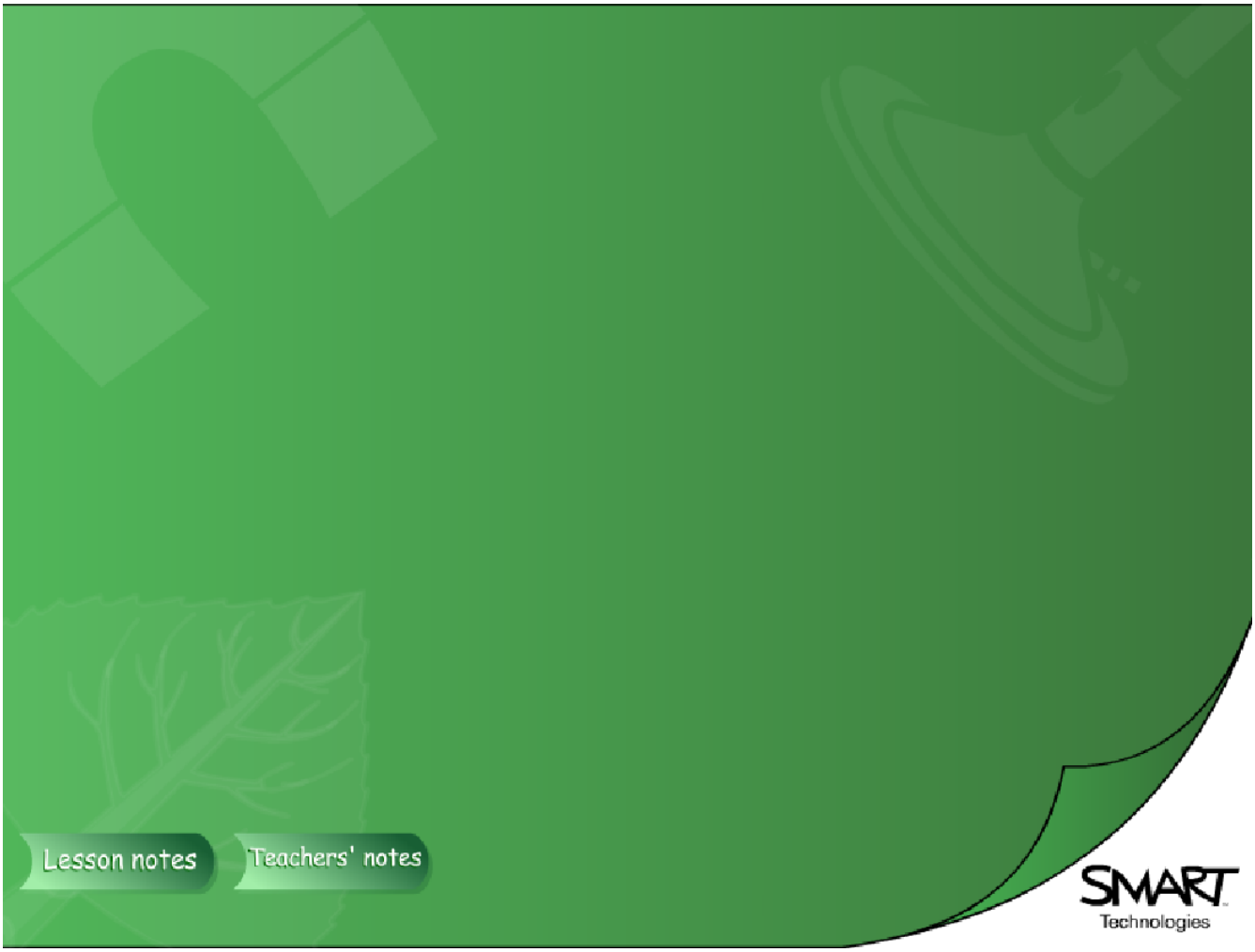
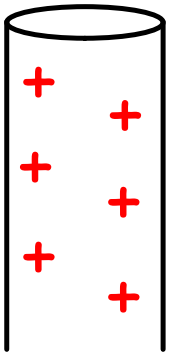
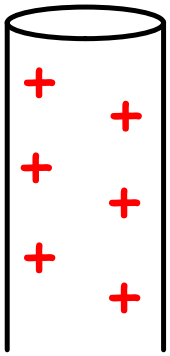

Lesson notes
Teachers' notes
SMART
Technologies

The law of electric charges

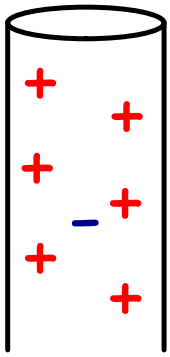
Drag negative charges to these diagrams to illustrate a positively charged object, a neutral object and a negatively charged object.



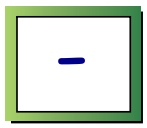
Postive



Neutral



Negative



Electron

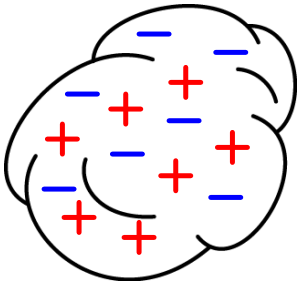
Click here for the answer

Since all atoms do not hold onto their electrons with the same attractive force, two dissimilar materials rubbed together will fight for electrons.

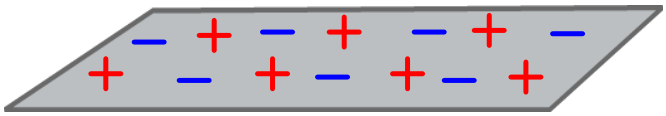
Drag the electrons to the material with the higher affinity.

Pull here

Click here for the electrostatic series



Neutral wool



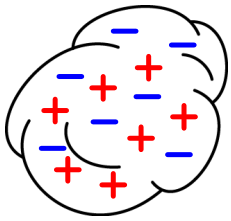
Neutral acetate

Summary: charging by friction

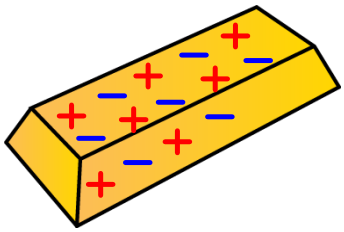
Drag the electrons to the material with the higher affinity.

Pull here

Before

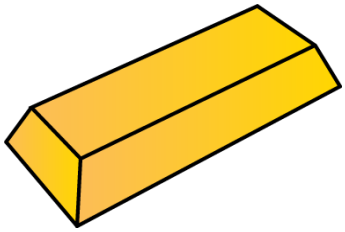


Neutral cotton



Neutral gold

After



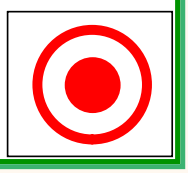
Click here for the electrostatic series

Charging by _____ occurs when two substances are rubbed together. These two substances are initially _____. However, after being rubbed, one object becomes _____ while the other becomes _____. Charging by friction occurs because _____ are free to move from one substance to another. The _____ determines which substance will _____ electrons and which substance will _____ electrons.

Drag this to the target to reveal the answers.

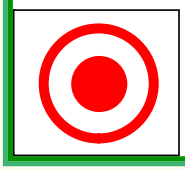
neutral electrons negative gain

friction electrostatic series lose positive



If an object gains electrons then it is said to be _____. If a substance loses electrons it is said to be _____.

For example, if an ebonite rod is rubbed with a small piece of silk, the ebonite will become _____ while the silk will become _____. We use _____ to illustrate the transfer of electrical charge (electrons between two substances.

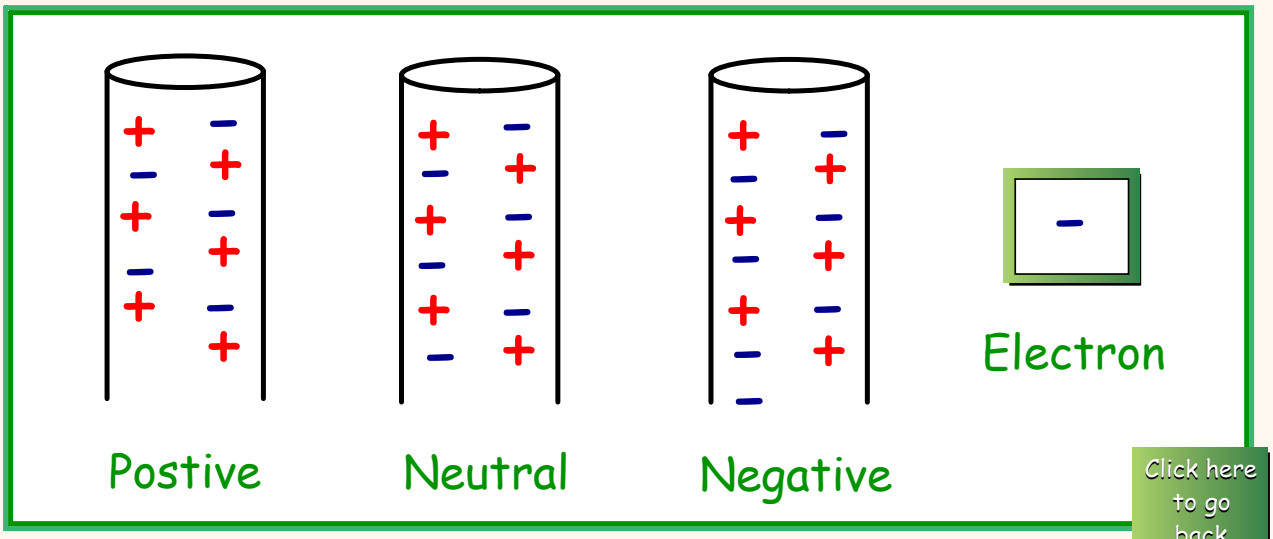


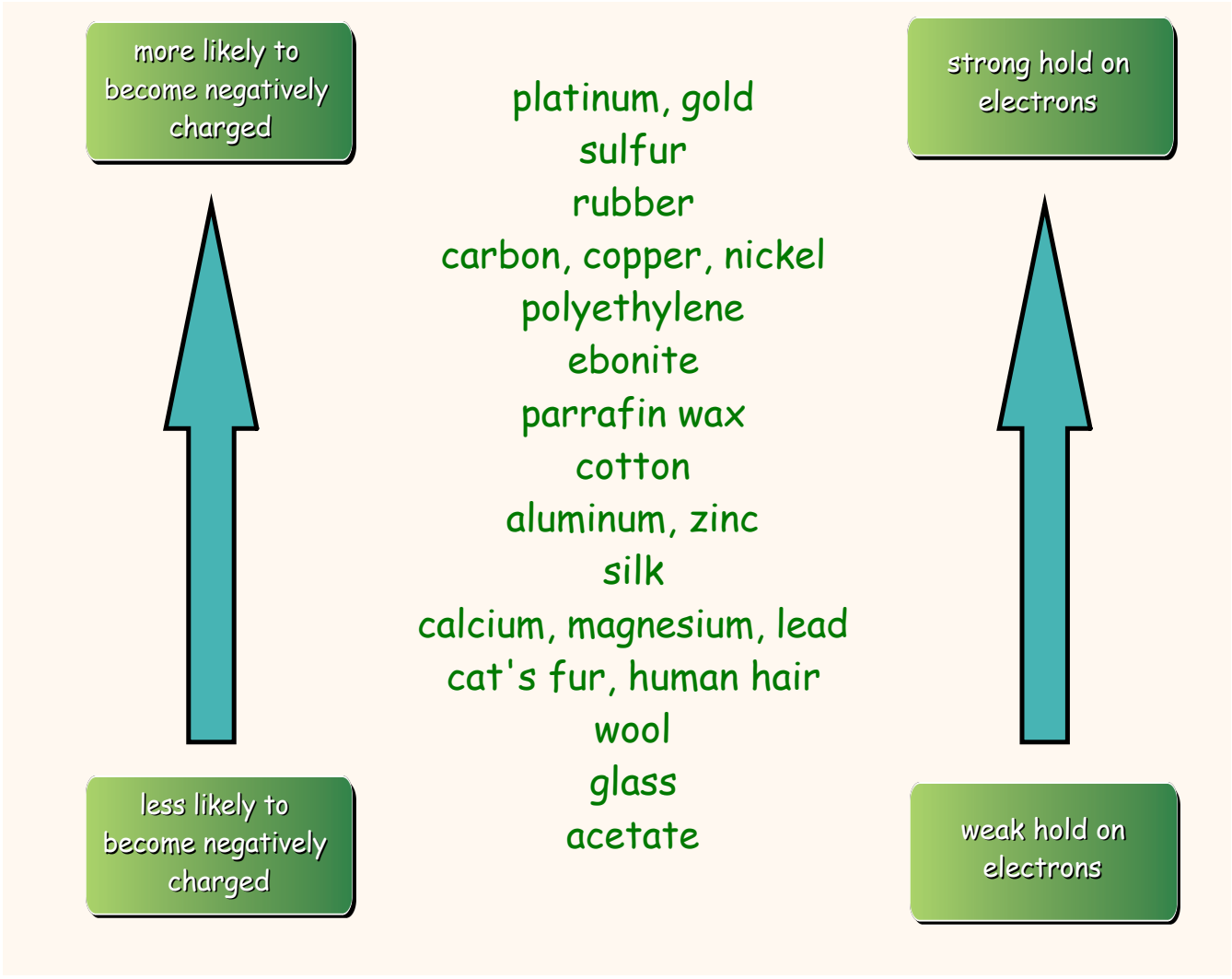
negatively charged positive positively charged negative charge distribution diagrams

Drag this to the target to reveal the answers.

The following pages are answers to the tasks in the lesson activity.

The diagrams should show more positive than negative charges on the positive rod and vice versa on the negative rod. It is less important how many charges have been dragged to the rods.




more likely to become negatively charged
less likely to become negatively charged
strong hold on electrons
weak hold on electrons
platinum, gold
sulfur
rubber
carbon, copper, nickel
polyethylene
ebonite
parrafin wax
cotton
aluminum, zinc
silk
calcium, magnesium, lead
cat's fur, human hair
wool
glass
acetate