

ELECTRICITY

Electrical Charges

If an object has more positive charges (+) than negative charges (-), its electrical charge is positive (+).

If an object has more negative charges (-) than positive charges (+), its electrical charge is negative (-).

If an object has the same number of positive (+) and negative (-) charges, it has no electrical charge or is neutral.

Example:



Electrical charge: positive charge

Count the positive and negative charges in each picture. Write positive charge, negative charge, or no charge on each line.

1.



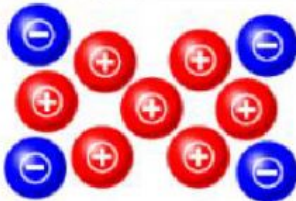
electrical charge: _____

2.



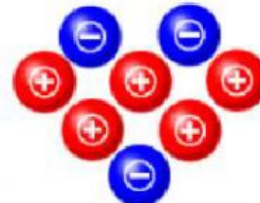
electrical charge: _____

3.



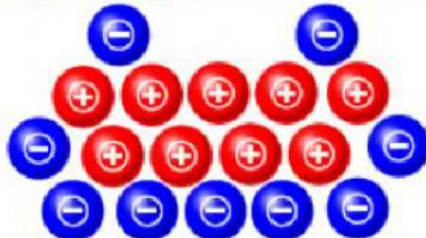
electrical charge: _____

4.



electrical charge: _____

5.



electrical charge: _____

6.



electrical charge: _____

Choose the correct sentence for each definition:

- | | |
|--|----------------------|
| - When electrons jump from atom to atom | - electrons |
| - A pathway, in which current flows | - static electricity |
| - Some insulating materials become charged when rubbed | - electric current |
| - They whizz round and round the nucleus of the atom | - electric circuit |

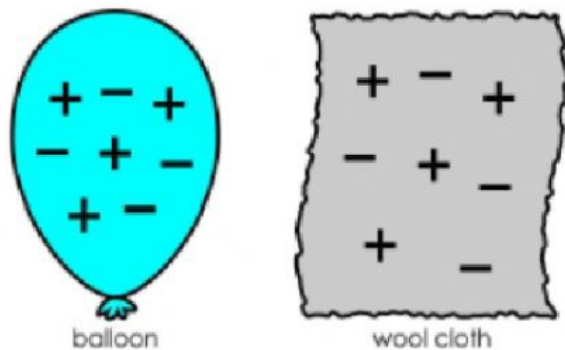
Complete these sentences with the most suitable word.

- _____ (electrons/protons) have negative charge and protons have _____ (positive/negative) charge.
- A _____ (stable/charged) atom has the same number of electrons and protons.
- If an atom has a higher number of electrons than of protons it is _____ (positively/negatively) charged.
- If an atom has a lower number of electrons than of protons it is _____ (positively/negatively) charged.
- If an atom is stable it _____ (has/does not have) charge.

Static Electricity

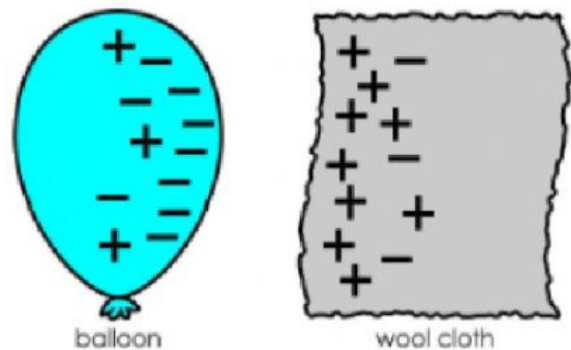
Rubbing a balloon with wool cloth will create static electricity charges.

This balloon has not been rubbed with the wool cloth.



Picture 1

This balloon has been rubbed with the wool cloth.



Picture 2

In Picture 1, does the balloon have a positive charge, negative charge, or no charge? _____

In Picture 1, does the cloth have a positive charge, negative charge, or no charge? _____

In Picture 2, does the balloon have a positive charge, negative charge, or no charge? _____

In Picture 2, does the cloth have a positive charge, negative charge, or no charge? _____

If you place small pieces of tissue paper near the balloon in Picture 2, they would probably stick to the balloon. Explain why.
