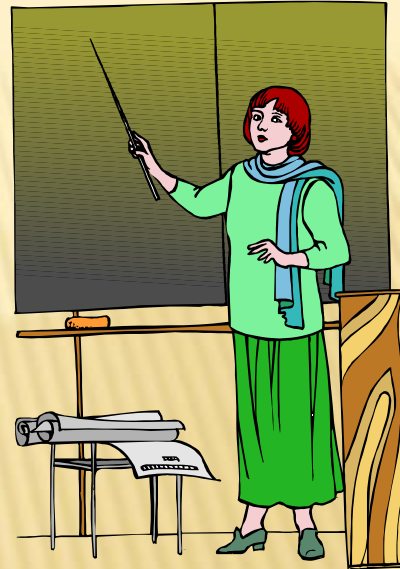
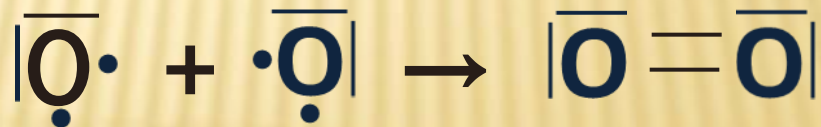
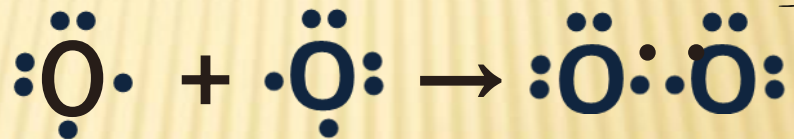




O → **VI A группа**

8 - N

N – группа номери



Боғ узунлиги



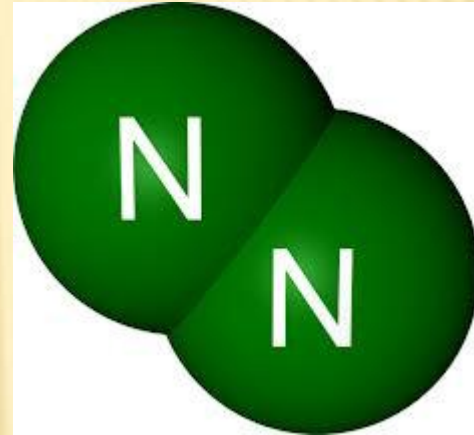
Кўшбоғ



Оддий боғ



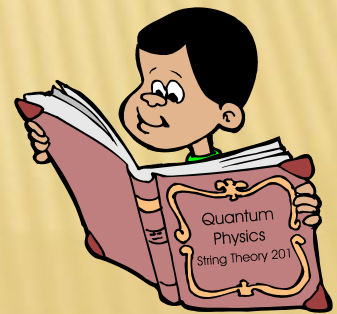
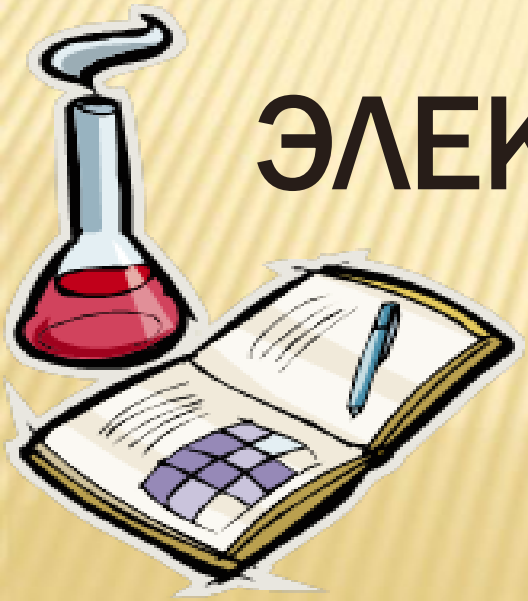
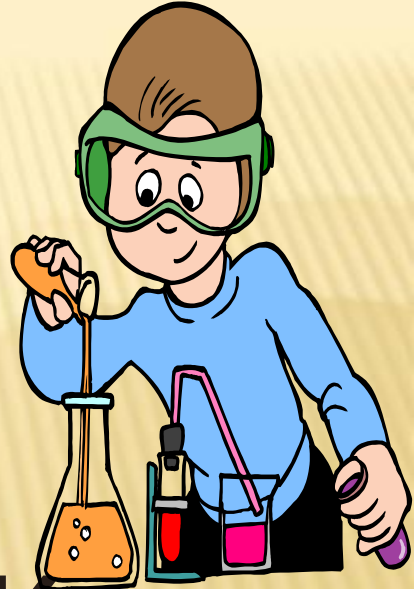
Уч боғ



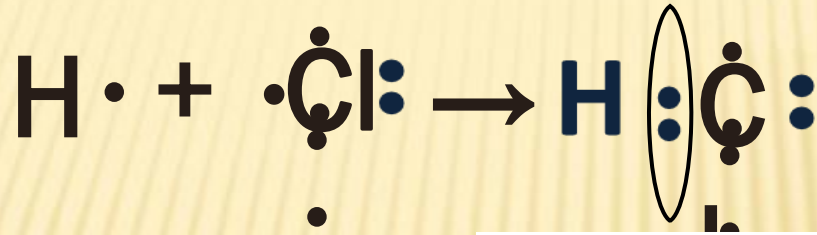
Боғ узунлиги — атом ядролари ўртасидаги масофа



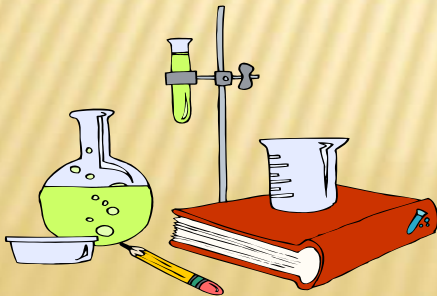
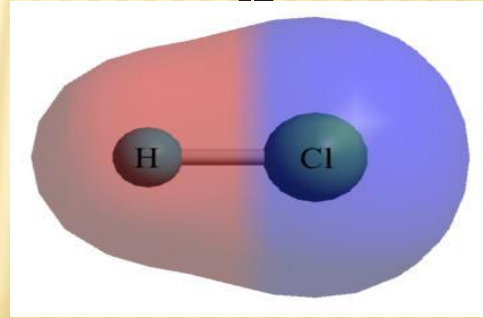
ҚУТБЛИ КОВАЛЕНТ БОҒЛАНИШ, ЭЛЕКТРОМАНФИЙЛИК



HCl – турли металмасларнинг атомлари

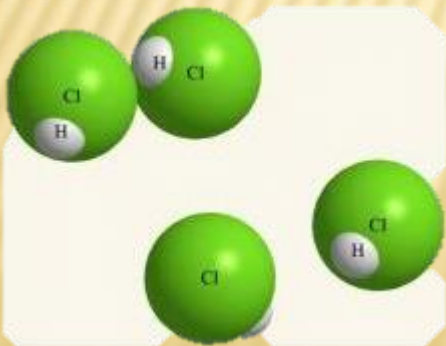


H - Cl



Шкала электроотрицательности элементов (Л. Полинг)

	I	II	III	IV	V	VI	VII
1	H 2,1						
2	Li 1,0	Be 1,5	B 2,0	C 2,5	N 3,0	O 3,5	F 4,0
3	Na 0,9	Mg 1,2	Al 1,5	Si 1,8	P 2,1	S 2,5	Cl 3,0
4	K 0,8	Относительная электроотрицательность подчиняется периодическому закону: в периоде она растет с увеличением номера элемента, в группе - уменьшается.					Br 2,8
5	Rb 0,8						I 2,5

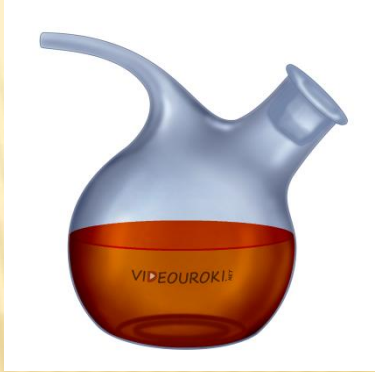


Электроманфийлик – атомни бирикмада ўзига электронни тортиш хоссаси, у атомни ионланиш энергияси билан электронга мойиллиги йиғиндисига тенг



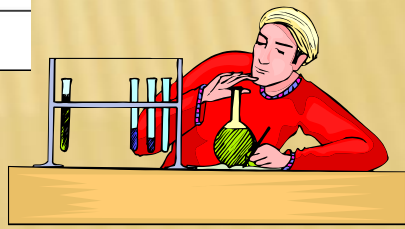


НЭМ ортади

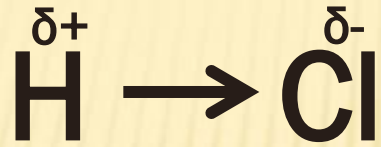


НЭМ камади

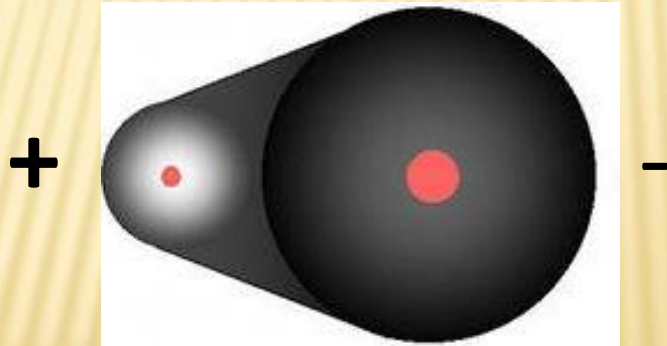
группа	I	II	III	IV	V	VI	VII	VIII			
период											
1	1 H							(H)	2 He		
2	3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne			
3	11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar			
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	
	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr			
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	
	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe			
6	55 Cs	56 Ba	57 La	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	
	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn			
7	87 Fr	88 Ra	89 Ac	104 Rf	105 Db	106 Sg	107 Bh	108 Hn	109 Mt		

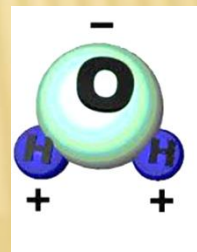
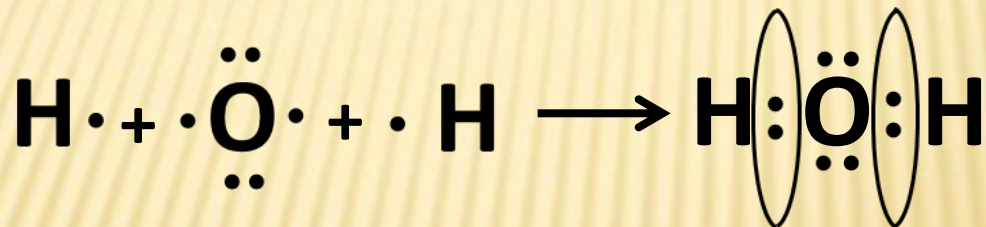
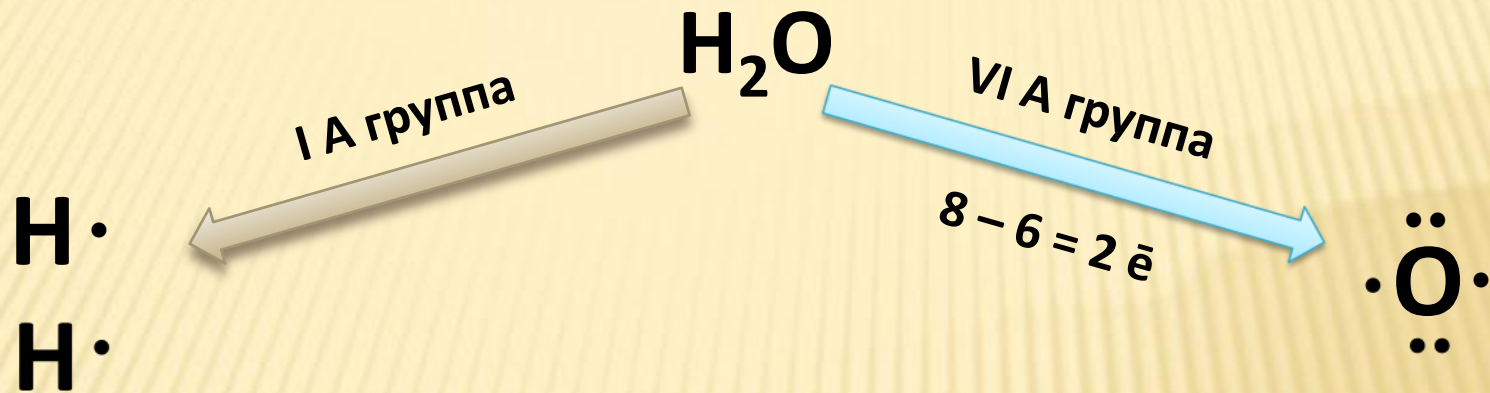


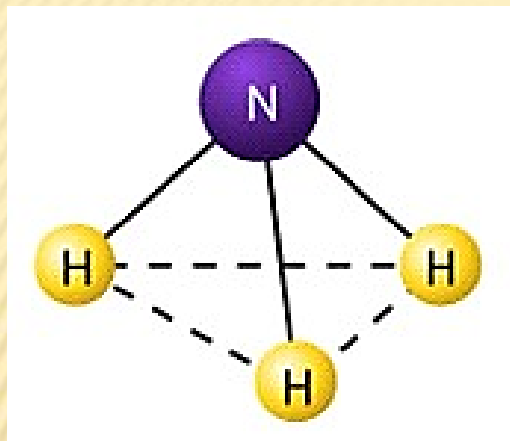
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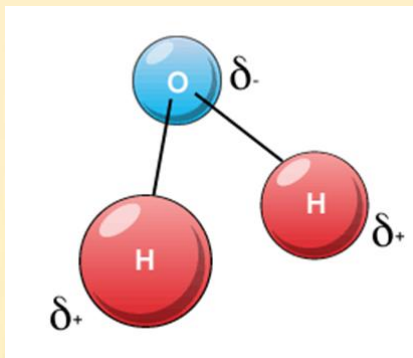
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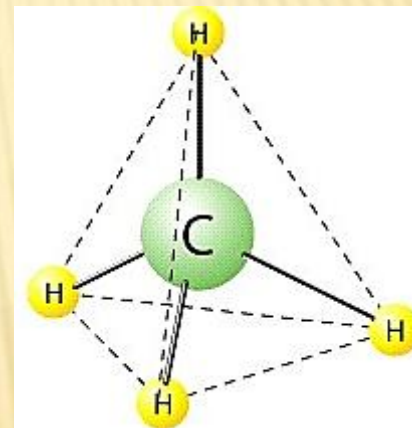




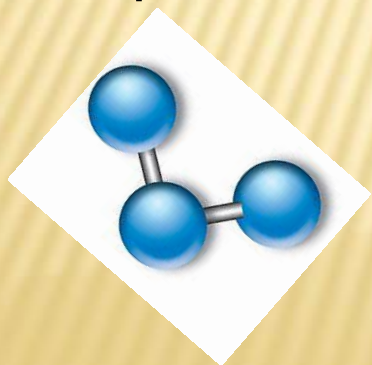
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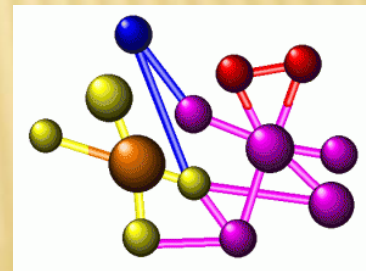
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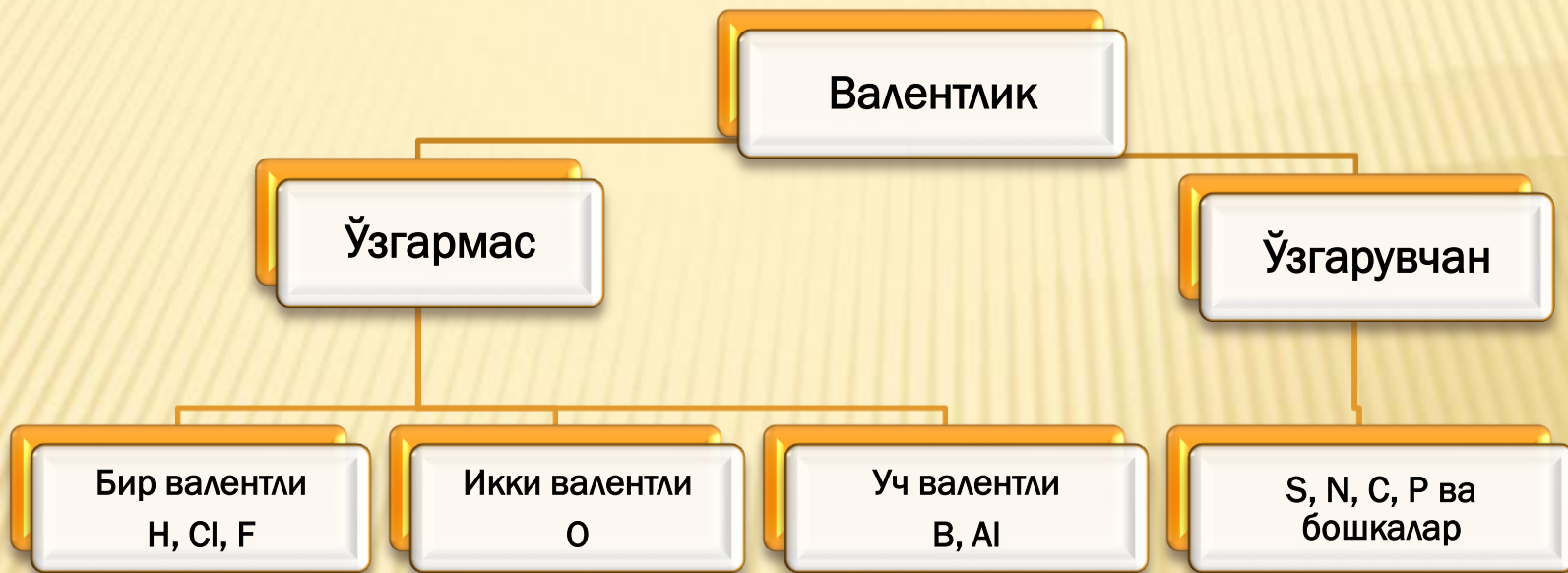


C тўрт валентли
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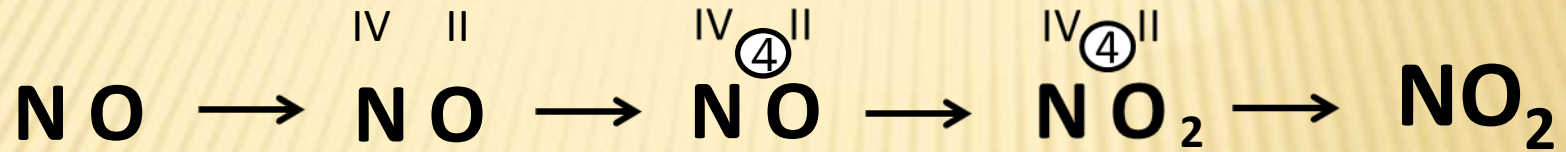
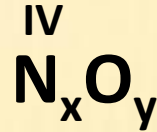


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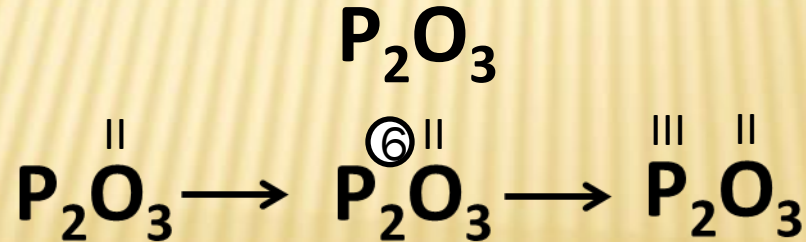
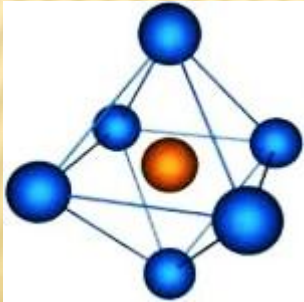


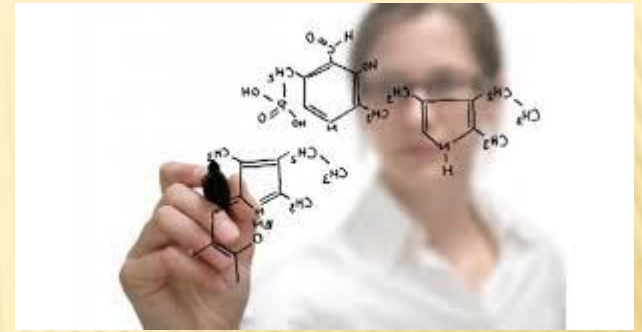


Формулалар

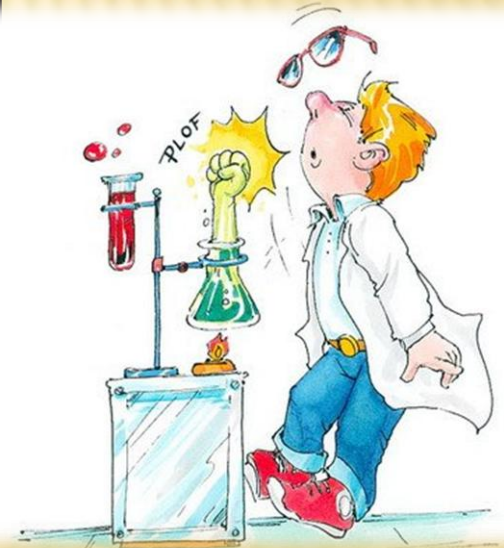
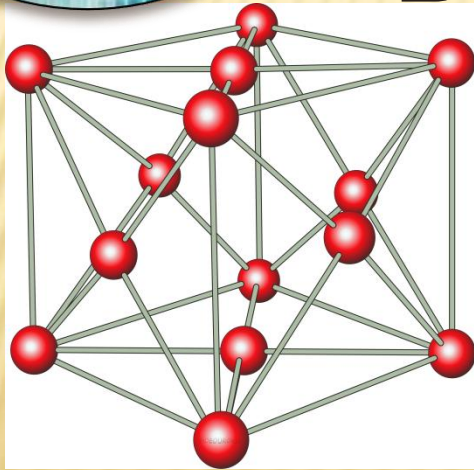


Валентликни аниқлаш



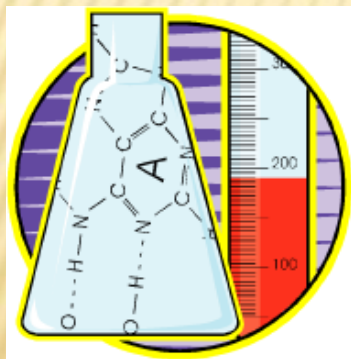


МЕТАЛ БОҒЛАНИШ





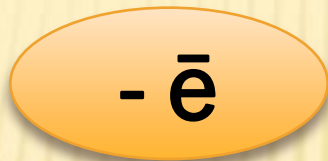
Метал
боғланиш



Метал
атоми

Метал
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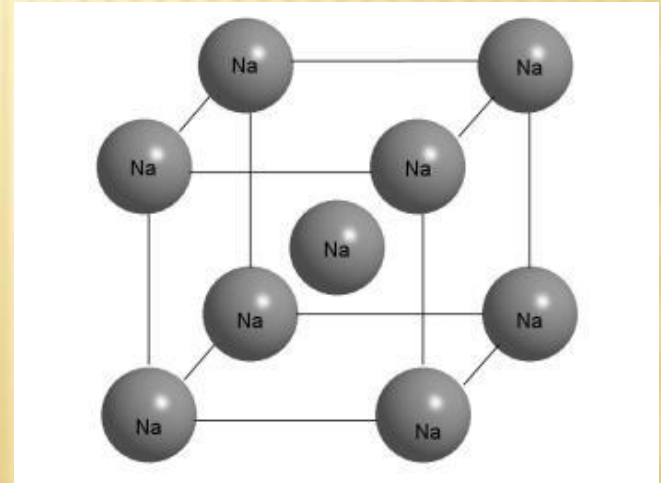
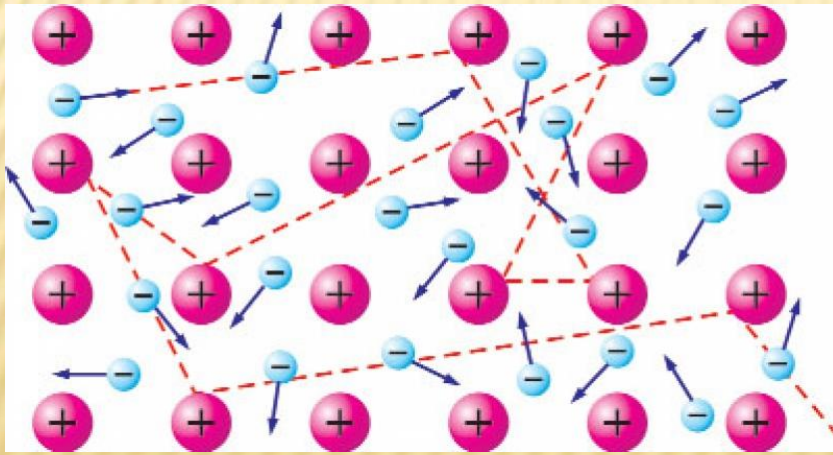
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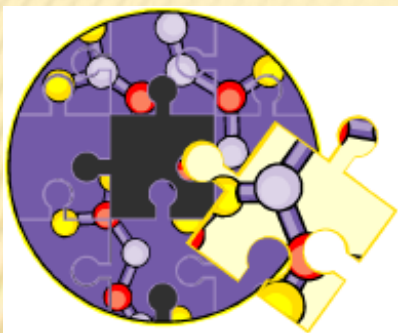
Атом-ионлар

«Электрон газ»

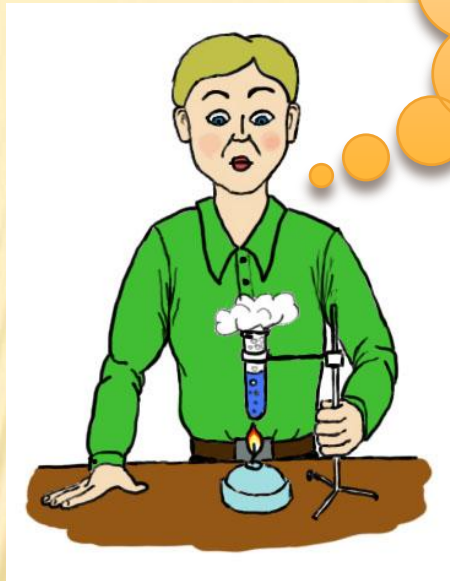
Натрийнинг
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панжараси



Неспаренные
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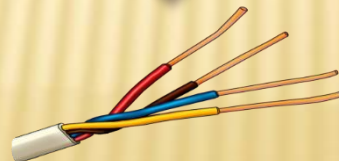
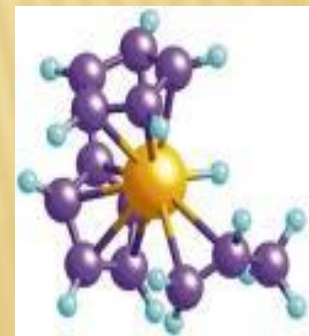


Ҳамма атомлар



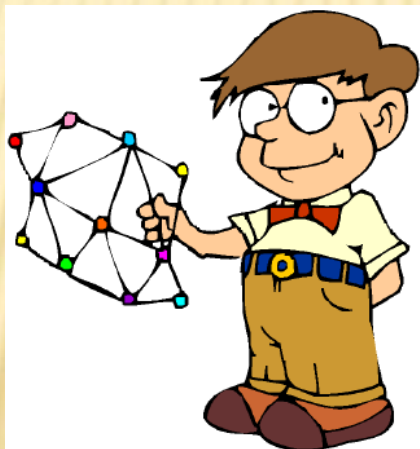
Обобществление
электронов







Эрамиздан
аввал VI аср



Металнинг
буғсимон холати

XULOSA VA TAKLIFLAR

- Noorganik kimyo fanida muhim bo'limlardan biri bo'lgan "Kimyoviy bog'lanish" mavzusining dolzarbiligi, maqsadi, predmeti va mavzuning kimyogar o'qituvchilar tayyorlashdagi ahamiyati va talabalarning ilmiy izlanishlaridagi o'rni asoslandi.
- "Kimyoviy bog'lanish" mavzusini o'qitishda innovatsion ta'lim texnologiyalari, ilg'or xorijiy adabiyotlar va tajribalardan foydalanish yo'llari yoritildi. Bu mavzu yuzasidan ma'ruzalar o'qishda "Ma'lumotli", "Ko'rgazmali", "Aqliy hujum", "Blits so'rovi", "Venn diagrammasi", "Klaster" usullaridan foydalanish imkoniyatlari va amaliy mashgulotlarda "Bumerang treningi", "Krosford", "Muzyorar", "Muammoli vaziyat", "Grafik organayzerlar", "Kichik guruhlarda ishlash" "Kontseptual jadval", "BBB", "Baliq suyagi" va boshqa usullardan foydalanish mumkinligi ilk marta ko'rsatildi.
- "Kimyoviy bog'lanish" mavzusi bo'yicha noorganik kimyo fanining nazariy va amaliy muammolari, o'qitishdagi innovatsiyalar, o'quv dasturi, ma'ruza matnlari, keyslar, amaliy topshiriqlar, nazorat savollari, test topshiriqlari yanada takomillashtirildi va yangicha yondashib tuzildi hamda bu ma'lumotlar fanning elektron ma'lumotlari bazasiga foydalanish uchun kiritildi.

**E`TIBORINGIZ UCHUN
RAHMAT!**