

Electrical Energy

Name _____

Class _____

Static Electricity

1. These **forces** are responsible for lightning, nature's most spectacular show of electricity ...
 - A. magnetic forces
 - B. electric forces
 - C. attractive forces
 - D. repelling forces

2. Some particles in an atom are charged. Those that are **charged positively** are called ...
 - A. neutrons
 - B. electrons
 - C. positrons
 - D. protons

3. Thales found that rubbing amber (a resin from a fossilized tree) would attract some materials. Electricity comes from the Greek word for amber, which is ...
 - A. ampere
 - B. static
 - C. elektron
 - D. outhere

4. When **charged objects** are brought close to uncharged objects, this occurs ...
 - A. separation
 - B. attraction
 - C. neutralization
 - D. atomization

5. The **laws of electric charges** include all of the following, EXCEPT...
 - A. opposite charges attract each other
 - B. opposite charges repel each other
 - C. similar (like) charges repel each other
 - D. charged objects attract neutral objects

6. When you feel or see a spark while touching a doorknob – after rubbing your feet across a carpet, the spark is referred to as ...
 - A. static spark
 - B. electric charge
 - C. static discharge
 - D. electrical discharge

7. A **Van de Graff generator** uses this to build up a static charge on its surface ...
 - A. moisture
 - B. friction
 - C. heat
 - D. light

8. This device cleans the air and recovers products from the smoke coming out of smokestacks by the static charge it produces. The device is called ...
 - A. a particle accelerator
 - B. an electric generator
 - C. an electrostatic precipitator
 - D. a catalytic converter

Current Electricity

9. An **electric eel** can produce its own electricity. This is used to stun or kill its prey, protection and communication. This specialized organ contains thousands of modified muscle cells called ...
- A. **electrostatics**
 - B. **electrolytes**
 - C. **electrolysis**
 - D. **electroplaques**
10. An **electrical current** can only be produced if there is a ...
- A. **large quantity of particles**
 - B. **a steady flow of charged particles**
 - C. **a safe supply of energy**
 - D. **discharge of electricity**
11. The units used to measure the **flow** of an electric current are ...
- A. **amperes**
 - B. **potential energy**
 - C. **potential difference**
 - D. **volts**
12. 'Voltage' or '**potential difference**' is the energy carried by charged particles equal to the voltage times the ...
- A. **total charge of the electrons**
 - B. **flow rate of the protons**
 - C. **charge of the protons**
 - D. **number of electrons**
13. Very small amounts of electrical energy are measured by a voltmeter in **millivolts**, which equal ...
- A. **100 volts**
 - B. **1000 volts**
 - C. **1 one hundredth of a volt**
 - D. **1 one thousandth of a volt**
14. The very first measurements of current were done with simple **galvanometers**. These devices detected current by using ...
- A. **an electric field**
 - B. **a compass needle**
 - C. **a conduction wire**
 - D. **an electric circuit**
15. High-voltage transmission lines often give off an **eerie blue glow**. Sailors saw this same glow around the tips of ships' masts just before storms. They called it ...
- A. **Blue Mist Rain**
 - B. **St. Elmo's Fire**
 - C. **Sun Spot Sparkle**
 - D. **Mystic Glow**
16. Which of the following would **current** most likely have a difficult time passing through...
- A. **eraser**
 - B. **pencil**
 - C. **paper clip**
 - D. **copper wire**

Cells and Batteries

17. Some **foods** can generate enough electricity to run a clock. The most effective source for this type of energy is ...
- A. dry foods
 - B. dairy products
 - C. desserts and beverages
 - D. fruit and vegetables
18. The **electrolyte paste**, which enables a dry cell to conduct electricity, does so because, it contains ...
- A. static electrical charges
 - B. metal plates that release electrons
 - C. chemicals that form ions
 - D. an insulator
19. Lead and zinc are usually used as the metal electrodes in a wet cell, such as a car battery. The sulfuric acid electrolyte reacts with the metal electrodes to make the battery produce electrical energy. Identify the statement that explains this correctly
- A. The electrolyte gradually eats the lead electrode giving it a negative charge
 - B. The electrolyte gradually eats the zinc electrode giving it a negative charge
 - C. The electrolyte gradually eats the lead electrode giving it a positive charge
 - D. The electrolyte gradually eats the zinc electrode giving it a positive charge
20. A **rechargeable battery** can be recharged because the ...
- A. chemical reactions can be reversed
 - B. electrodes can be reversed
 - C. electrolyte is being replaced
 - D. wet cells are drying out
21. The process used to **split molecules** into their individual elements is called ...
- A. electricity
 - B. electroplating
 - C. electrolysis
 - D. anodizing
22. When bars of impure gold and strips of pure gold are placed in a strong acid solution and electricity is added, bars of very pure gold can be produced. This **process** is called...
- A. electricity
 - B. electroplating
 - C. electrolysis
 - D. electro refining
23. A single **6V battery** is made up of ...
- A. 1 very strong cell that is 6 volts
 - B. 2 cells – 3 volts each
 - C. 3 cells – 2 volts each
 - D. 4 cells – 1.5 volts each
24. Less expensive products can be coated with a thin layer of an expensive metal (like gold) to make them look more expensive and to make them last longer (helps prevent rusting). This **process** is called...
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