

Öý işi: Elektron bulutlarynyň gibridleşmegi.

1. Elektron bulutlary

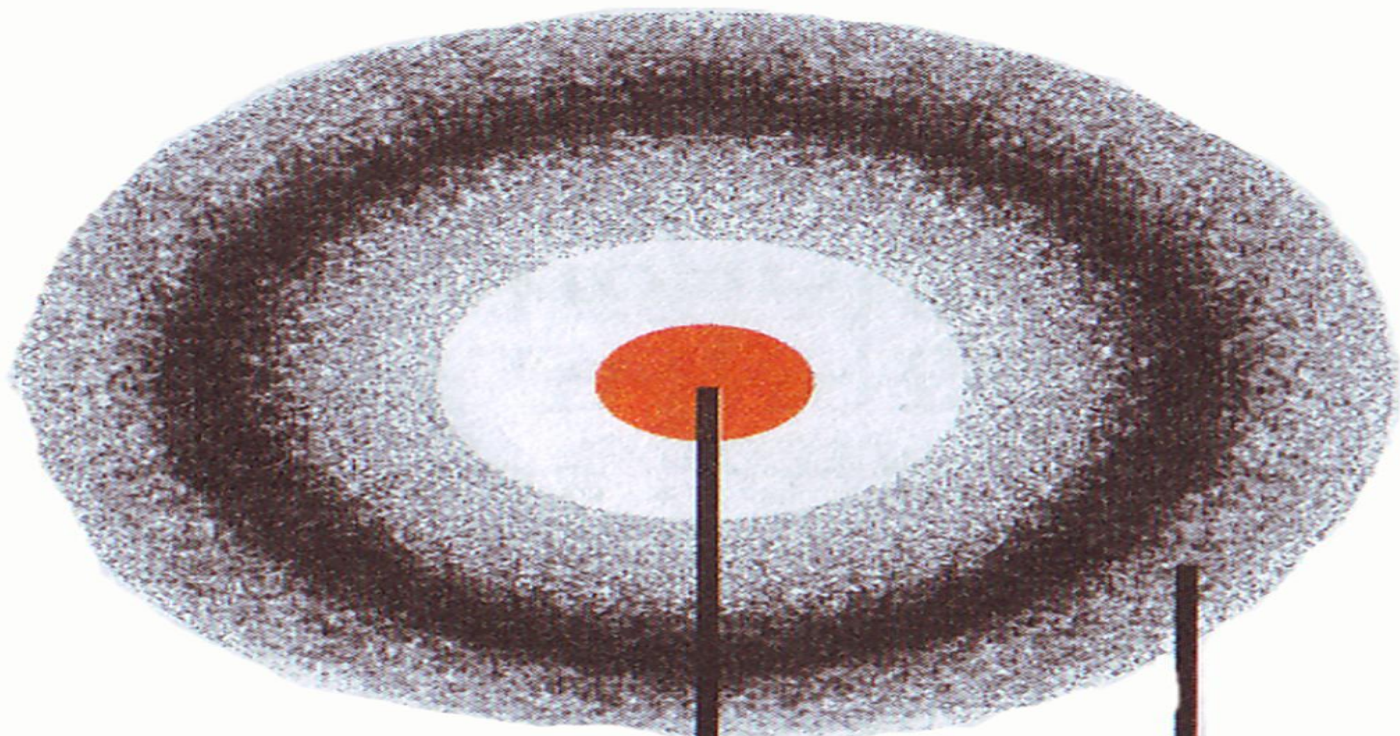
2. Elektron bulutlarynyň görnüşleri

3. SP- gibridleşme

4. SP2-gibridleşme

5. SP3 -gibridleşme

Wodorod atomynyň elektron buludy

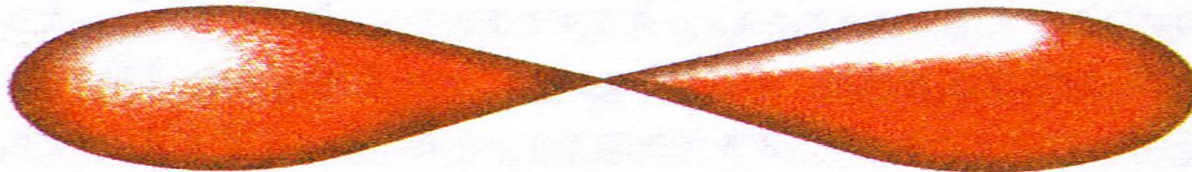


0,053 nm

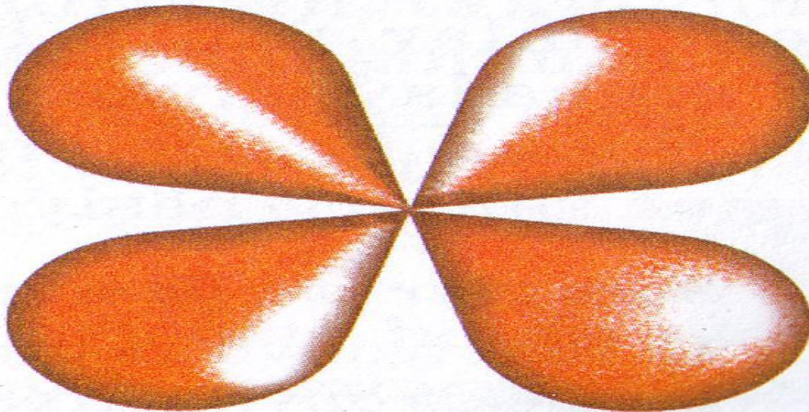
s-, p- we d-elektron bulutlary



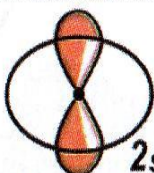
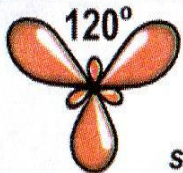
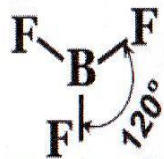
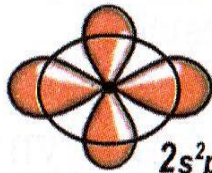
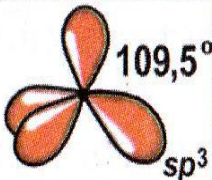
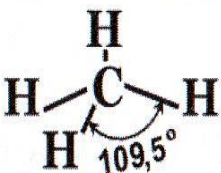
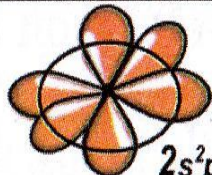
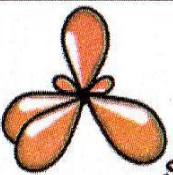
s-elektron buludy



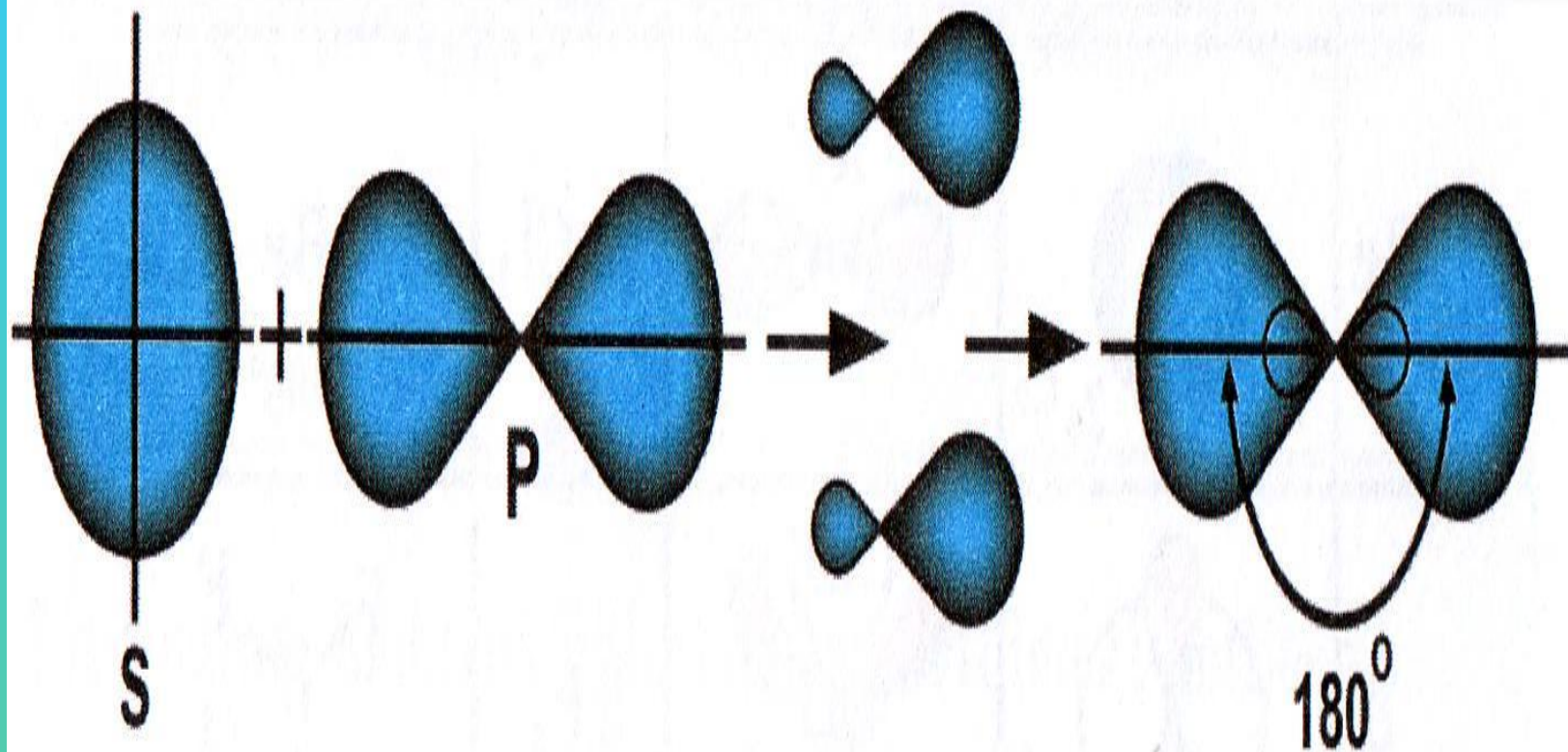
p-elektron buludy



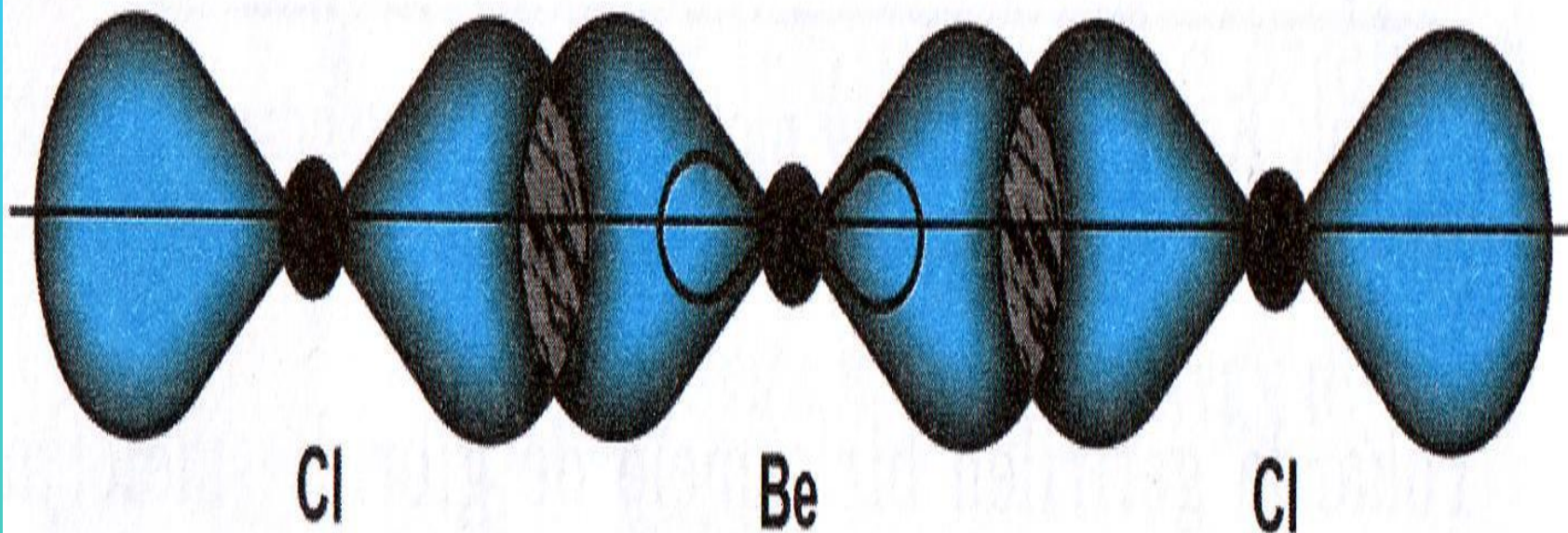
**d-elektron
buludy**

E	Oýandyrylmadyk ýagdaýyndaky atom	Gibridleşen ýagdaýyndaky atom	Gibrid baglanyşykly molekula	Molekulalaryň gurluşy
Be	 $2s^2p^0$	 180° sp	BeCl_2	 180°
B	 $2s^2p^1$	 120° sp^2	BF_3	 120°
C	 $2s^2p^2$	 $109,5^\circ$ sp^3	CH_4	 $109,5^\circ$
N	 $2s^2p^3$	 sp^3	NH_3	 $107,3^\circ$

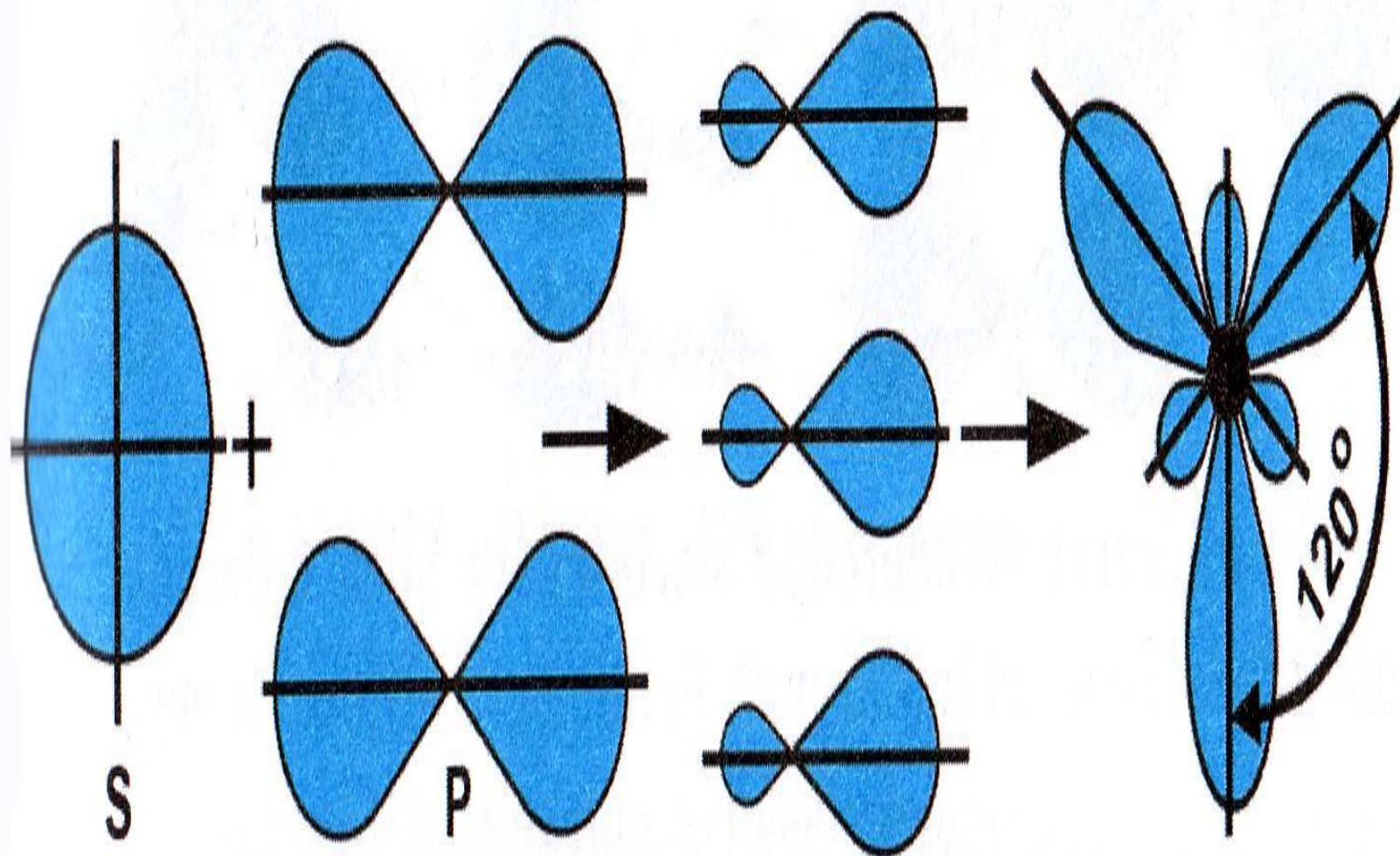
9-njy surat. Käbir köp atomly molekulalaryň oýandyrylmadyk we gibridleşen ýagdaýlary



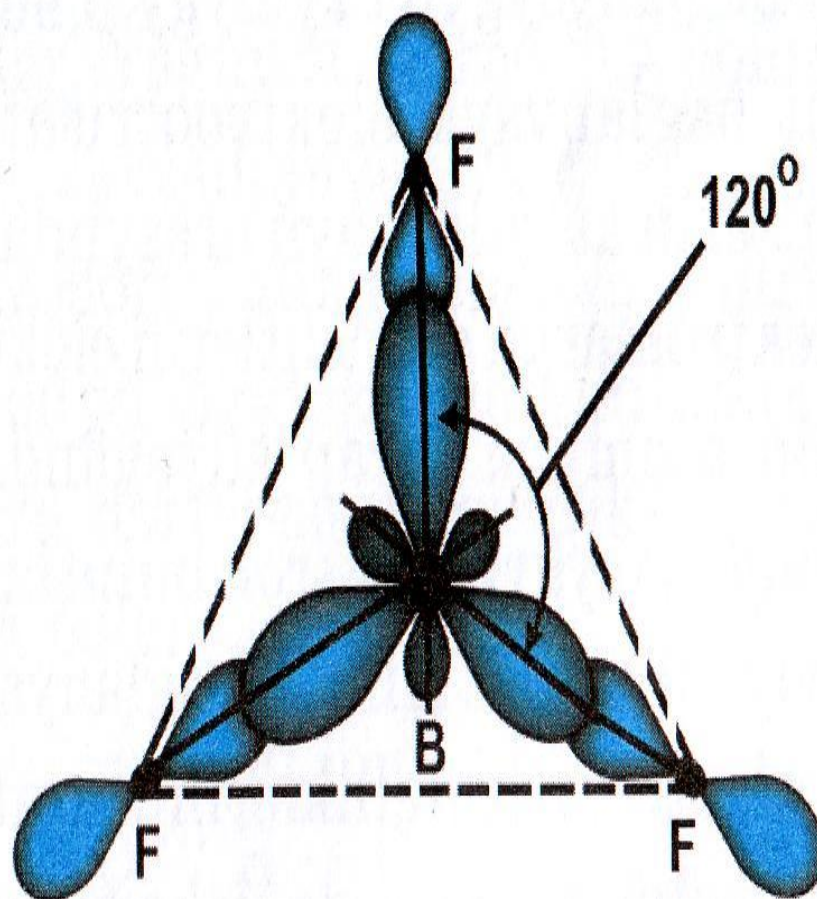
10-njy surat. Bir s - we bir p - elektron bulutlarynyň gibridleşmegi (sp -gibridleşme)



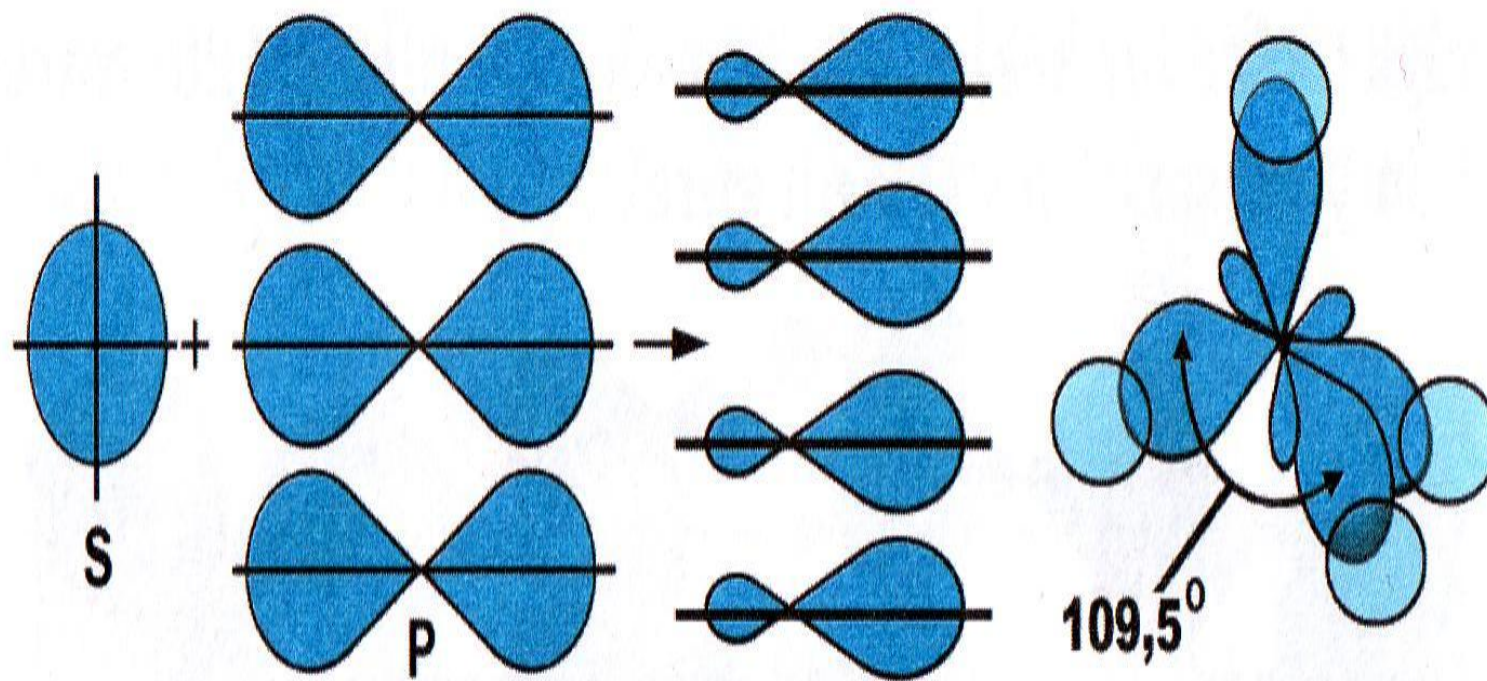
11-nji surat. Berilliniň sp -gibridleşen elektron bulutlarynyň hloruň p -elektron bulutlary bilen örtülmegi we BeCl_2 -molekulanyň emele gelsi



12-nji surat. sp^2 -gibridleşen orbitallar



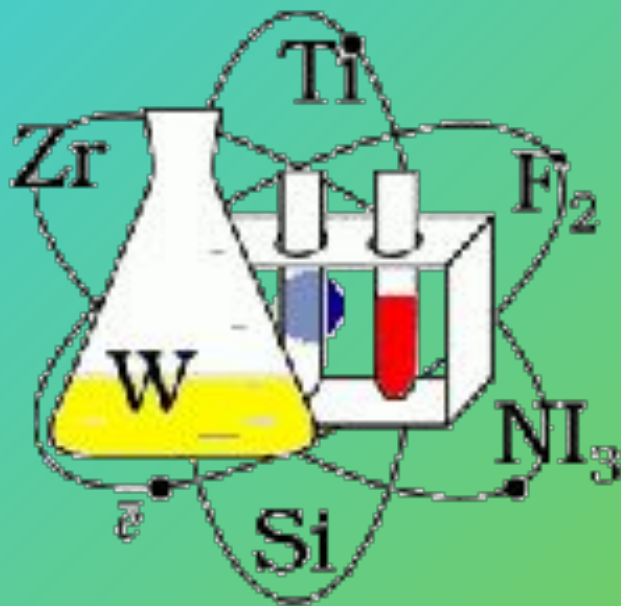
13-nji surat. Bor ftoridiniň BF_3 tekiz üçburçluk görnüşli molekulasy



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

Täze tema: Ionlaryň
emele gelsi. Ion
baglanşygy

Himiki baglanyşyklar



ION BAGLANYŞYGY

***ION
BAGLANYŞYGY***

***KOWALENT
BAGLANYŞYGY***

**Himiki
baglanyş
yk**

***Wodorod
baglanyşygy***

***Metal
baglanyşygy***

Elektrootrisatellik

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

$\Delta \chi$ –
elektrootrisatellikleriň
tapawudy:

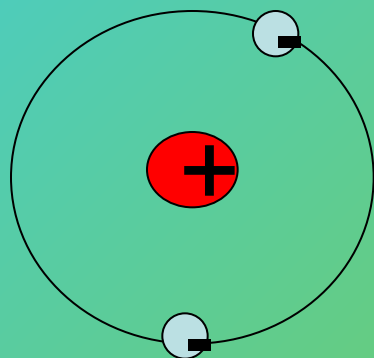
$\Delta 1,7 < \chi$ – ion
baglanyşygy;

$0 < \Delta 1,7 > \chi$ –
kowalent baglanyşygy

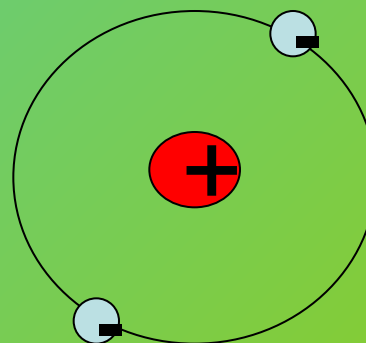
IA	IIA	IIIA	IVA	VA	VIA	VIIA
H 2,10						
Li 0,97	Be 1,47	B 2,01	C 2,50	N 3,07	O 3,50	F 4,10
Na 1,01	Mg 1,23	Al 1,47	Si 2,25	P 2,32	S 2,60	Cl 2,83
K 0,91	Ca 1,04	Ga 1,82	Ge 2,02	As 2,10	Se 2,48	Br 2,74
Rb 0,89	Sr 0,99	In 1,49	Sn 1,72	Sb 1,82	Te 2,01	I 2,21
Cs 0,86	Ba 0,97	Tl 1,44	Pb 1,55	Bi 1,67	Po 1,76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

Ion baglanyşygy

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



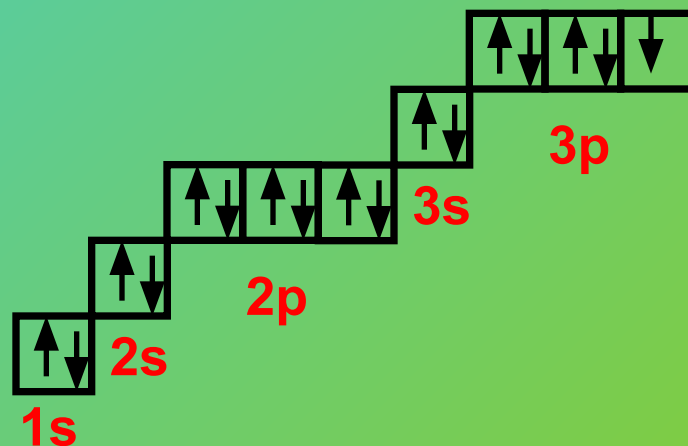
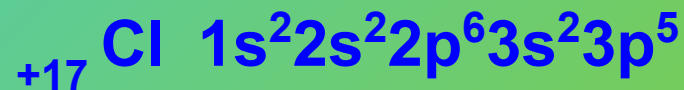
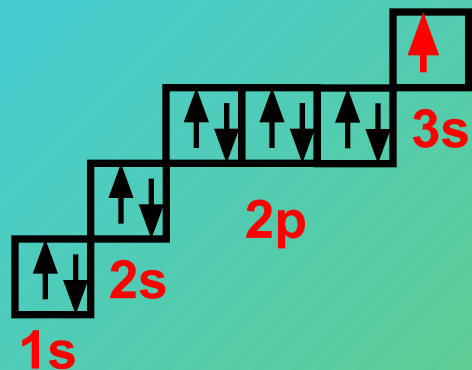
Ion - kation



Ion - anion

Ion baglanyşygynyň emele geliş mehanizmi

Atomlaryň elektron we grafiki formulalaryny düzmeli.



Natriý hloridi



Ýatda sakla!!!

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

EFFEKTIV	ATOM	ZARÝADLARY
0,94		CsF, RbF
0,93		KF, NaF
0,89		RbI
0,87		LiF
0,84		CsCl, RbCl
0,82		RbBr
0,80		KCl
0,79		CsBr

İonlar

Düzümi
boýunça

Zarýady
boýunça

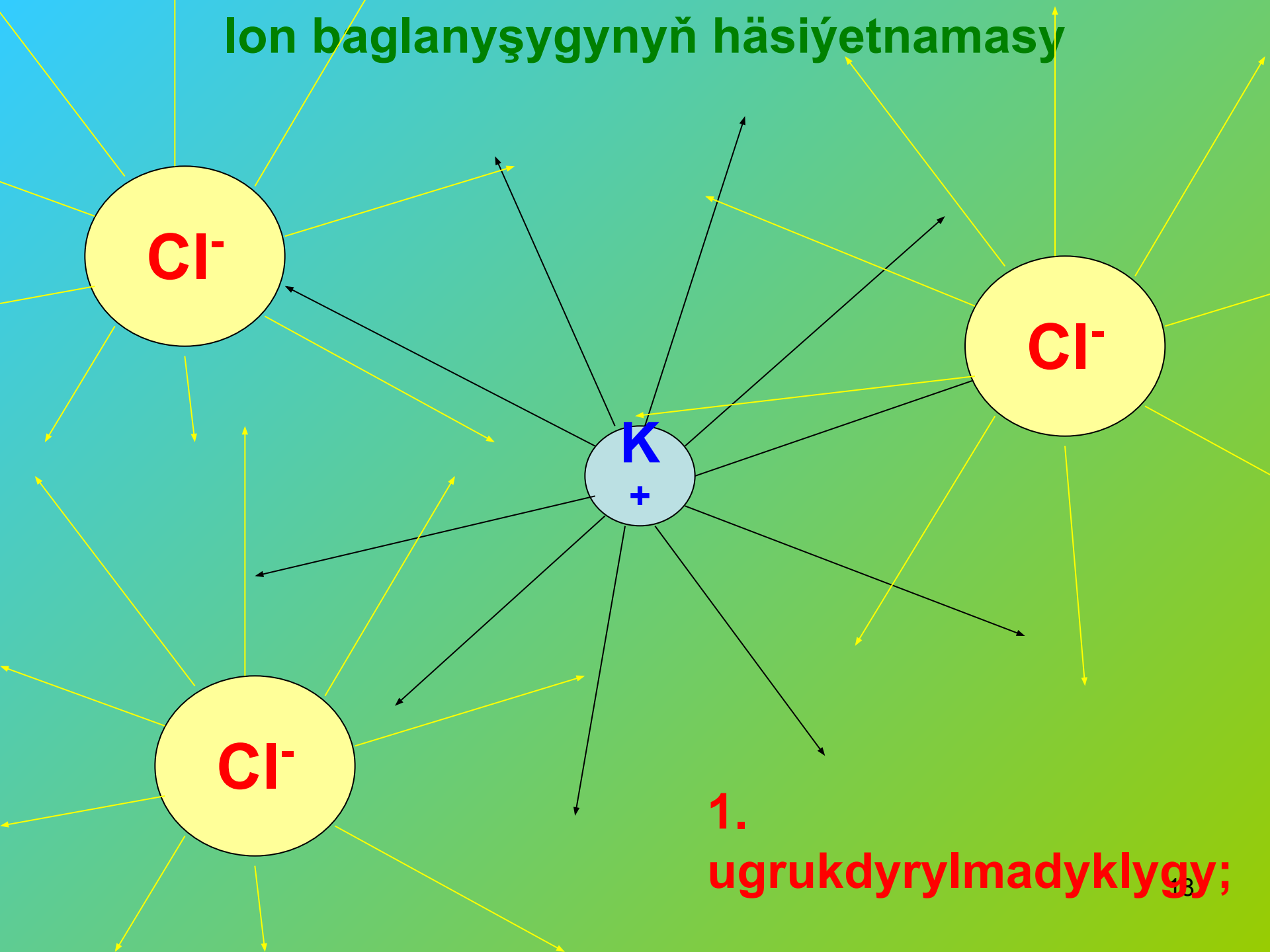
sada:
 Na^+ , Ca^{2+} ,
 Cl^-

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

Polozitel ionlar:
 Ca^{2+} , Na^+

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

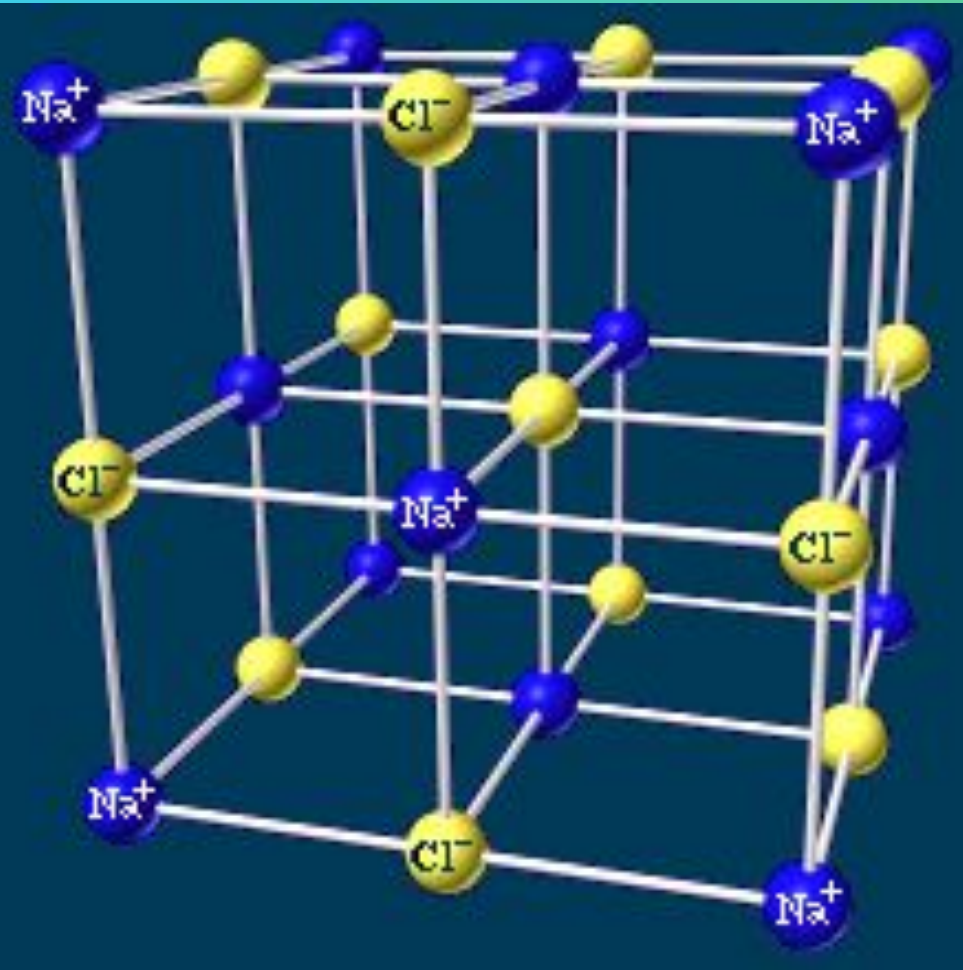
Ion baglanyşygynyň häsiýetnamasy



1.
ugrukdyrylmadyklygy;

Ion baglanyşygynyň häsiyetnamasy

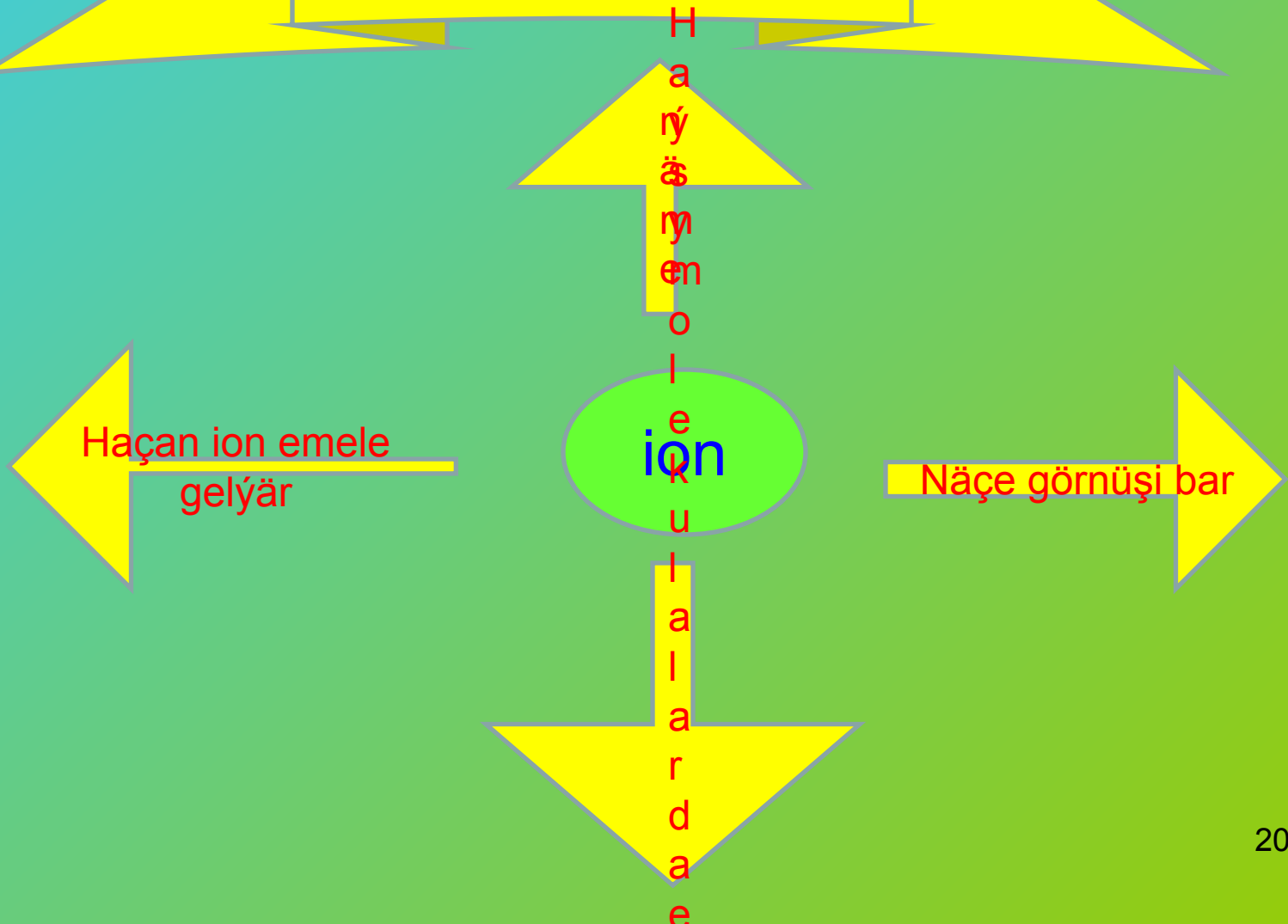
2.doýmadyklygy.



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

NaCl-niň kristal gözenegi

Täze temany berkitmek



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