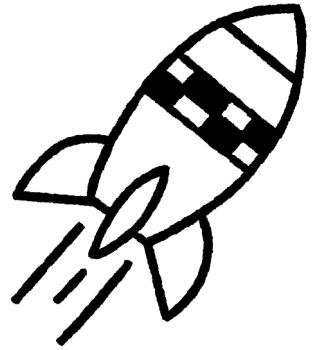


Koronto taagan (Static electricity)

Sayniska

Cutub: Wareegyo taxane ah (Series circuits)



Natiijo

Waxaan qeexi karaa sida walxaha leh dallac (charge) togan ama taban ay u soo jiitaan ama u iska celiyaan walxaha kale ee dallacsan.

Erayada muhiimka ah

**koronto taagan (static
electricity)**

**dallac togan (positive
charge)**

**dallac taban (negative
charge)**

**xoog elektrostatic ah
(electrostatic force)**

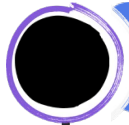
Koronto taagan (static electricity) waxaa keena ururinta dallaca (charge) ee insulators-ka.

Dallac togan (positive charge) waa nooc ka mid ah dallaca korantada (electrical charge) oo soo jiita dallac taban (negative charge).

Dallac taban (negative charge) waa nooc ka mid ah dallaca korantada (electrical charge) oo soo jiita dallac togan (positive charge).

Xoogga elektrostatic (electrostatic force) waa xoog (force) u dhexeeya dallacyada (charges).

Koronto taagan (Static electricity)



Dallac taagan (Static charge)



Xoog elektrostatis (Electrostatic force)

Dallac taagan (Static charge)

Marka bir caag ah lagu xoqo maro, qaybo yaryar oo warqad ah ayaa ku dhegi kara.

Birtu waxay awood u leedahay inay soo jiito qaybaha warqadda iyada oo aan taaban.



Dallac taagan (Static charge)

Buufin (balloon) ayaa sidoo kale warqad ku dhejin kara marka la xoqo.



Dallac taagan (Static charge)

Laba ka mid ah kuwan soo socda ayaa u oggolaanaya bir caag ah inay soo qaaddo qaybo yaryar oo warqad ah?

a

Xaakimka (ruler) waa inuu ku xirmaa baytari (battery).

b

Xaakimka (ruler) waa in lagu xoqaa maro (cloth).



c

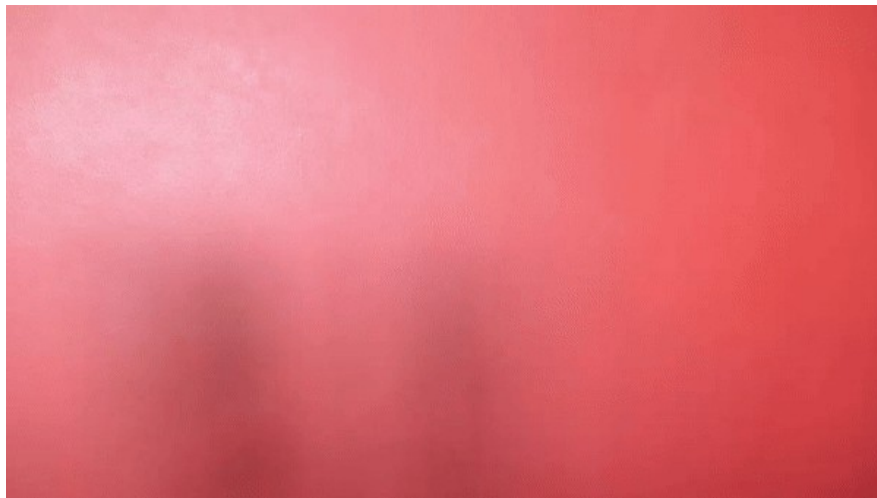
Xaakimka (ruler) waa in loo soo dhoweeyaa jajabka waraaqaha (pieces of paper).



d

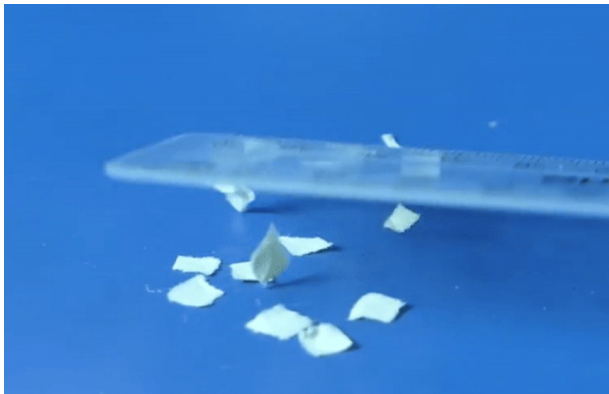
Xaakimka (ruler) waa inuu taabtaa jajabka waraaqaha (pieces of paper).

Buufin (balloon) xitaa waxay ku dhegi kartaa gidaar (wall) ka dib marka lagu xoqo.



Waraaqaha (paper) iyo buufinka (balloon) waa fudud yihiin, markaa way fududahay in la arko saamayntan.

Xaakimka (ruler), buufinka (balloon) iyo gidaarka (wall) waxay noqdeen kuwo koronto leh (charged).



Tan waxaa loo yaqaan koronto taagan (static electricity), ama si cilmiyaysan, koronto taagan electrostatic (electrostatic charge).

Walxahan dhamaantood waa insulators (insulators), oo koronto taagan (static charge) badanaa wuxuu ku ururi karaa iyaga.

Kee ka mid ah kuwan soo socda ayaa ah sababta saxda ah ee koronto taagan (static charge) badanaa ugu ururi karo walxaha qaarkood?

a

waa insulators (insulators)



b

waa conductors (conductors)

c

waa magnetic (magnetic)

Koronto taagan (Static charge)

Ma arki karno koronto taagan (static charge) ee xaakimka (ruler), laakiin waxaan ogaan karnaa sababtoo ah waxay ku shaqeysaa xoog (force) waraaqaha aan koronta lahayn (uncharged paper).

Waxaa jira laba nooc oo koronto ah; koronto togan (positive charge) iyo koronto taban (negative charge).



Koronto taagan (Static charge)

Imisa nooc oo koronto (charge) ah ayaa jira?

a

mid (one)

b

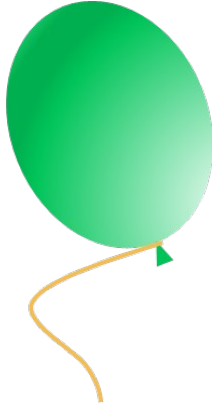
laba



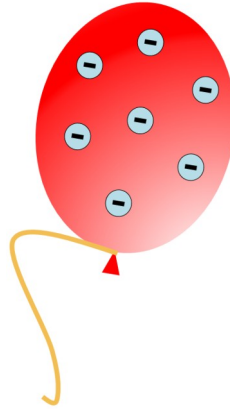
c

saddex

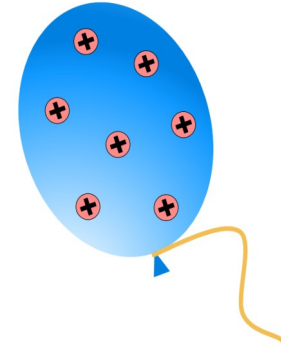
Baloonnadan waa:



dhexdhexaad (neutral)
(koronto la'aan)



koronto taban
(negatively charged)



koronto togan
(positively charged)

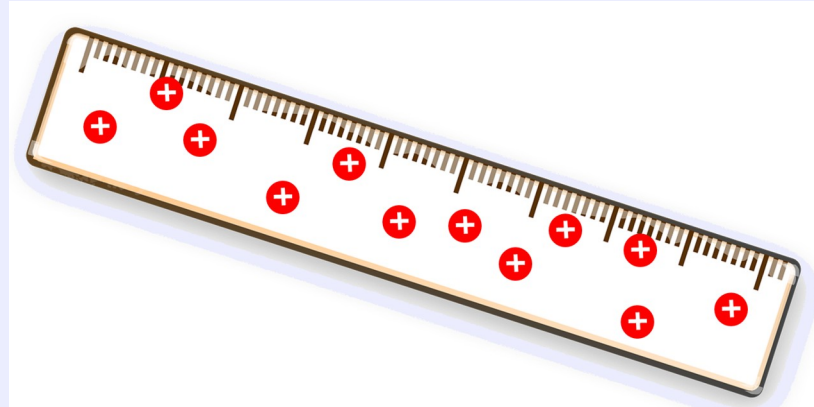
Shayga badankiisu waa dhexdhexaad (neutral) laakiin mararka qaarkood wuxuu yeelan karaa koronto togan ama taban, sida ay muujinayaan calaamadaha '+' iyo '-'.

Waa maxay korontada ku taal birtaan (ruler)?

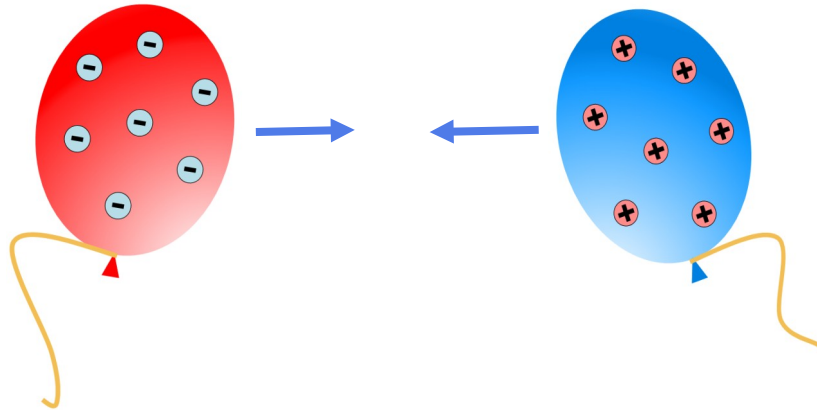
a taban (negative)

b togan (positive) ✓

c dhexdhexaad (neutral)



Shayga korontada leh wuxuu ku sameeyaa xoog (force) shay kale.



Xooggan waxaa loo yaqaan xoog koronto-taagan (electrostatic force).

Waa maxay magaca xoogga (force) ku haya baloonga derbiga?

a

magnetic (magnetic)

b

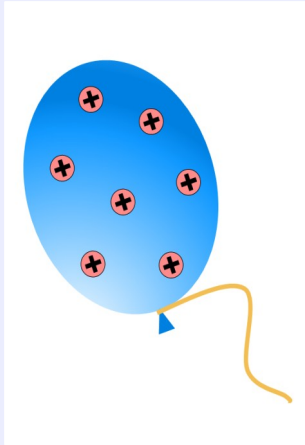
cufisjiidad (gravitational)

c

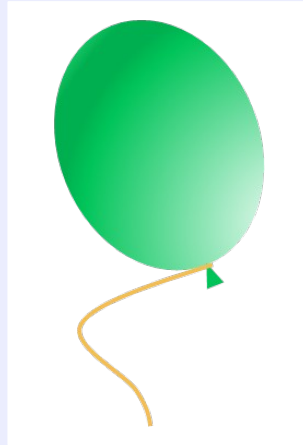
koronto-taagan (electrostatic) ✓



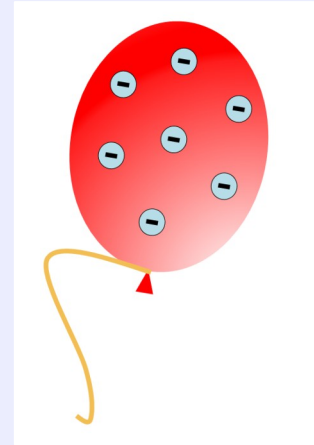
Baloonnada kee ma keeni doono xoog koronto-taagan (electrostatic force)?



a



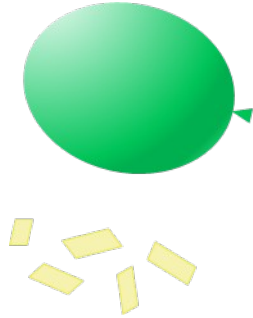
b



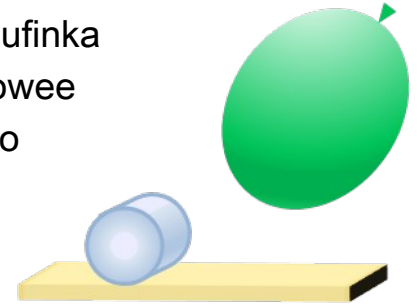
c

Samee afartan tijaabo oo qor waxaad ku aragtid (observations) jeer walba.

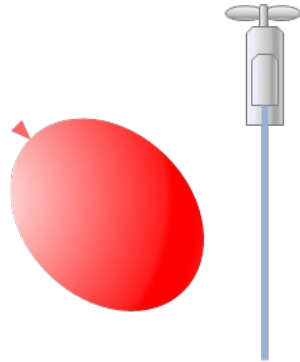
1. Ku dallac (Charge) buufinka adoo xoqaya oo meel dhow u dhig xaashi yaryar.



2. Ku dallac (Charge) buufinka adoo xoqaya oo u dhowee dhalo (can) macdan oo madhan.



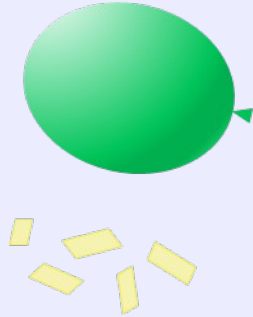
3. Ku dallac (Charge) buufinka adoo xoqaya oo u dhowee durdur (stream) yar oo biyo (water) ah.



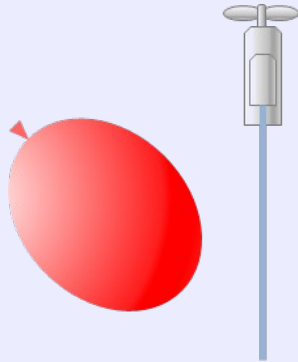
4. Qabo laba xariijin (stripes) polythene oo dhammaan kor ka wada qabta oo maro ku xoq hoos u sii socda.



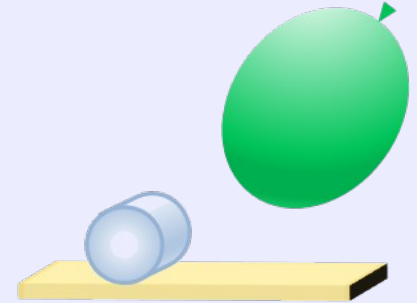
1. Buufinku wuxuu soo qaaday xaashiyaha yaryar. Qaar baa dhaca laakiin mar kale waa la soo qaadayaa.



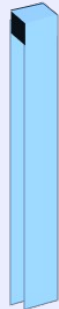
3. Durdurka biyaha (water) ayaa loo soo jiiday buufinka. Buufinku waa inuu dhow yahay si biyaha u soo jiido.



2. Dhalada (can) ayaa soo jiidatay buufinka iyada oo aan taaban. Sidii buufinku u soo dhawaado ayay u dhaqaaqaysaa.



4. Xariijimaha (strips) ayaa kala fogaaday oo kor u sii taagan sidii iyagoo midba midka kale riixaya.



Korantada taagan (Static electricity)

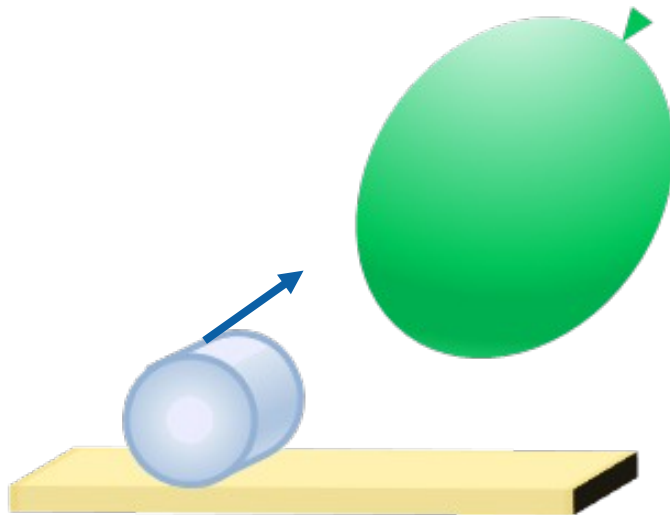


Korontada taagan (Static charge)



Xoogga elektroostatiga (Electrostatic force)

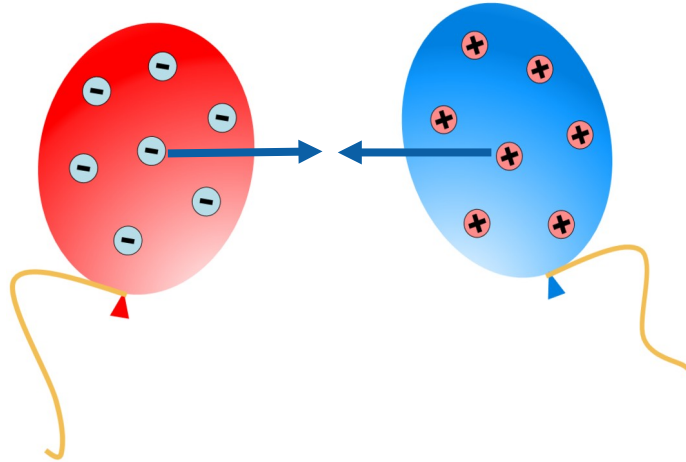
Dhaladu (can) waa mid aan la dallacin oo loo soo jiiday buufinka la dallacay iyada oo aan la taaban.



Xoogga elektroostatigu (Electrostatic force) waa xoog aan taabasho lahayn (non-contact force) oo masaafo gaaban ka shaqeeya.

Labadan buufin kuma laha isku dallac (charge).

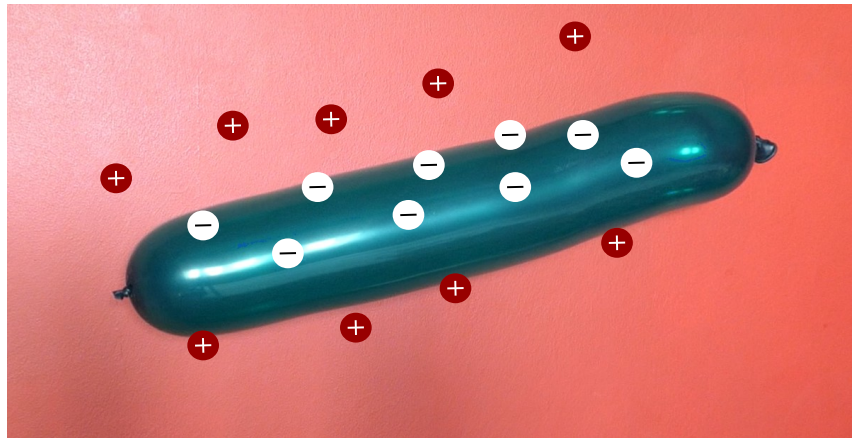
Toosan (Positive) iyo taban (negative) waa dallacyo (charges) iska soo horjeeda.



Dallacyada (charges) iska soo horjeeda ayaa is soo jiita, sidaas darteed buufintu way is soo jiidayaan (way soo dhawaadaan).

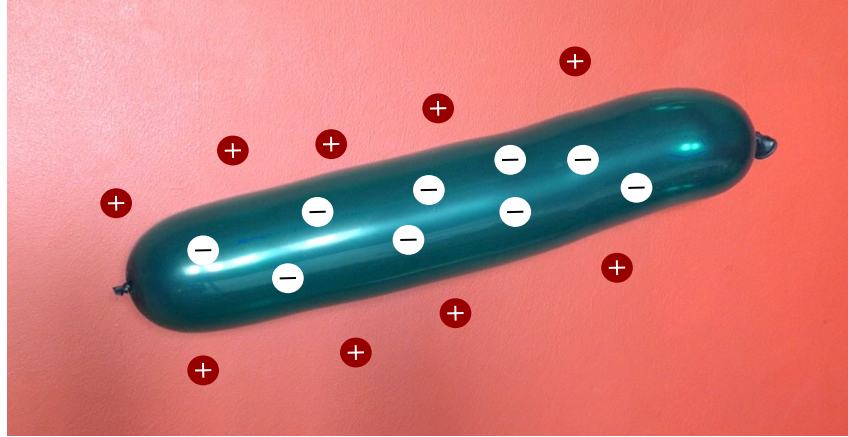
Xoog koronto-taag (Electrostatic force)

Marka buufinku lagu xoqo gidaarka...



...gidaarku wuxuu noqdaa mid koronto ku shuban (positively charged)
buufinkuna wuxuu noqdaa mid koronto ku shuban (negatively charged).

Korontadu waxay ka dhigtaa buufinka iyo gidaarka inay is soo jiitaan.

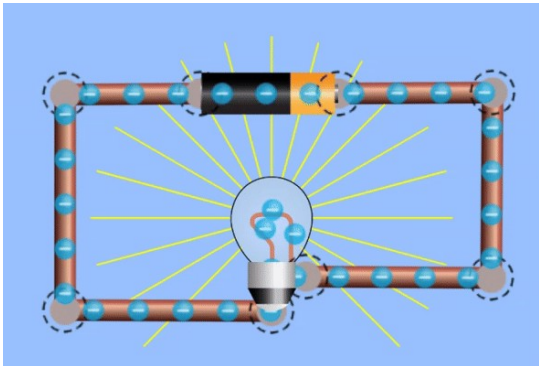


Korontada ku taal gidaarka iyo buufinku waxay ku sii sugnaanayaan meel ay ku jiraan muddo gaaban sababtoo ah gidaarka iyo buufinku waa kuwo aan koronto qaadin (insulators).

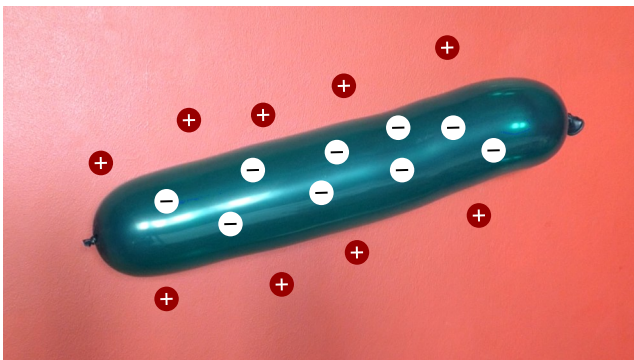
Tani waa sababta loogu yeedho koronto taagan (static electricity).

Xoog koronto-taag (Electrostatic force)

Korontada socota (current electricity), korontadu waxay lagu riixaa oo lagu jiidaa wareegga (circuit) waxayna dhex mari kartaa kuwa koronto qaada (conductors).



Korontada taagan (static electricity), korontadu waxay is riixi karaan oo is jiidi karaan, laakiin waxay ku dhegan yihiin kuwa aan koronto qaadin (insulators) mana dhaqaaqi karaan.



Maxay korontada la arko marka kuwa aan koronto qaadin (insulators) la xogo loogu yeedhaa koronto taagan (static electricity)?

a

korontadu waa mid taban (negative)

b

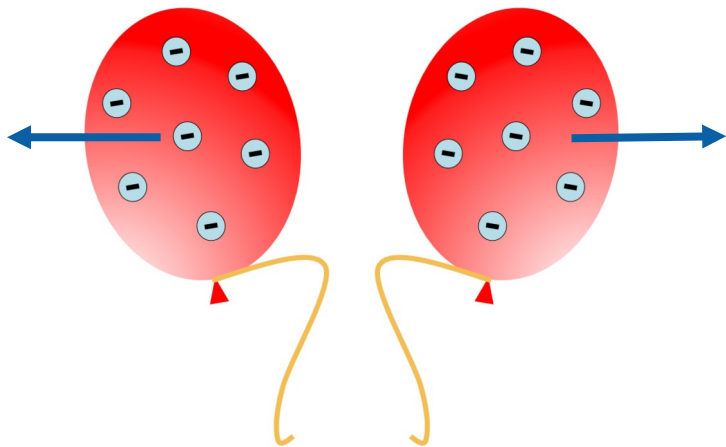
korontadu waxay ku sii sugnaataa meesha



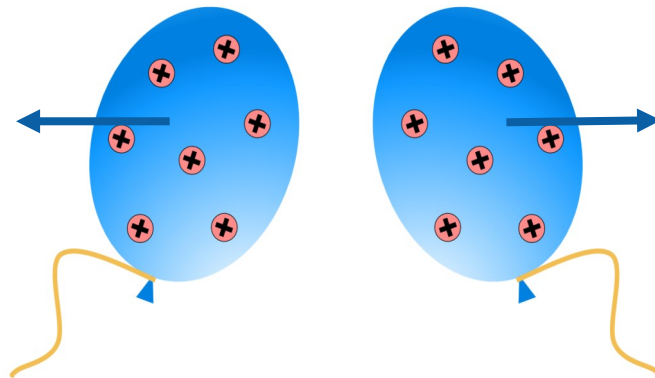
c

walxaha waxaa haya xoog

Koronto isku mid ah (like charges) way is celin doonaan (isaga riixaya).



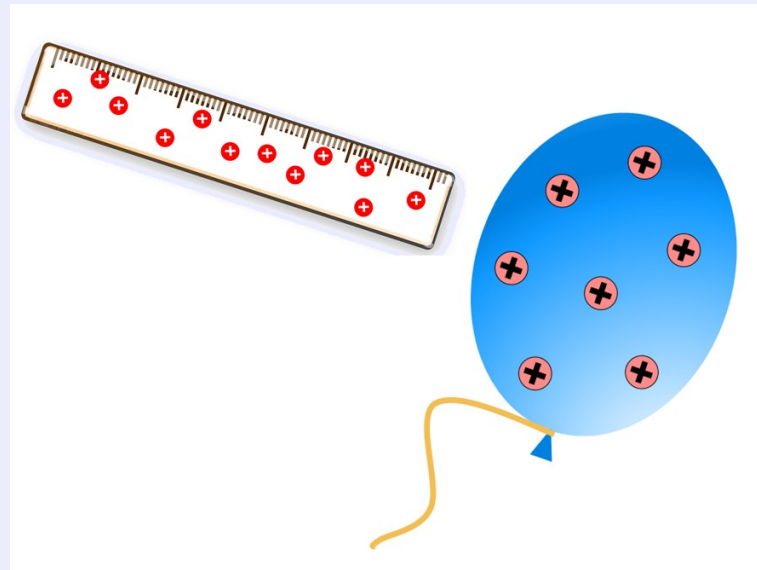
Koronto taban (negative charge) waxay is celisaa koronto taban (negative charge).



Koronto togan (positive charge) waxay is celisaa koronto togan (positive charge).

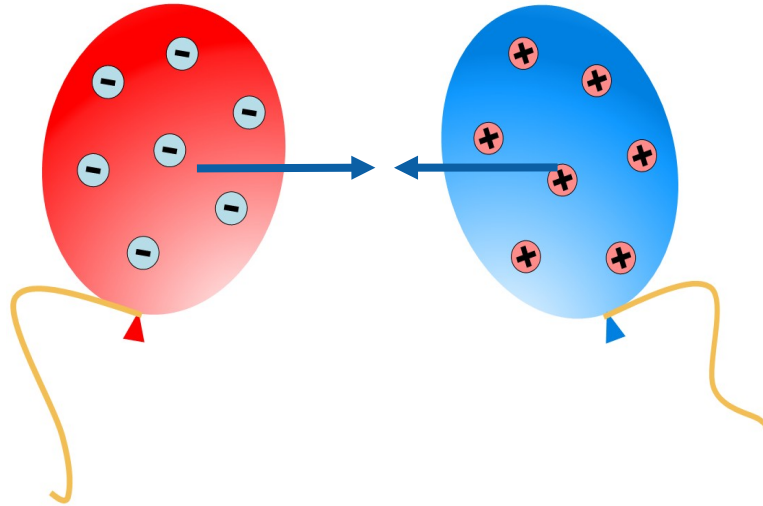
Maxaa ku dhici doonaan xaakin (ruler) iyo buufinkan?

- a** way is celin doonaan (they will repel) ✓
- b** way is soo jiidan doonaan (they will attract)
- c** Xoog (Force) ma jiri doono (there will be no force)



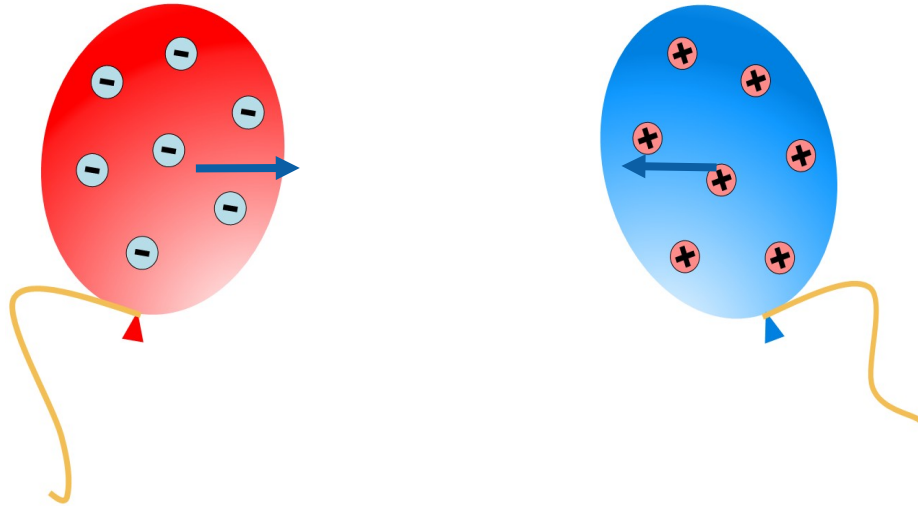
Xoogga Korantada (Electrostatic force)

Kordhinta masaafada u dhaxaysa buufinnada waxay yaraynaysaa cabbirka Xoogga Korantada (Electrostatic force).



Xoogga Korantada (Electrostatic force)

Kordhinta masaafada u dhaxaysa buufinnada waxay yaraynaysaa cabbirka Xoogga Korantada (Electrostatic force).



Xoogga Korantada (Electrostatic force)

Kordhinta masaafada u dhaxaysa buufinnada waxay yaraynaysaa cabbirka Xoogga Korantada (Electrostatic force).



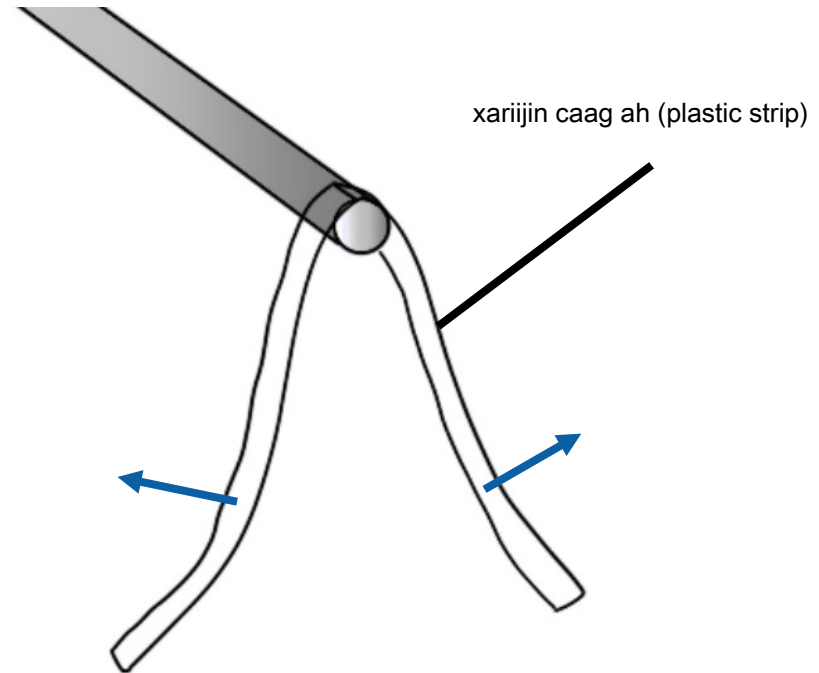
Xoogga Korantada (Electrostatic force)

Saddexda mid ee qoraallada soo socda ee ku saabsan Xoogga Korantada (Electrostatic force) waa sax?

- a** uma baahna taabasho (it does not require contact) ✓
- b** wuxuu kordhaa masaafada (it increases with distance)
- c** wuxuu noqon karaa mid soo jiidasho leh (it can be attractive) ✓
- d** wuxuu noqon karaa mid caris (it can be repulsive) ✓

Xariijintan caagga ah (plastic strip) ayaa lagu xoqay maro, labada qayboodna way is celinayaan (repelling each other).

Sharax sababta ay tani u dhacayso.



Xariijintan caagga ah (plastic strip) ayaa lagu xoqay maro, labada qayboodna way is celinayaan (repelling each other).

Sharax sababta ay tani u dhacayso.

Xariijinta balaastiggu waxay noqotaa mid koronto ku shuban (charged) marka lagu xoqo marada.

Labada daraf ee xariijintu waxay leeyihiin koronto isku mid ah (same charge).

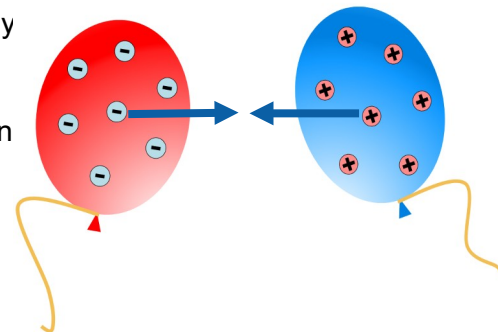
Korontooyinka isku midka ahi way iska celiyaan (repel), sidaas darteed labada daraf way iska fogaadaan iyada oo loo eegayo xoogga korantada (electrostatic force).

Natiijada, darafyadu waxay ahaanayaan kuwo kala fogaaday.

Koronto taagan (static electricity) ama koronto shuban (static charge) waxay ku ururtaa walxaha qaarkood marka la isku xoqo.

Waxaa jira laba nooc oo koronto shuban (electrostatic charge) ah: koronto togan (positive charge) iy koronto taban (negative charge).

Walxaha korontada leh waxay ku dhici karaan xoog koronto (electrostatic force) oo aan taaban (non contact) ah walxo kale.



Korontooyinka isku midka ahi way iska celiyaan (repel), korontooyinka kala duwanaanna way is soo jiitaan (attract).

Xoogga korantada (electrostatic force) wuu yaraadaa marka masaafada kordho.