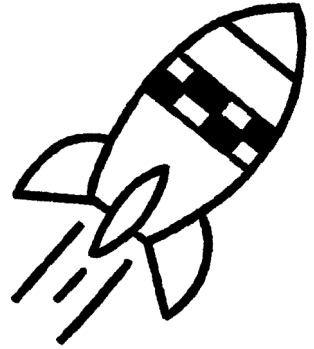


Curiyeyaasha molecular (Molecular elements)



Sayniska

Cutub: Atoms, curiyeyaasha iyo xeryahooda (Atoms, elements and compounds)

Natiijo

Waxaan qeexi karaa molecule-ka (molecule) oo sawiri karaa sawirada curiyeyaasha (elements) ee ka samaysan molecules.

Erayada muhiimka ah

Molecules waxay ka kooban yihiin laba ama in ka badan oo atoms ah oo si kiimiko ah isugu xiran. Kuwani badanaa waa atoms aan bir ahayn (non-metal atoms).

Curiye monatomic (monatomic element) wuxuu ka kooban yahay kaliya atoms keli ah.

Curiye diatomic (diatomic element) wuxuu ka kooban yahay laba atoms oo isku nooc ah oo si kiimiko ah isugu xiran.

Curiyeyaasha molecular (Molecular elements)



Molecules iyo aan-biraha (non-metals)



Matalista molecules (Representing molecules)

Qaar badan oo ka mid ah aan-biraha (non-metals) waxay ku jiraan xaaladda gaas (gas) heerkulka qolka.

g =gaas (gas) **l** =dareere (liquid) **s** =adag (solid)

g

Li lithium	Be beryllium											B boron	s	g	g	g	g
Na sodium	Mg magnesium											Al aluminium	Si silicon	s	s	g	g
K potassium	Ca calcium	Sc scandium	Ti titanium	V vanadium	Cr chromium	Mn manganese	Fe iron	Co cobalt	Ni nickel	Cu copper	Zn zinc	Ga gallium	Ge germanium	s	s	l	g
Rb rubidium	Sr strontium	Y yttrium	Zr zirconium	Nb niobium	Mo molybdenum	Tc technetium	Ru ruthenium	Rh rhodium	Pd palladium	Ag silver	Cd cadmium	In indium	Sn tin	Sb antimony	s	s	g
Cs caesium	Ba barium	La [*] lanthanum	Hf hafnium	Ta tantalum	W tungsten	Re rhenium	Os osmium	Ir iridium	Pt platinum	Au gold	Hg mercury	Tl thallium	Pb lead	Bi bismuth	Po polonium	At astatine	g

Heerkulka qolka, inta badan aan-biraha (non-metals) waxay ku jiraan xaaladdee?

a

xaaladda adag (solid state)

b

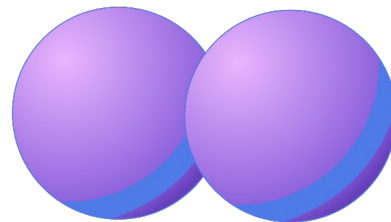
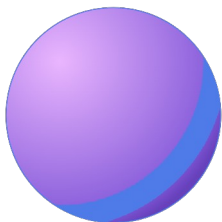
xaaladda dareeraha (liquid state)

c

xaalad gaas (gas state) 

Curiyayaasha (elements) qaarkood waa:

- **monatomic waxay ka kooban yihiin atam (atoms) kali ah oo keliya**
- **diatomic waxay ka kooban yihiin laba atam (atoms) oo isku nooc ah oo si kiimiko ah isugu xidhan (chemically bonded).**



Run mise been?

Curiye (element) had iyo jeer waa atom (atom) keli ah oo kaligiis ah.



Run



Been



Sabab u sheeg jawaabtaada

a

Curiyayaasha (elements) qaarkood waa diatomic.



b

Dhammaan curiyayaasha (elements) waa diatomic.

Molecules iyo birta (non-metals)

Laba ama in ka badan oo atam (atoms) ah (badanaa birta (non-metals)) oo la isku daray waxaa loo yaqaan molecule. Qaar ka mid ah birta (non-metals) waa monatomic oo ma sameeyaan molecules.

Gaasaska (gases) gobta (Noble) waa:

- ku qoran tiirka midig ee shaxda (periodic table)
- monatomic.

monatomic.

																H hydrogen															He helium
Li lithium	Be beryllium																	B boron	C carbon	N nitrogen	O oxygen	F fluorine	Ne neon								
Na sodium	Mg magnesium																	Al aluminium	Si silicon	P phosphorus	S sulfur	Cl chlorine	Ar argon								
K potassium	Ca calcium	Sc scandium	Ti titanium	V vanadium	Cr chromium	Mn manganese	Fe iron	Co cobalt	Ni nickel	Cu copper	Zn zinc	Ga gallium	Ge germanium	As arsenic	Se selenium	Br bromine	Kr krypton														
Rb rubidium	Sr strontium	Y yttrium	Zr zirconium	Nb niobium	Mo molybdenum	Tc technetium	Ru ruthenium	Rh rhodium	Pd palladium	Ag silver	Cd cadmium	In indium	Sn tin	Sb antimony	Te tellurium	I iodine	Xe xenon														
Cs caesium	Ba barium	La[*] lanthanum	Hf hafnium	Ta tantalum	W tungsten	Re rhenium	Os osmium	Ir iridium	Pt platinum	Au gold	Hg mercury	Tl thallium	Pb lead	Bi bismuth	Po polonium	At astatine	Rn radon														

Molecules iyo birta (non-metals)

Qaar ka mid ah birta (non-metals) waxay sameeyaan molecules diatomic ah oo ka kooban laba atom (atoms) (tusaale: O_2 , N_2 , H_2 , Cl_2).

Nambarka hoose 2 wuxuu muujinayaa in ay jiraan laba atom oo curiye (element) ah oo isku xiran.

																H hydrogen											He helium
Li lithium	Be beryllium																	B boron	C carbon	N nitrogen	O oxygen	F fluorine	Ne neon				
Na sodium	Mg magnesium																	Al aluminium	Si silicon	P phosphorus	S sulfur	Cl chlorine	Ar argon				
K potassium	Ca calcium	Sc scandium	Ti titanium	V vanadium	Cr chromium	Mn manganese	Fe iron	Co cobalt	Ni nickel	Cu copper	Zn zinc	Ga gallium	Ge germanium	As arsenic	Se selenium	Br bromine	Kr krypton										
Rb rubidium	Sr strontium	Y yttrium	Zr zirconium	Nb niobium	Mo molybdenum	Tc technetium	Ru ruthenium	Rh rhodium	Pd palladium	Ag silver	Cd cadmium	In indium	Sn tin	Sb antimony	Te tellurium	I iodine	Xe xenon										
Cs caesium	Ba barium	La [*] lanthanum	Hf hafnium	Ta tantalum	W tungsten	Re rhenium	Os osmium	Ir iridium	Pt platinum	Au gold	Hg mercury	Tl thallium	Pb lead	Bi bismuth	Po polonium	At astatine	Rn radon										

Molecules iyo birta aan ahayn (non-metals)

Summada (symbol) kee ka dhigan yahay curiye (element) diatomic ah?

Kr

Ne

Cl₂



a

b

c

Imisa atom ayaa ku jira molecule diatomic ah?

- a** kaliya 1
- b** kaliya 2 ✓
- c** 1 ama 2
- d** 2 ama in ka badan

Ardaydee ka hadlaysa gaasaska (noble gases)?

Waa molecules
diatomic ah.



Cabdi

Waxay ku qoran yihiin tiirka
midig ee shaxda xilliyeedka
(periodic table).



Layla

Waxay u jiraan kaliya
sida atom monatomic
ah.



Suad

Buuxi ereyada maqan adigoo kaliya isticmaalaya: monatomic/diatomic/molecules/atoms.

Qaar ka mid ah kuwa aan bir ahayn (non-metals) waxay sameeyaan _____ molecules oo ka kooban laba _____ (tusaale ahaan oxygen O_2).

Qaar ka mid ah kuwa aan bir ahayn (non-metals) waa _____ atoms mana sameeyaan _____.

Noble gases waxay ku qoran yihiin tiirka midig ee diwaanka xilliyeedka (periodic table). Waa _____.

Nitrogen (N_2) waa curiye aan bir ahayn (non-metal) oo sameeya _____.

Buuxi erayada maqan adigoo kaliya isticmaalaya: monatomic/diatomic/molecules/atoms.

Qaar ka mid ah kuwa aan bir ahayn (non-metals) waxay sameeyaan _____ molecules oo ka kooban laba _____ (tusaale O_2).

Qaar ka mid ah kuwa aan bir ahayn (non-metals) waa _____ atoms mana sameeyaan _____.
atoms

Noble gases waxay ku qoran yihiin tiirka midig ee diwaanka xilliyeedka (periodic table) waa _____
_____.

Nitrogen (N_2) waa _____ molecules
monatomic

monatomic atoms

diatomic

molecules

Curiyeyaasha molecular (Molecular elements)



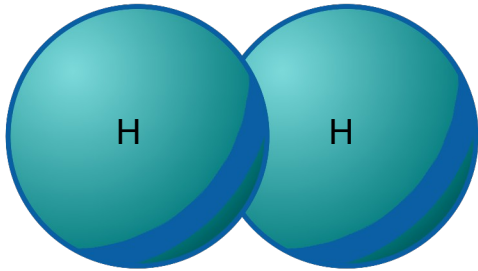
Molecules iyo kuwa aan bir ahayn (non-metals)



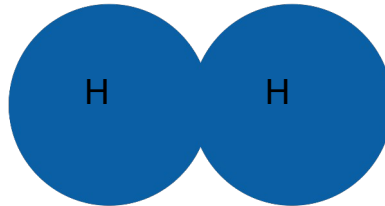
Matixda (Representing) molecules

Molecules waxaa loo matixi karaa (represented) siyaabo kala duwan:

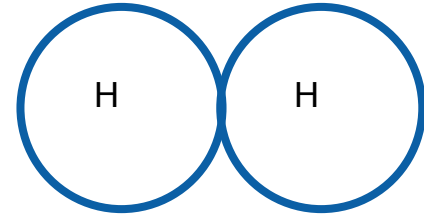
- Mararka qaarkood astaamaha curiyaha (element) ayaa la muujiyaa.



3D



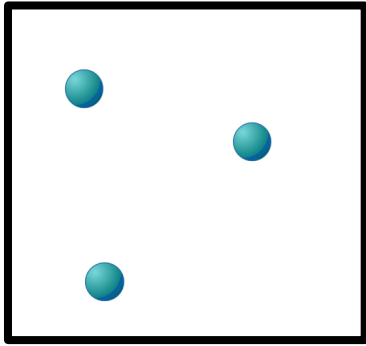
2D



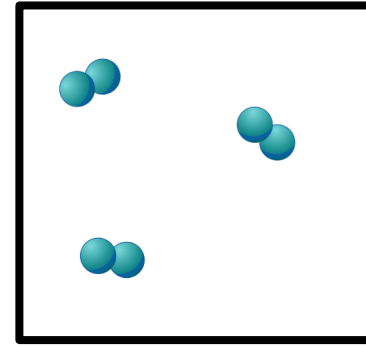
qorshe
(outline)

Matixda molecules (Representing molecules)

Walxaha monatomic iyo diatomic waxaa lagu matali karaa xaaladahooda (states of matter).



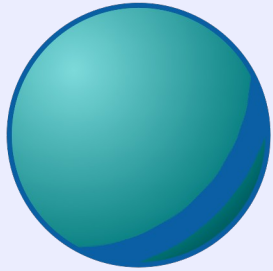
gaas monatomic (monatomic gas)
tusaale: helium



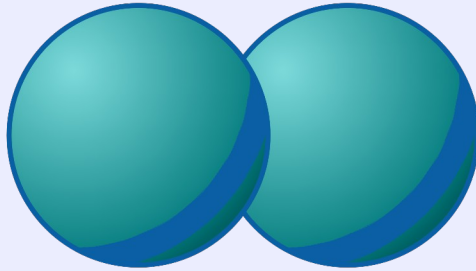
gaas diatomic (diatomic gas)
tusaale: oxygen

Matixda molecules (Representing molecules)

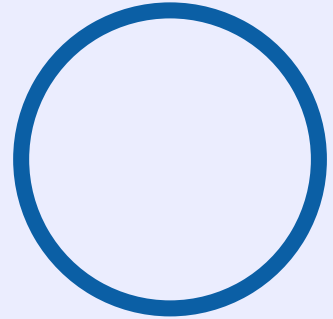
Sawir kee ayaa matalaya molecule diatomic?



a



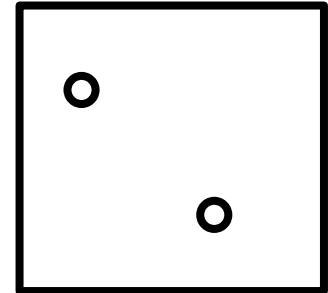
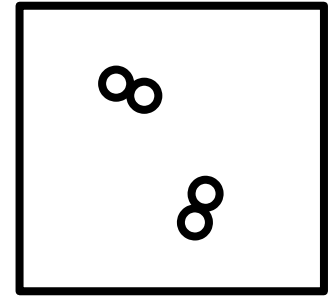
b ✓



c

1. Kala saar weedhaha iyo sawirada laba liis oo cinwaankoodu yahay monatomic iyo diatomic.

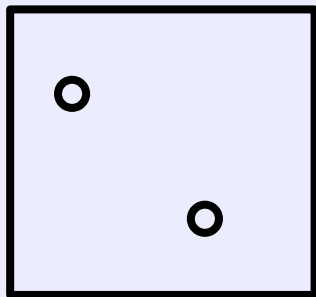
gaasaska goobta (noble gases)
sida helium iyo argon



hal-atom (monatomic)

neefsasho (noble gases) sida helium iyo argon

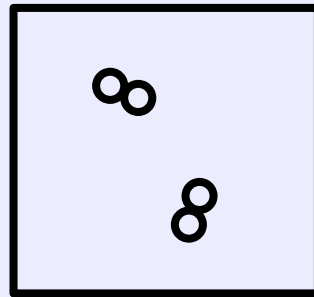
hal-atom oo aan (single atoms not) isku xidhnayn (joined together)



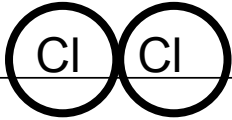
diatomic

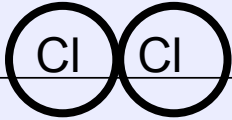
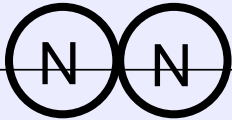
neefsasho (gases) sida hydrogen iyo oxygen

laba atom oo isku xidhan (two atoms joined together)



2. Buuxi macluumaadka maqan.

curiye (element)	calaamad (symbol)	hal-atom ama laba-atom (monatomic or diatomic)	atom ama moleekuul (atom or molecule)	sawir leh calaamad (drawing with symbol)
	Cl ₂			
neon (neon)	Ne		atom (atom)	
nitrogen (nitrogen)		laba-atom (diatomic)		
	Ar			

curiye (element)	calaamad (symbol)	hal-atom ama laba-atom (monatomic or diatomic)	atom ama molecule	sawirka calaamadda (drawing with symbol)
chlorine	Cl ₂	diatomic (diatomic)	molecule (molecule)	
neon	Ne	monatomic (monatomic)	atom	
nitrogen	N ₂	laba-atom (diatomic)	molecule	
argon	Ar	hal-atom (monatomic)	atom	

Birta aan tahay (non-metals) badankoodu waa gaas (gas) heerkulka qolka.

Qaar ka mid ah birta aan tahay (non-metals) waxay sameeyaan molecules diatomic (diatomic molecules) oo ka kooban laba atom (tusaale: O_2 , N_2 , H_2 , Cl_2).

Qaar ka mid ah birta aan tahay (non-metals) waa monatomic (monatomic) oo ma sameeyaan molecules.

Gases gobta (Noble gases) waa monatomic (monatomic) waxayna ku qoran yihiin tiirka midig ee miiska xilliyeedka (periodic table).