

Name _____ Date _____

Charge Up with Electricity Vocabulary!

electricity - movement or flow of electrons from one atom to another

electric current - flow of electrons

conductor - anything that allows electric current to flow from one point to another easily

insulator - anything that does not allow electrons to move easily and does not conduct electricity

electric circuit - a circular track of conductive materials that let electrons flow in a specific way

charge imbalance / net charge separation - imbalance in protons and electrons when there are more of one or the others

balanced atoms - atoms that have an equal number of protons and electrons

imbalanced atoms - atoms that do not have an equal number of protons and electrons

attract - draw something toward an object

repel - pushes something away from an object

Fill in the blanks with the correct vocabulary word.

a) electricity b) electric current c) conductor d) insulator

e) electric circuit f) charge imbalance / net charge separation

g) balanced atoms h) imbalanced atoms i) attract j) repel

1) A _____ is anything that does not allow electrons to move easily and does not conduct electricity

2) A _____ is anything that allows electric current to flow from one point to another easily

3) A _____ is an atom that has an equal number of protons and electrons

4) A _____ is an imbalance in protons and electrons when there are more of one than the other

5) To _____ is to draw something toward an object

6) A _____ is a circular track of conductive materials that let electrons flow in a specific way

7) An _____ is the flow of electrons

8) To _____ is to push something away from an object

9) _____ is the movement or flow of electrons from one atom to another

10) An _____ does not have an equal number of protons and electrons

Charge Up with Information about Electricity!

All atoms are made of small particles called protons, neutrons, and electrons. Protons and neutrons are inside the nucleus of an atom. The electrons are found outside the nucleus of an atom. Protons have a positive charge. Neutrons have a neutral or no charge. Electrons have a negative charge.

The number of electrons and protons is equal in a balanced atom. When the number of electrons and protons are equal, an atom has a neutral charge because they balance each other. In an imbalanced atom there are NOT equal numbers of protons and electrons. Atoms with more protons than electrons have a positive charge. Atoms with more electrons than protons have a negative charge.

Opposites attract, that is the north and south poles or positive and negative charged sides, move toward each other. This is why in atoms negatively-charged electrons roam around the outside of the nucleus on electron shells trying to get into the nucleus toward the positively-charged protons.

Same charges repel one another, that is two north or two south

poles, two positive charges, or two negative charges will be pushed and move away from each other. In electricity, insulators like rubber and plastic are things that prevent the easy, smooth flow of electrical current, while conductors, like metal, are things that help electrical current flow easily and smoothly.

Answer the questions as T or F about the reading.

- 11) Positive and negative charges repel each other.
- 12) The number of protons and electrons is equal in a balanced atom.
- 13) Protons and neutrons are found on shells outside the nucleus of an atom.
- 14) Electrons are found on shells outside the nucleus of an atom.
- 15) In an unbalanced atom, there is not an equal number of protons and electrons.
- 16) Atoms with more electrons than protons have a positive charge.
- 17) Atoms with more protons than electrons have a positive charge.
- 18) Electrons have a negative charge.
- 19) Neutrons have positive charge.

20) Protons have a positive charge.

21) When the number of protons and electrons in an atom are equal, the atom has a neutral or no charge.

22) Negatively-charged electrons roam around electron shells outside the nucleus trying to get into the nucleus with the positively-charged protons.

23) Positive and negative charges attract each other.

24) Insulators help electrical currents flow smoothly and easily.

25) Conductors help electrical currents flow smoothly and easily.