Öý işi: Elektron bulutlarynyň gibridleşmegi.

1.Elektron bulutlary

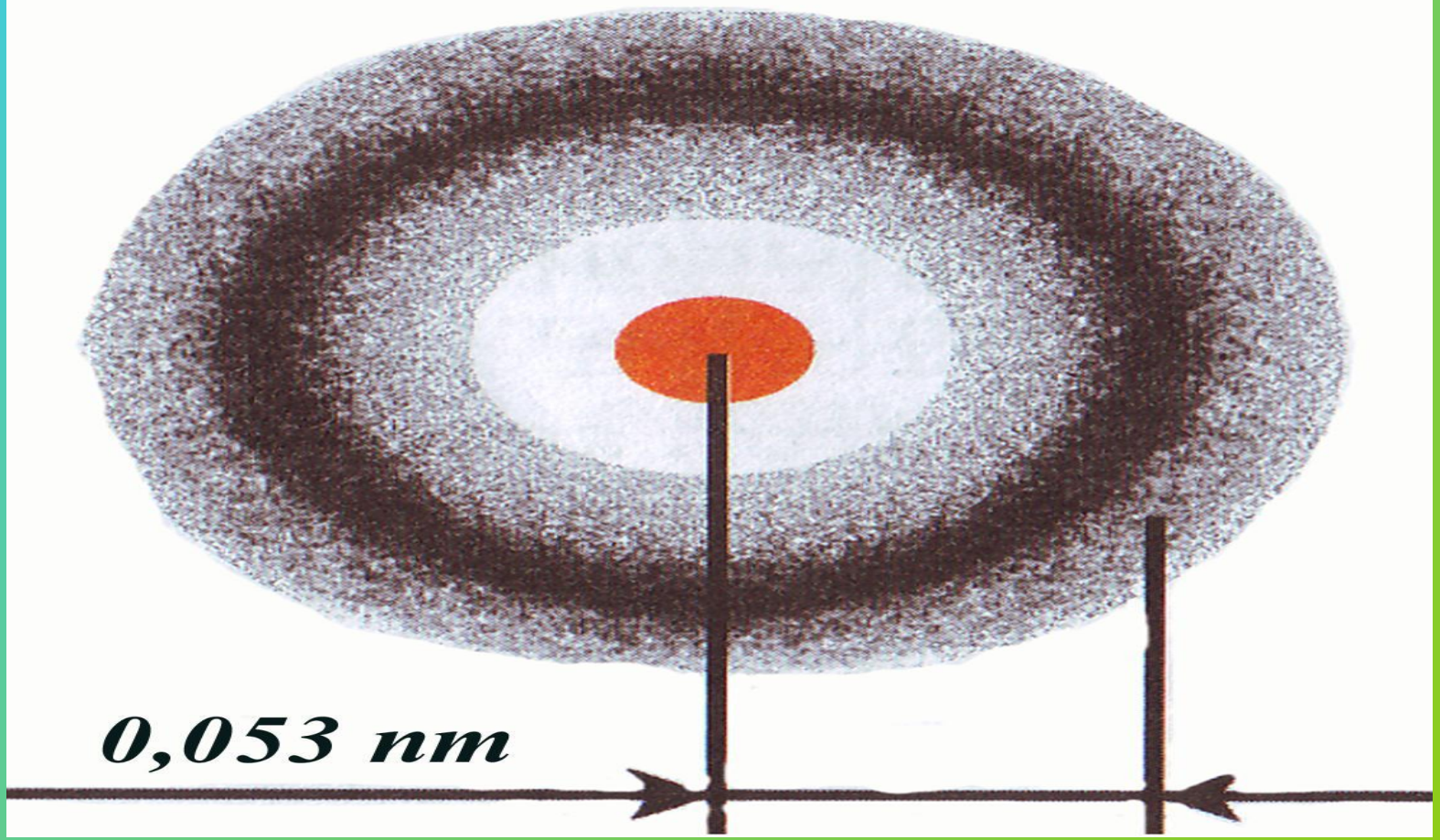
2.Elektron bulutlarynyň görnüşleri

3. SP- gibridleşme

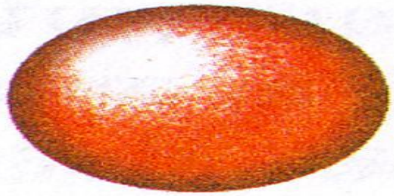
4. SP2-gibridleşme

5. SP3 -gibridleşme

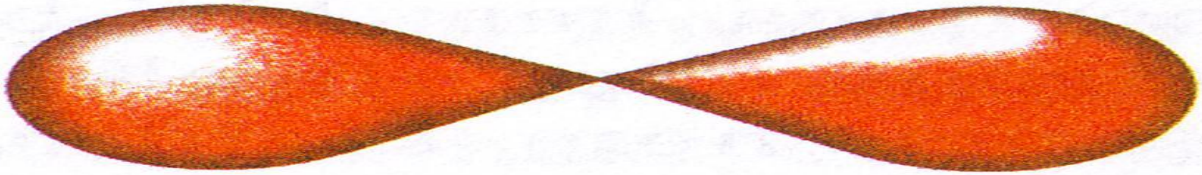
Wodorod atomynyň elektron buludy



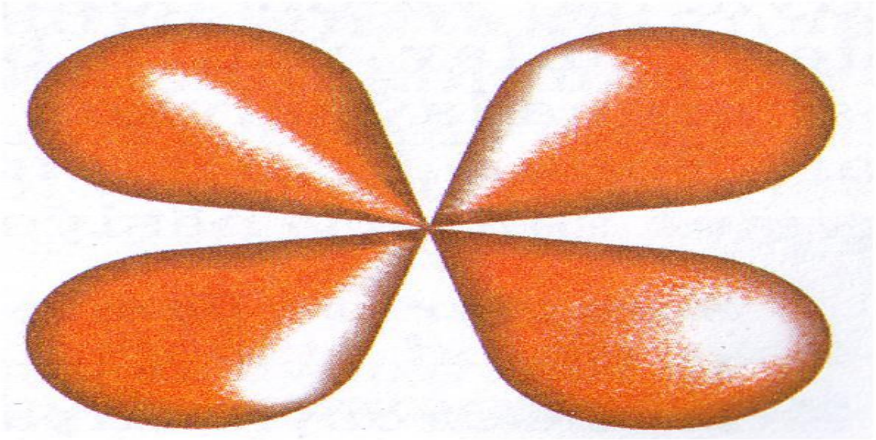
s-, p- we d-elektron bulutlary



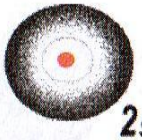
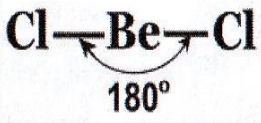
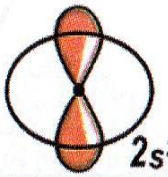
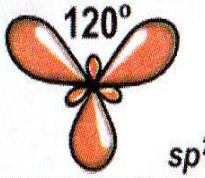
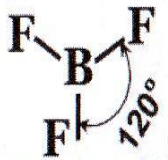
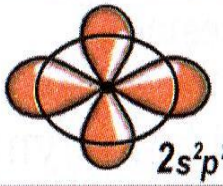
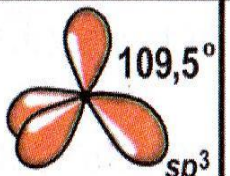
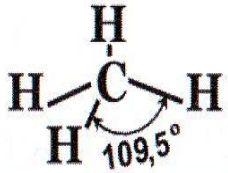
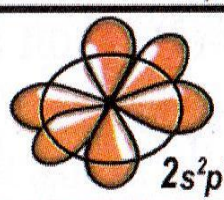
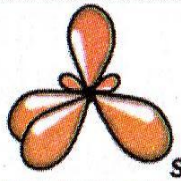
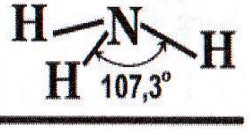
s-elektron buludy



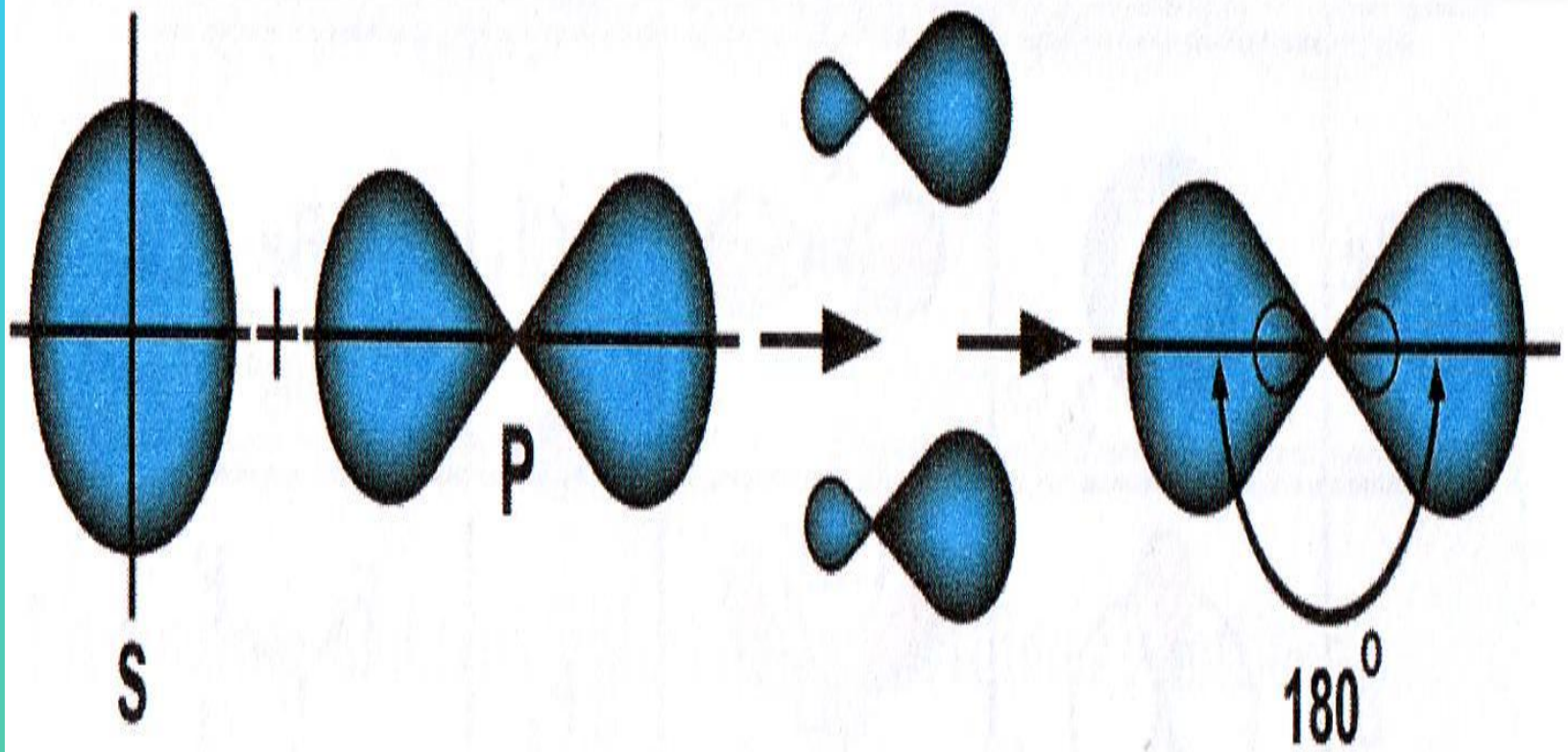
p-elektron buludy



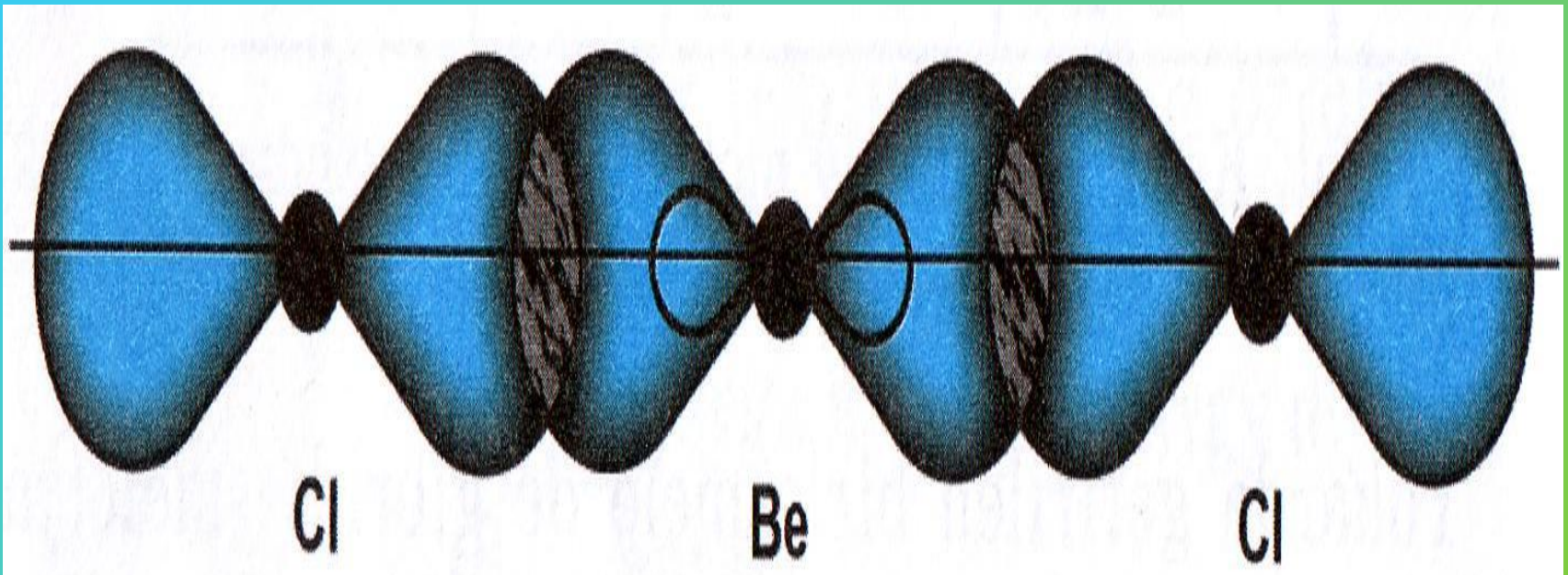
d-elektron buludy

E	Oýandyrylmadyk ýagdaýyndaky atom	Gibridleşen ýagdaýyndaky atom	Gibrid baglanyşykly molekula	Molekulalaryň gurluşy
Be			$BeCl_2$	
B			BF_3	
C			CH_4	
N			NH_3	

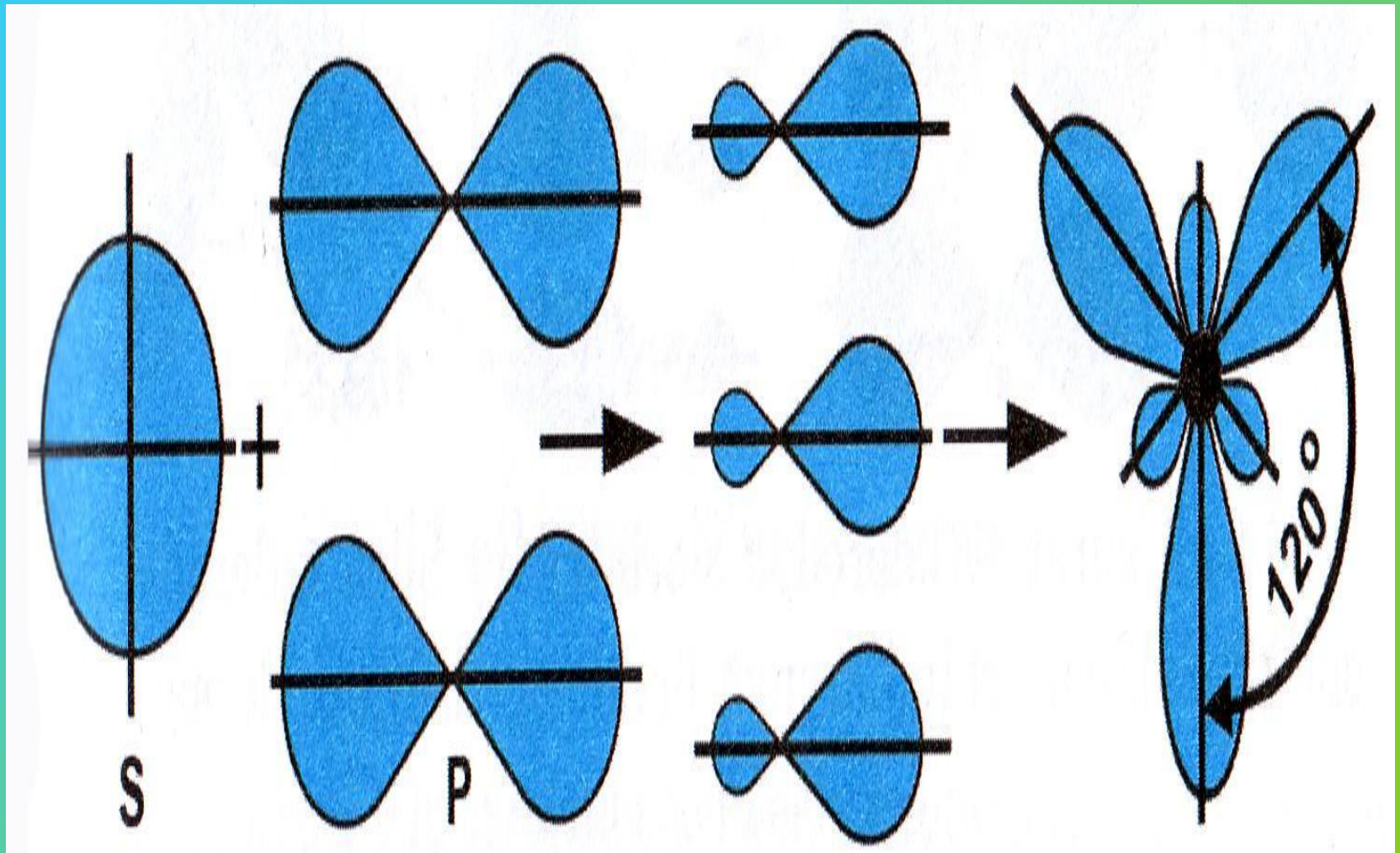
9-njy surat. Käbir köp atomly molekulalaryň oýandyrylmadyk we gibridleşen ýagdaýlary



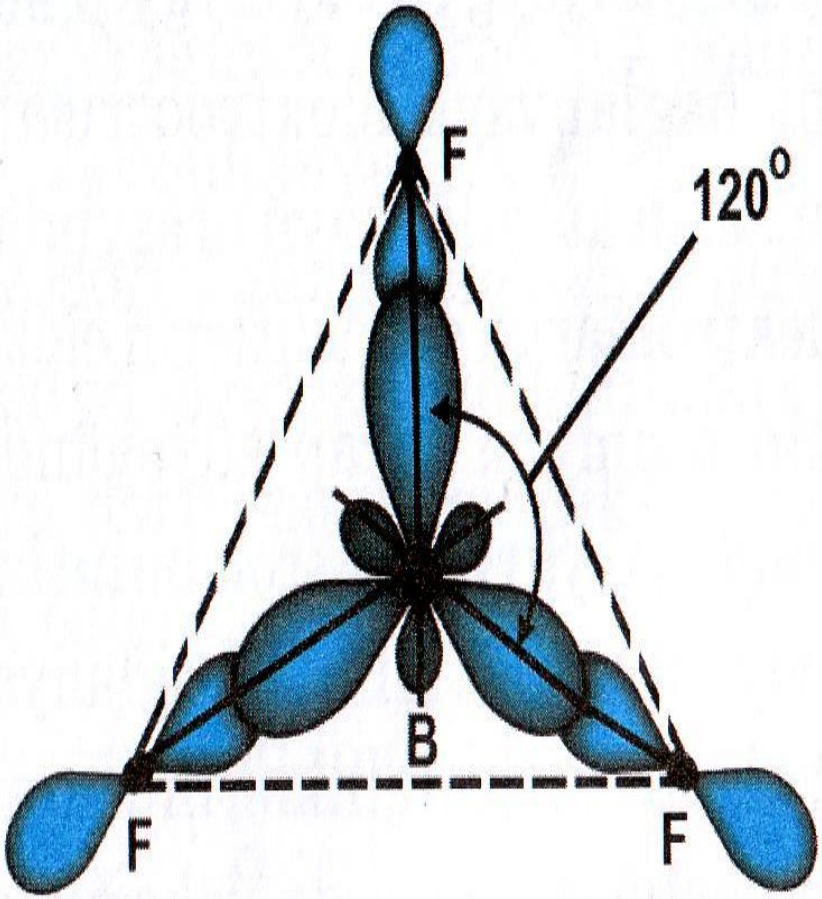
10-njy surat. Bir s- we bir p- elektron bulutlarynyň gibridleşmegi (sp-gibridleşme)



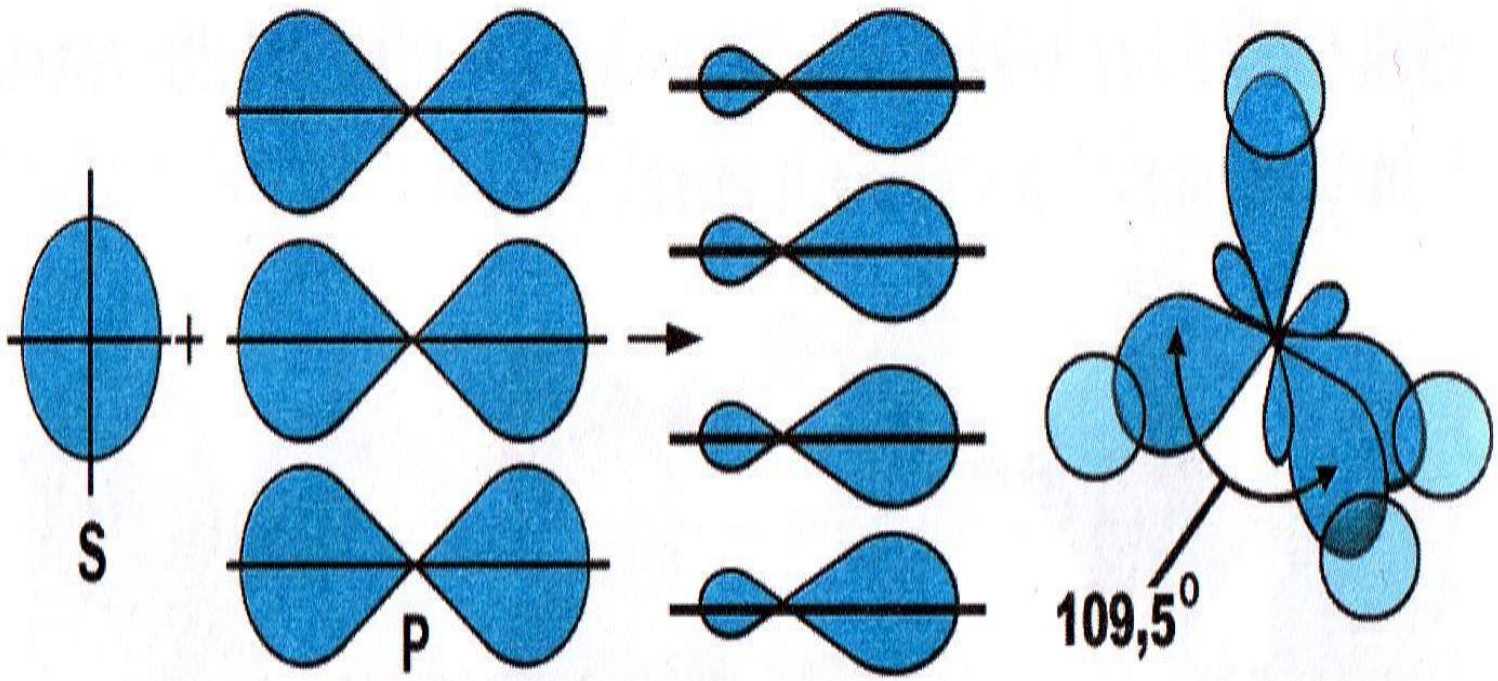
11-nji surat. Berilliniň sp-gibridleşen elektron bulutlarynyň hloruň p-elektron bulutlary bilen örtülmegi we $BeCl_2$-molekulanyň emele gelşi



12-nji surat. sp^2-gibridleşen orbitallar



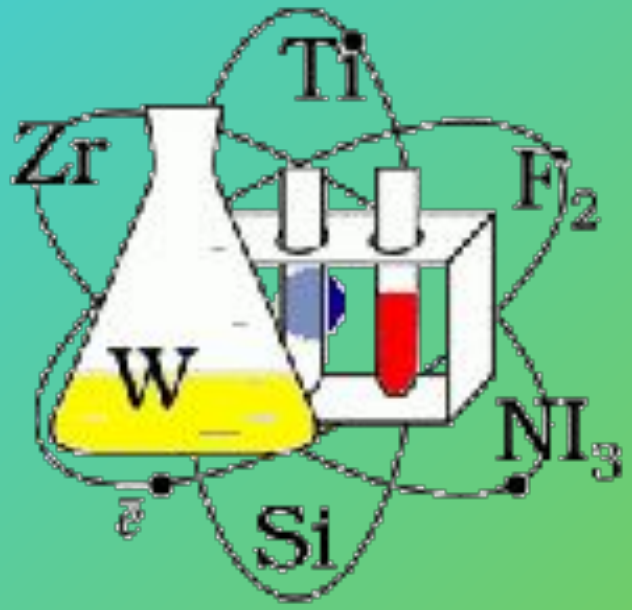
13-nji surat. Bor ftoridiniň BF_3 tekiz üçburçluk görnüşli molekulasy



14-nji surat. Wodorodyň s-orbitallary bilen uglerodyň sp^3-gibridleşen orbitallarynyň örtülmegi netijesinde metanyň molekulasynyň emele gelşi

Täze tema: Ionlaryň emele gelşi. Ion baglanşygy

Himiki baglanyşyklar



ION BAGLANYŞYGY


ION BAGLANYŞYGY
KOWALENT BAGLANYŞYGY
Himiki baglanyşyk
Wodorod baglanyşygy
Metal baglanyşygy

Elektrootrisatellik

- bir elementiň atomlarynyň başga bir elementiň atomlaryndan elektronlary özüne çekmek häsiýeti

Δ ϰ – elektrootrisatellikleriň tapawudy:

Δ 1,7 < ϰ –ion baglanyşygy;

0 < Δ1,7 > ϰ – kowalent baglanyşygy

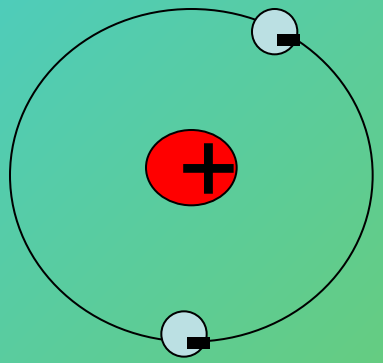
IA	IIA	IIIA	IVA	VA	VIA	VIIA
H 2,10						
Li 0,97	Be 1,47	B 2,01	C 2,50	N 3,07	O 3,50	F 4,10
Na 1,01	Mg 1,23	Al 1,47	Si 2,25	P 2,32	S 2,60	Cl 2,83
K 0,91	Ca 1,04	Ga 1,82	Ge 2,02	As 2,10	Se 2,48	Br 2,74
Rb 0,89	Sr 0,99	In 1,49	Sn 1,72	Sb 1,82	Te 2,01	I 2,21
Cs 0,86	Ba 0,97	Tl 1,44	Pb 1,55	Bi 1,67	Po 1,76	At 1,90

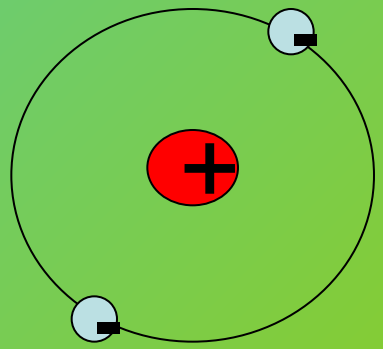
Ion baglanyşygy

- dürli zarýadlanan ionlaryň- kationlaryň we anionlaryň arasynda elektrostatik dartyş güýjüniň täsiri astynda emele gelýän himiki baglanyşyk.

$E^0 - ne^- = E^{n+}$

$E^0 + ne^- = E^{n-}$





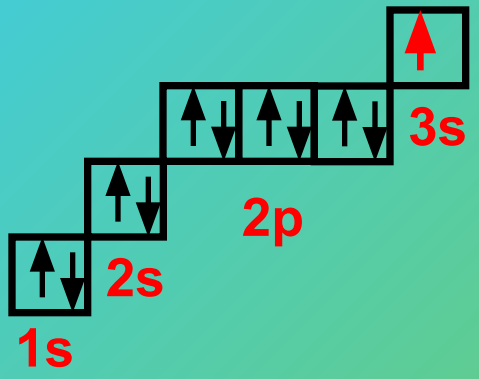
Ion - kation

Ion - anion

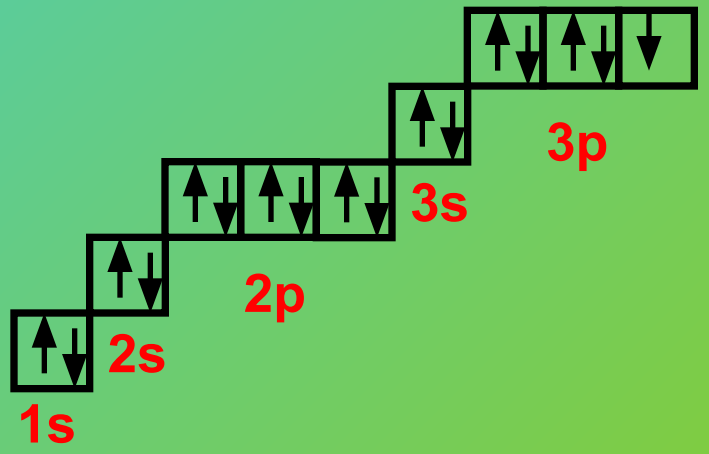
Ion baglanyşygynyň emele geliş mehanizmi

Atomlaryň elektron we grafiki formulalaryny düzmeli.

$_{+11}Na\ 1s^2 2s^2 2p^6 3s^1$



$_{+17}Cl\ 1s^2 2s^2 2p^6 3s^2 3p^5$



$Na^0 - 1e^- = Na^+$

$Cl_2^0 + 2e^- = 2Cl^-$

Natriý hloridi

$Na^{\cdot} + {\cdot}\underset{\cdot\cdot}{\overset{\cdot\cdot}{Cl}}{:} = Na^+ \left[:\underset{\cdot\cdot}{\overset{\cdot\cdot}{Cl}}: \right]^-$

Ýatda sakla!!!

Ion himiki baglanyşygy emele gelende, elektron bir atomdan beýlekä doly geçmeýär. Muny birleşmelerdäki effektiw zarýadyň ululyklary tassyklaýar

Ionlar

Düzümi boýunça

Zarýady boýunça

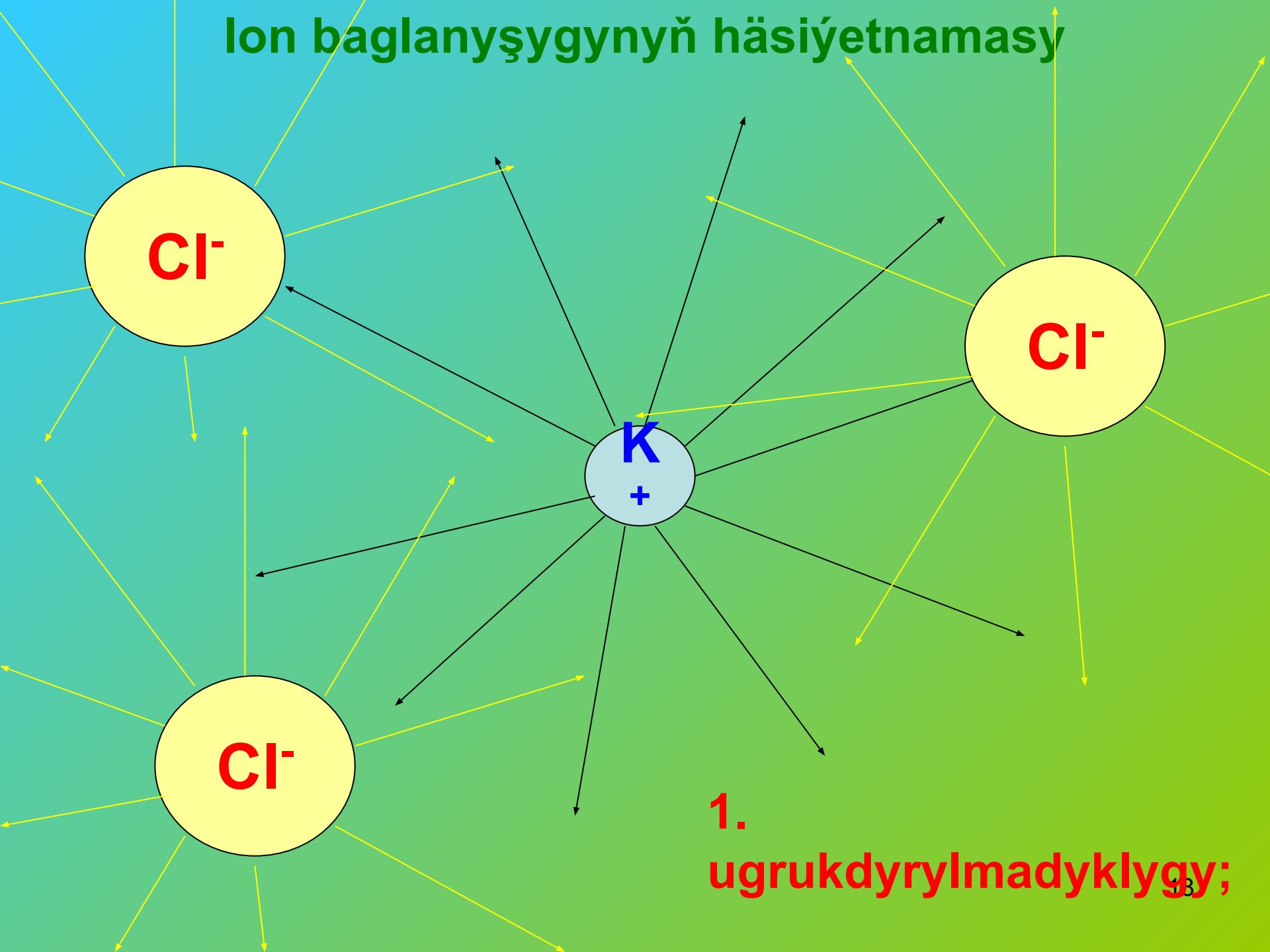
sada: Na^+, Ca^{2+}, Cl^-

Çylşyrymly ionlar: OH^-, SO_4^{2-}, NO_3^-

Položitel ionlar: Ca^{2+}, Na^+

Otrisatel ionlar: OH^-, SO_4^{2-}

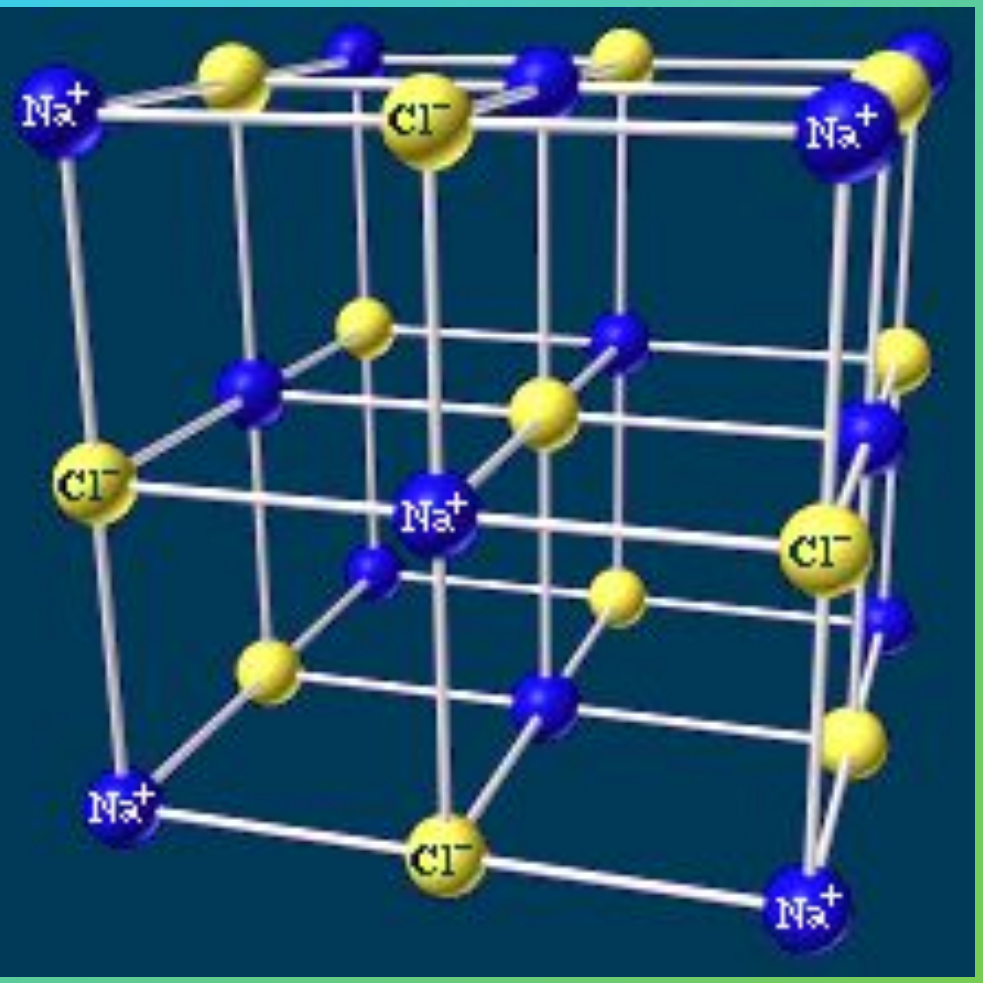
Ion baglanyşygynyň häsiýetnamasy



1. ugrukdyrylmadyklygy;

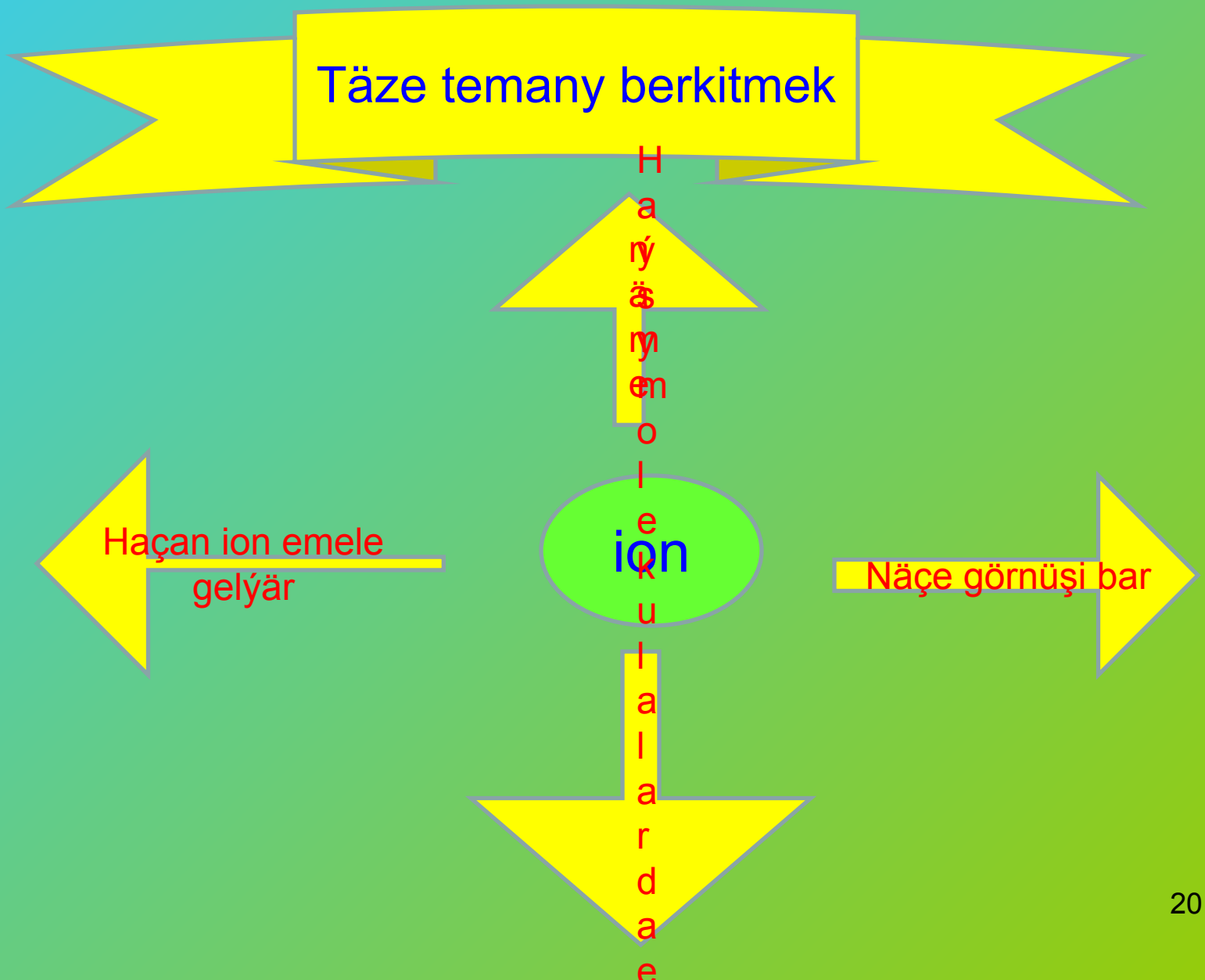
Ion baglanyşygynyň häsiyetnamasy

2.doýmadyklygy.



NaCl-niň kristal gözenegi

Ion baglanyşykly maddalaryň kristal gözenekleri üç ölçegli tükeniksiz gözenek bolup, onuň düwünlerinde anionlar we kationlar ýerleşýärler


Täze temany berkitmek
Haýsy ion?
Haçan ion emele gelýär
ion
Näçe görnüşi bar
Kullanylyşy

Öý işi: § 9 ; 49-50-nji sahypalar
10-njy synpyň kitaby