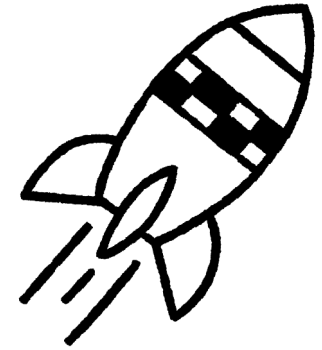


Xeryo (Compounds) iyo samayntooda



Sayniska

Cutub: Atamka (Atoms), curiyeyaasha (elements) iyo xeryaha (compounds)

Natiijo

Waxaan sharxi karaa farqiga u dhexeeya xar (compound) iyo curiye (element).

Erayada muhiimka ah

xar kimiko (chemical compound)

**isku-xidhka kimiko
(chemical bond)**

Erayada muhiimka ah

Xar kimiko (chemical compound) waa walax lagu sameeyo falgal (reaction) kimiko halkaas oo laba ama in ka badan oo curiye (element) oo kala duwan ay isku xidhmaan kimiko ahaan.

Isku-xidhka kimiko (chemical bond) waa xoog (force) adag oo atamka (atoms) ku haysta xar (compound).
Isku-xidhka kimiko (chemical bond) wuxuu u baahan yahay tamar badan si loo jebiyo.

Qaabka casharka

Xeryaha (Compounds) iyo samayntooda

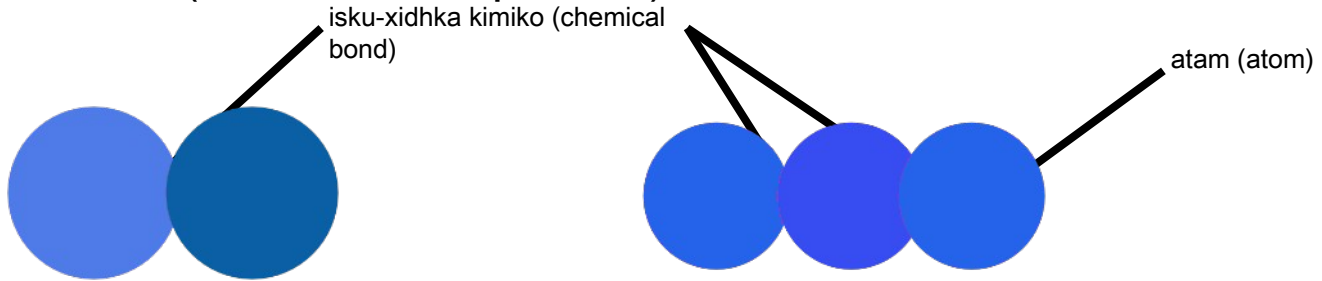


Xeryaha (Compounds)



Isku barbar dhigga xeryaha (compounds) iyo curiyeyaasha (elements)

Qaar badan oo ka mid ah walxaha jira ma aha curiyeyaal (elements), waxay yihiin xeryo kimiko (chemical compounds).



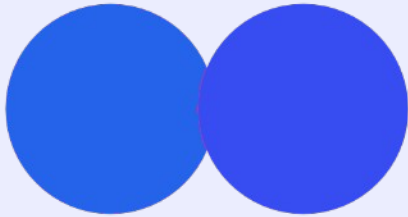
Xeryaha kimiko (chemical compounds) waa:

- Halkaas oo laba ama in ka badan oo curiye (element) oo kala duwan ay isku xidhmaan kimiko ahaan.
- Waxaa la sameeyaa marka uu dhaco falgal (reaction) kimiko.

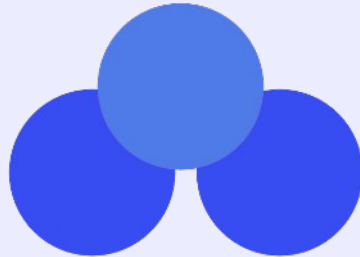
Isku-xidhka kimiko (chemical bond):

- Xoog (force) adag oo atamka (atoms) ku haysta.
- Waxay u baahan tahay tamar badan si loo jebiyo isku-xidhka kimiko (chemical bonds).

Sawirrada (image(s)) kee (kuwa) matali karaa xar (compound)?



a

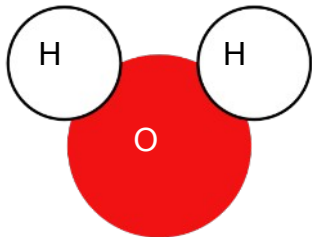


b

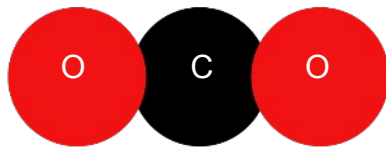


c

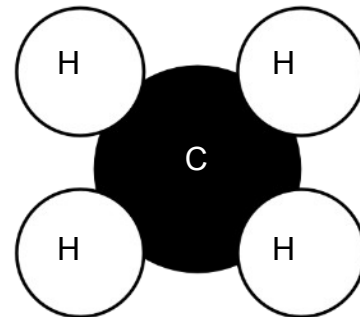
Walxo badan oo maalinle ah waa xeryahooda (compounds):



biyo (water)



carbon dioxide



methane

Xeryahooda (Compounds) waxaa lagu matali karaa:

- goobo / wareegyo (spheres / circles)
- iyadoo la isticmaalayo calaamado kiimiko oo kala duwan, tusaale H ama O

Kuwani waa halbeegyo (molecules) oo keliya oo xeryahooda (compounds) ah.

Run mise been?

Xeryahooda (Compounds) waxaa laga samayn karaa laba ama in ka badan oo curiyayaal (elements) kala duwan ah.



Run



Been

Sabab u sheeg jawaabtaada

a

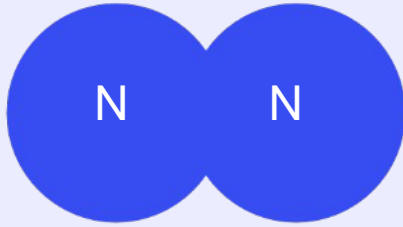
Marka curiyayaasha (elements) ay falgalaan (react), waa la isku xiraa (bonded) si ay u sameeyaan xarun (compound).



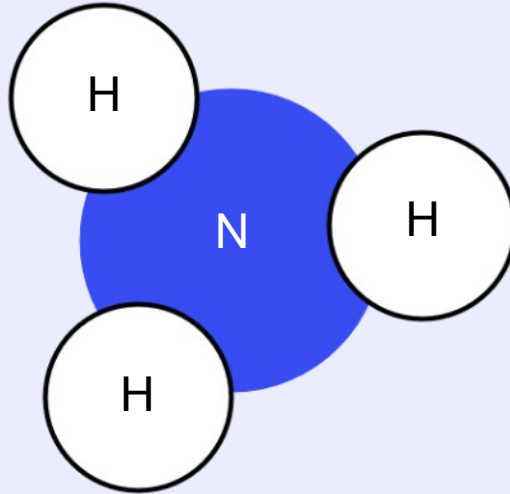
b

Curiyayaasha (Elements) waa la isku qasaa (mixed) si loo sameeyo xarun (compound).

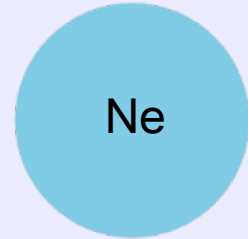
Sawirka/yaa (image(s)) ayaa matali kara xarun (compound)?



a



b



c



Layla

- 1) Kaalay Layla si aad u saxdo qeexitaannada ardayda ee iskudhis (compound) iyo xidhiidh kiimiko (chemical bond).

Xidhiidhada kiimiko (chemical bonds) ee iskudhisku waa kuwo daciif ah oo aan u baahnayn tamar badan inay jabiyaan.



Saciid

Xarun (compound) waa marka laba ama in ka badan oo curiyayaal (elements) ah la isku qaso (mix).



Isra

Atamka ku jira iskudhis (compound) kuma xidhna si kiimiko (chemically).



Axmed

**Layla**

Iskudhis (compound) waa meesha laba ama in ka badan oo curiye (element) ah ay falgalaan (react) oo isku xidhmaan si kiimiko (chemically).

**Isra**

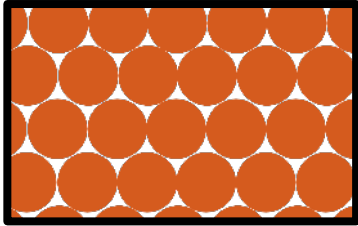
Xidhiidhada kiimiko (chemical bonds) ee iskudhisku waa kuwo xooggan oo u baahan tamar badan in laga gudbo oo la jebiyo.

**Saciid**

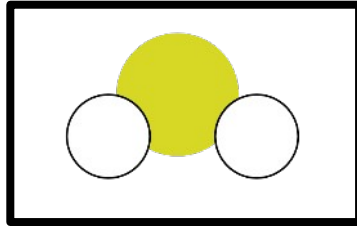
Xidhiidhada kiimiko (chemical bonds) ee iskudhisku waxay ku hayaan atamka molecule-ka wada jir.

**Axmed**

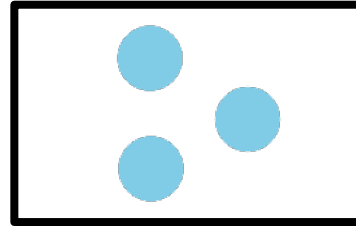
2) Kala saar sawirada curiye (element) iyo iskudhis (compound). Sharax sida aad u kala saartay curiyeaasha (elements) iyo iskudhisyada (compounds).



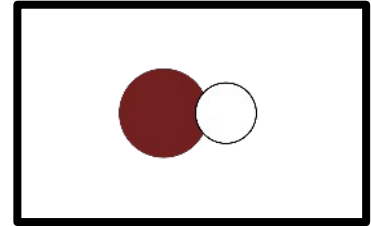
a



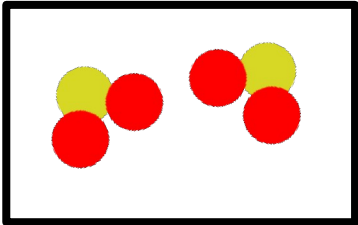
b



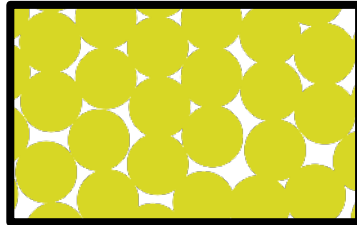
c



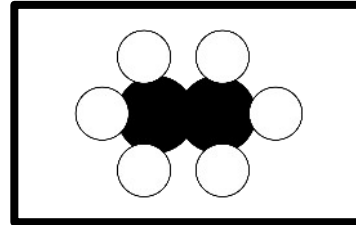
d



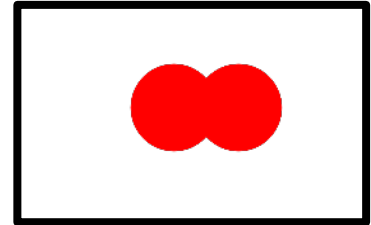
e



f

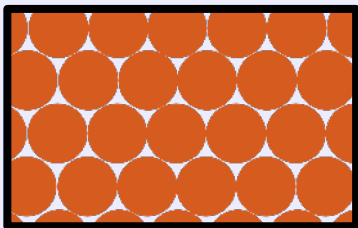


g

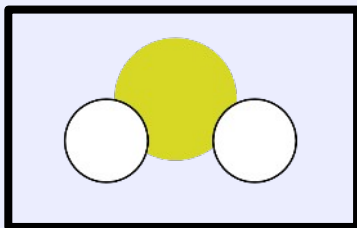


h

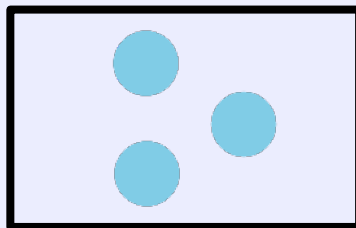
2)



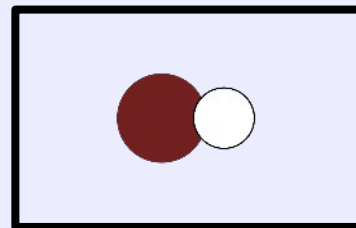
a



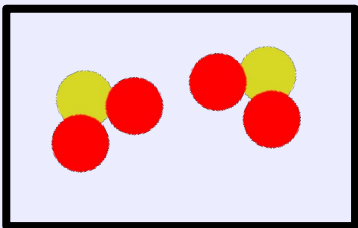
b



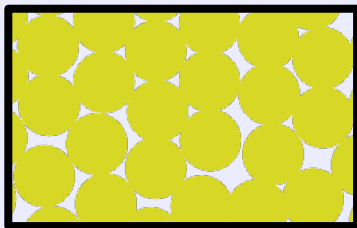
c



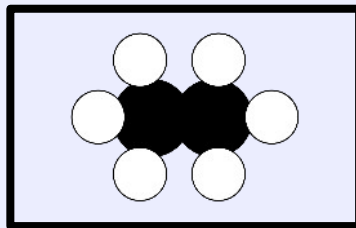
d



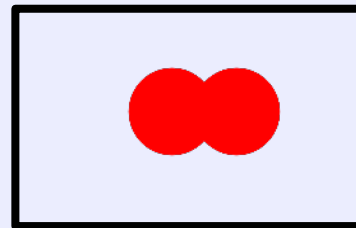
e



f



g



h

Dhammaan iskudhisyada (compounds) waxay leeyihiin laba ama in ka badan oo nooc atam ah oo kala duwan.

Dhammaan curiyeyaasha (elements) waxay leeyihiin hal nooc oo atam ah.

Qaabka casharka

Xarunnada iyo samaysankooda (Compounds and their formation)



Xarunno (Compounds)



Isbarbardhigga xarunnada iyo curiyeyaasha (Comparing compounds and elements)

Isbarbardhigga xarunnada iyo curiyeyaasha (Comparing compounds and elements)

Xarun (compound) ayaa laga yaabaa inay leedahay sifooyin aad uga duwan kuwa curiyeyaasha (elements) kasta oo laga sameeyay.

Tusaale ahaan, copper chloride waxaa laga sameeyaa copper iyo chlorine oo isku xidhan (bonded together).



copper

bir casaan ah (red coloured metal)

chlorine

neef cagaar/huruud ah (green / yellow gas)

falgal (reaction)



copper chloride

bud buluug ah (blue powder)

Qayb yar oo magnesium ah ayaa lagu hayaa olol (flame).

Jadwalka soo socda ayaa loo isticmaalaa in lagu duubo waxa dhaca.

indha-indhayn (observation)	magnesium	oxygen	magnesium oxide (magnesium oxide)
xaaladda maadada (state of matter)			
muuqaalka (appearance)			
korantada (electrical conductivity)			



magnesium (magnesium)

+



falgal (reaction)

oxygen (oxygen) (from the air)



falgal socda (reaction taking place)

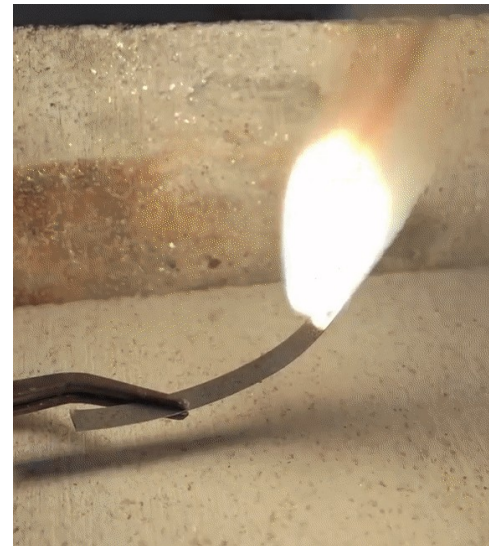


magnesium oxide (magnesium oxide)

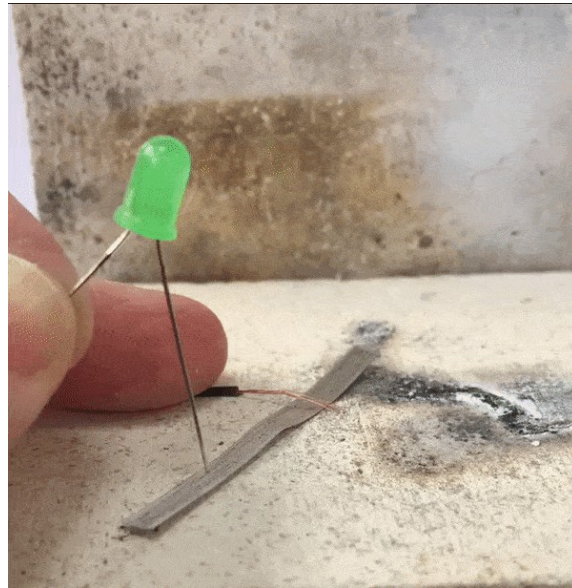
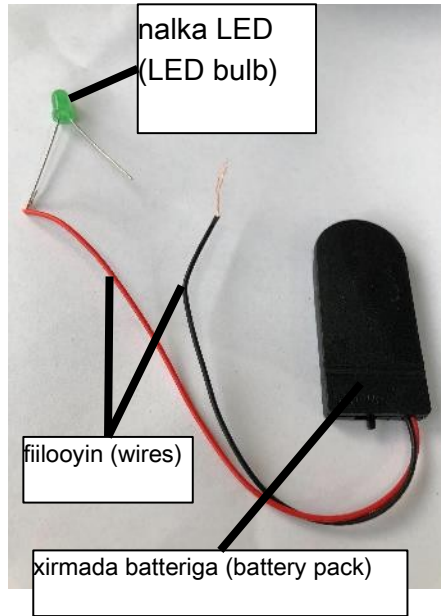
Qayb yar oo magnesium ah ayaa lagu hayaa olol.

Magnesium-ku wuxuu la falgalaa oxygen, isagoo soo saara olol cad oo ifaya. Waxaa dhaca falgal kiimiko.

indho-indhayn (observation)	magnesium (magnesium)	oxygen (oxygen)	magnesium oxide (magnesium oxide)
xaaladda maadada (state of matter)	adag (solid)	gaas (gas)	adag (solid)
muuqaalka (appearance)	qalin / bir dhalaalaysa (silver / shiny metal)	midab la'aan (colourless)	bud cad oo jajaban (white, brittle powder)
korantada (electrical conductivity)			



Korantada magnesium iyo magnesium oxide (Electrical conductivity of magnesium and magnesium oxide)



korantada magnesium (electrical conductivity of magnesium)



korantada magnesium oxide (electrical conductivity of magnesium oxide)

Isbarbardhigga xeryahooda iyo curiyeyaasha (Comparing compounds and elements)

Qayb yar oo magnesium ah ayaa lagu hayaa olol.

Magnesium-ku wuxuu ku gubanayaa olol cad oo dhalaalaya. Waxaa dhacaya falgal (reaction) kiimiko.

indha-indhayn (observation)	magnesium	oxygen	magnesium oxide
xaaladda maaddada (state of matter)	adag (solid)	gaas (gas)	adag (solid)
sifayn	bir qalin / bir dhalaalaya haa	midab la'aan	bud cad, jajaban maya
korantada (electrical conductivity)		maya	



Isbarbardhigga xeryahooda (compounds) iyo curiyeyaasha (elements)

Magnesium-ku wuxuu ku gubtaa olol cad oo dhalaalaya. Waxaa dhaca falgal (reaction) kiimiko.

Laba ka mid ah ikhtiyaarrada la bixiyay waa maxay caddayn ah in la sameeyay walax cusub?



a bir qalin ka dib falgalka
(reaction)

b qiiq cad



c muuqashada adag cad



Dooro laba jawaabood. Magnesium oxide-ka la sameeyay wuxuu yeelan doonaa ...

a

sifooyin la mid ah kuwa oxygen-ka.

b

sifooyin la mid ah kuwa magnesium-ka.

c

sifooyin ka duwan kuwa oxygen-ka.



d

sifooyin ka duwan kuwa magnesium-ka.



Isbarbardhigga xaruumaha (compounds) iyo curiyeyaasha (elements)

Run mise been?

Xeryahooda (compounds) had iyo jeer waxay leeyihiin sifooyin la mid ah kuwa curiyeyaasha (elements) laga sameeyay.



Run



Been



Sabab u sheeg jawaabtaada

a

Waa inaad tijaabisaa (experiment) xarunta (compound) si aad u aragto sifooyinkeeda oo aad u barbardhigto curiyeyaasha (elements) laga sameeyay.



b

Xarun (compound) marnaba ma laha sifooyin la mid ah curiyeyaasha (elements) laga sameeyay.

Waxaad samayn kartaa tijaabo (experiment) si aad u aragto haddii xaruumuhu (compounds) leeyihiin sifooyin ka duwan curiyeyaashii (elements) laga sameeyay.

Halkan waxaa ah liiska qalabka aad u baahan doontid si aad u aragto haddii baaruudda (sulfur) iyo birta (iron) leeyihiin sifooyin ka duwan xarunta (compound) (birta baaruudda (iron sulfide)) ay sameeyaan marka la falgaliyo (react).

Xusuusnow inaad raacdo tilmaamaha badbaadada ee macallinkaaga.

Liiska qalabka:

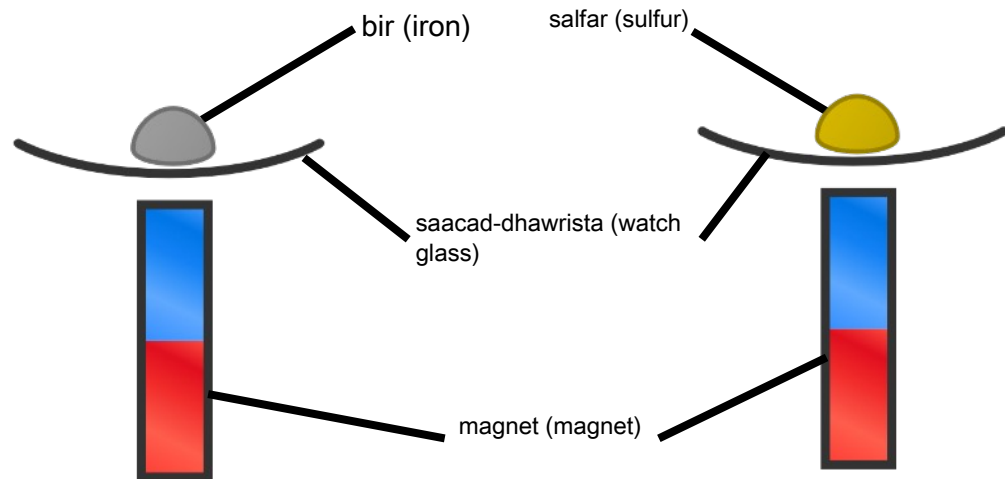
- tuubbo kariyeed (boiling tube)
- budada baaruudda (sulfur powder)
- jajabyada birta (iron filings)
- qabto iyo taageere (clamp and stand)
- birlab (magnet)
- muraayad fiirineed (watch glass)
- doon miisaameed / shub (weighing boat / funnel)
- suuf macdaneed (mineral wool)
- shidaha Bunsen (Bunsen burner)
- dermo kuleel-celiseed (heat resistant mat)
- qabto (tongs)



Tijaabinta walxaha si loo arko haddii ay birlabeen (magnetic)

Habka (Method)

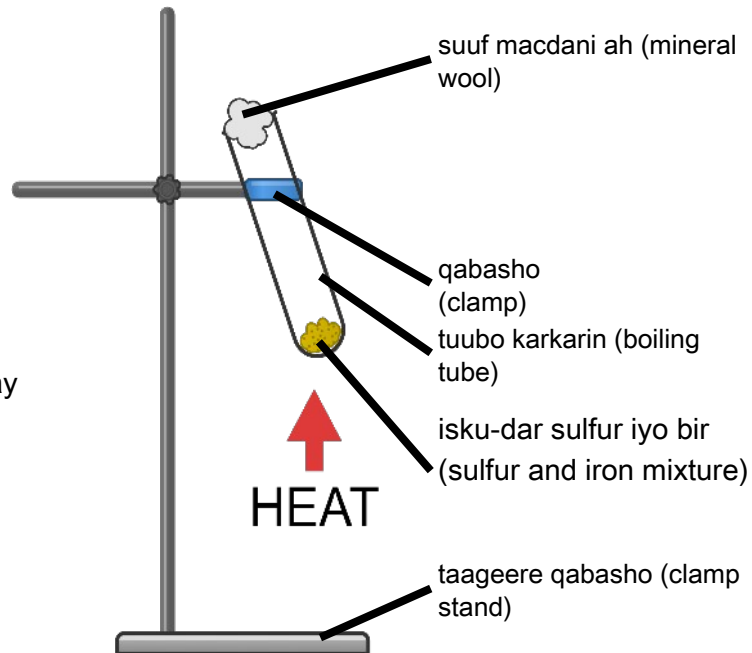
- 1) Ku dar walaxda (substance) muraayadda fiirineed (watch glass).
- 2) Dhig magnet-ka (magnet) hoosta saacadda-dhawrista (watch glass).
- 3) Qor indha-indheynta (observations).



Halkan waxaa ah hab loo isticmaali karo falgalka (reaction) sulfur iyo bir.

Habka (Method):

1. Qor midabka iyo xaaladda (state of matter) ee birta iyo sulfur-ka.
2. Tijaabi birta iyo sulfur-ka inay yihiin magnet (magnetic).
3. Diyaar qalabka sida ku cad jaantuska (diagram).
4. Kululi ilaa uu falgalku (reaction) dhaco.
5. Ka tag si uu qaboobo.
6. Indha-indhee midabka iyo xaaladda (state of matter) ee isku-dhafka (compound).
7. Tijaabi isku-dhafka (compound) la sameeyay (iron sulfide) inuu yahay magnet (magnetic).



- 1) Birta waxay la falcelisaa baaruud (sulfur) si ay u samayso bir-sulfide. Samee shayga ama daawo fiidiyowga oo buuxi shaxda indha-indheyntaada.

Watch 

observation	iron	sulfur	iron sulfide
state of matter			
colour			
magnetic			

Waa maxay caddaynta (evidence) aad ku aragtay in la sameeyay walax cusub (iron sulfide)?

- 1) Iron (bir) waxay la falgashaa sulfur (baaruud) si ay u samayso iron sulfide. Isbarbardhig jaantuska natiijooyinkaaga iyo indho-indhayntan.

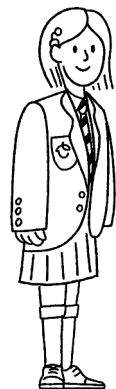
observation	iron	sulfur	iron sulfide
state of matter	solid	solid	adag (solid)
colour	grey	yellow	madow
magnetic	yes	maya	maya

Waa maxay caddayn aad ku arki karto in wax cusub (iron sulfide) la sameeyay?

Wax cusub (iron sulfide) ayaa la sameeyay. Tan waxaad ku arki kartaa sababahan:

- midabku wuxuu ka beddelmay grey / yellow oo hadda waa madow
- birta (iron) waxay ahayd magnetic, laakiin iron sulfide ma aha magnetic

2) Suad waxay daawashay tijaabo (experiment) uu macallinkeedu sameeyay. Markii sodium la falgalay chlorine, waxaa la arkay olol huruud / orange dhalaalaya, waxaana la sameeyay sodium chloride.

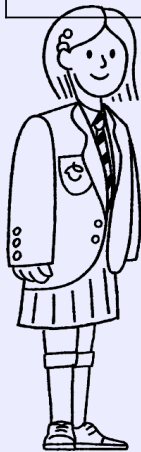


indho-indhayn (observation)	sodium	chlorine	sodium chloride
xaaladda (state of matter)	adag (solid)	gaas (gas)	adag (solid)
midab	shiny silver marka la gooyo	jaalle / cagaar (yellow / green)	caddaan (white)

Cadhayntee (Evidence) maxay Suad u haysaa si ay u muujiso in iskudhis (sodium chloride) la sameeyay?

2) Suad waxay daawatay tijaabo (experiment) uu macallinkeedu sameeyay.

indha-indhayn (observation)	sodium	chlorine	sodium chloride
xaaladda walaxda (state of matter)	adag (solid)	neef (gas)	adag (solid)
midab (colour)	qalin dhalaalaya marka la gooyo (shiny silver when cut)	jaalle / cagaar (yellow / green)	caddaan (white)



Waan ogahay in iskudhis (sodium chloride) la sameeyay sababtoo ah, ka dib falgalka (reaction), iskudhisku wuxuu lahaa midab ka duwan labada curiye (elements) ee falgalay. Iskudhisku wuxuu ahaa xaalad adag (solid) oo ma ahayn xaaladda adag iyo neef sida curiyeyaasha (elements) laga sameeyay.

Soo koobid Iskudhiska (Compounds) iyo sida loo sameeyo

Iskudhis (Compound) wuxuu ka samaysan yahay laba ama in ka badan oo curiye (elements) oo kala duwan oo si kiimiko ah isugu xidhan iyada oo loo marayo falgal kiimiko (chemical reaction).

Iskudhis (Compound) wuxuu yeelan karaa sifooyin (properties) ka duwan kuwa mid kasta oo ka mid ah curiyeyaasha (elements) laga sameeyay.