Complete the statements below:

The positively charged particle is the protons.

The negatively charged particle is the electrons.

Objects become negative by gaining electrons.

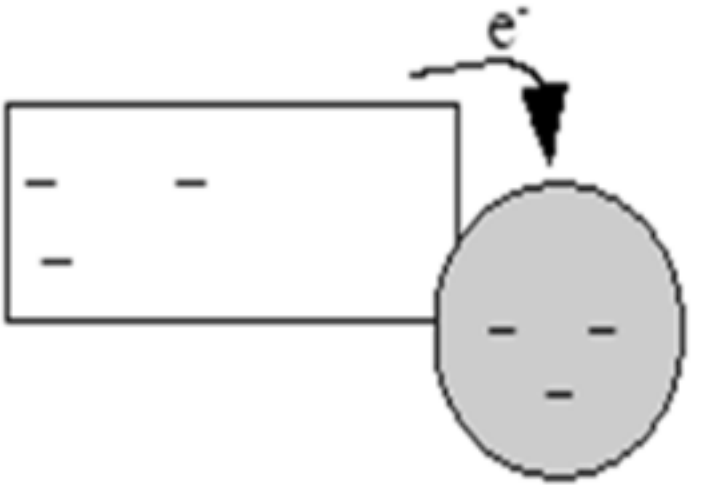
Objects become positive by losing electrons.

neutrons

gaining protons

losing protons

How is the object below charged???



Conduction

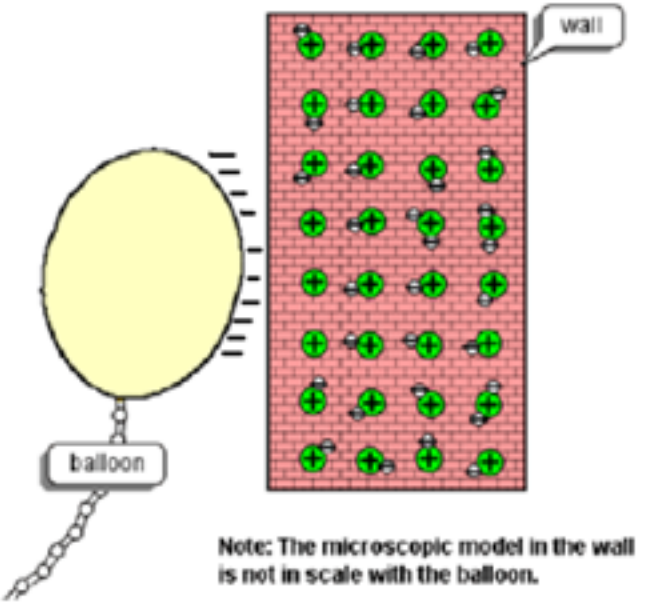
Friction

Induction

How is the object below charged???

Conduction Friction Induction

How is the object below charged???



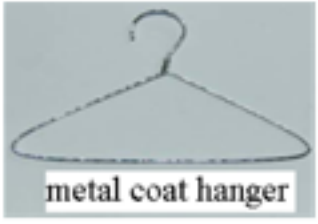
Conduction

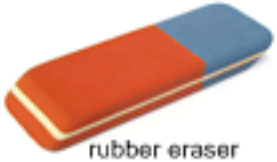
Friction

Induction

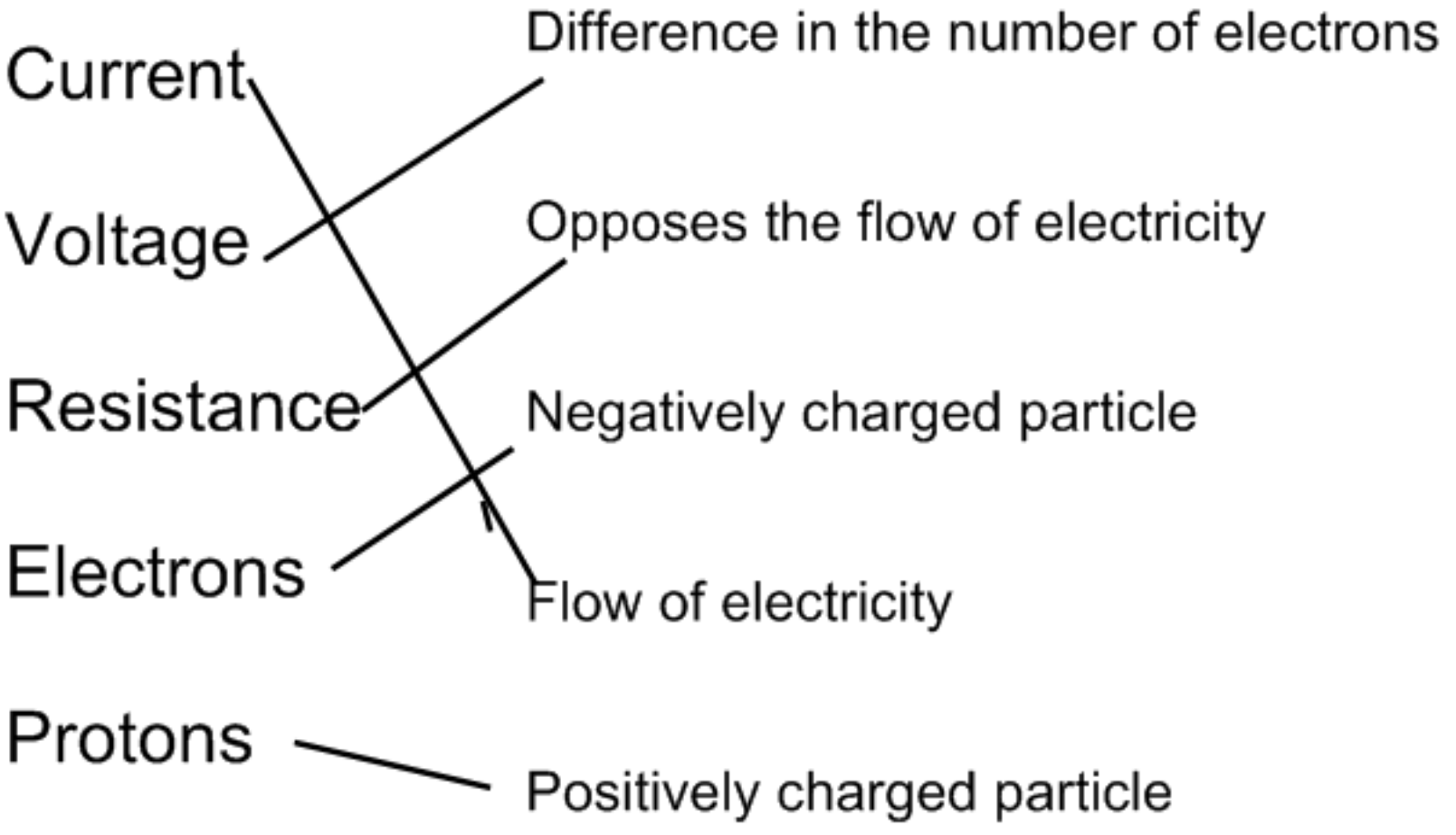
Conductors vs. Insulators

(Drag and Drop to the appropriate column)

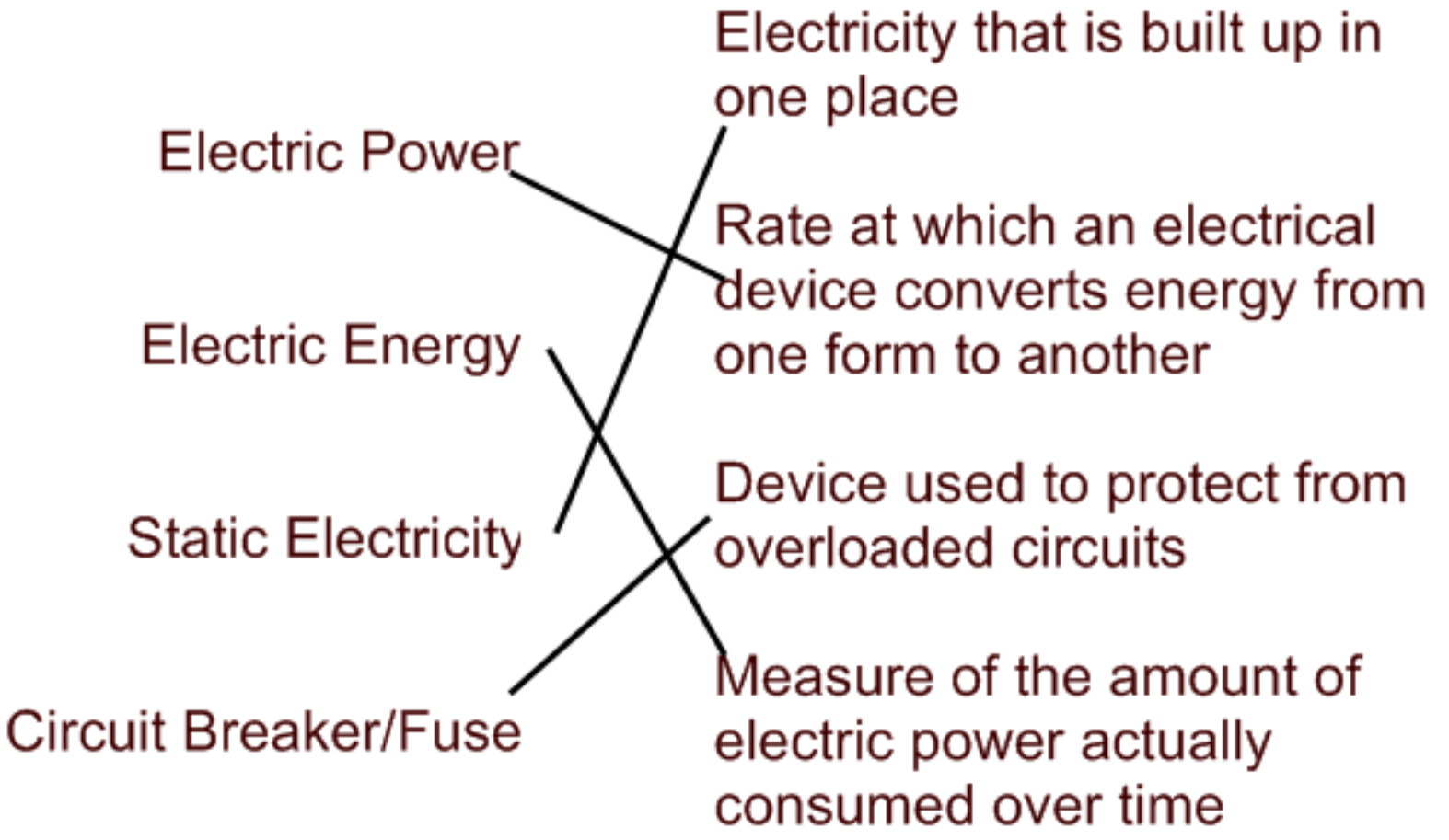




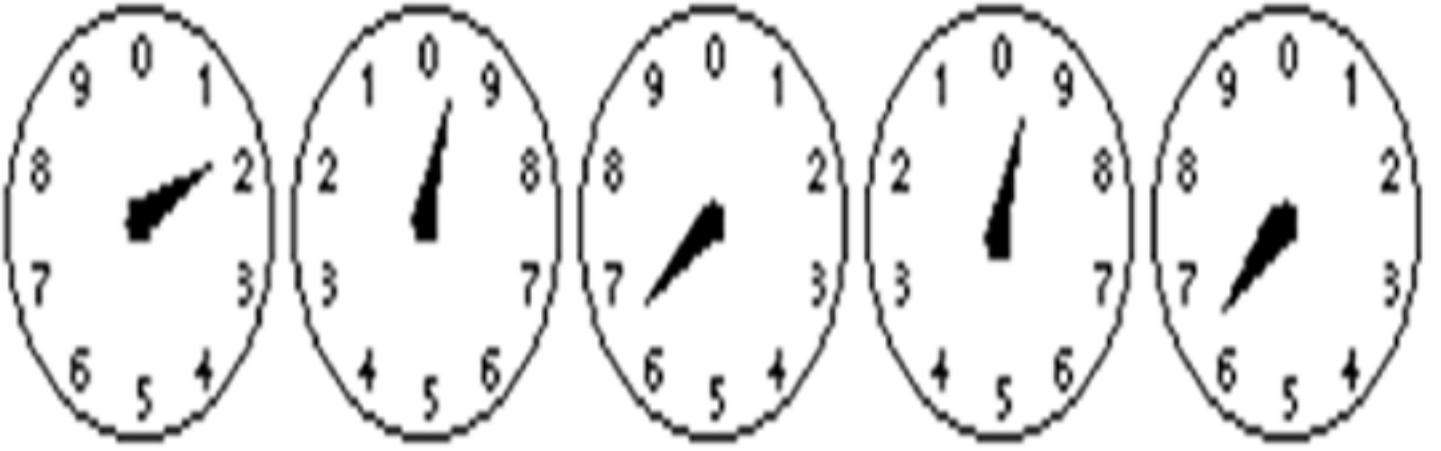
Match the following terms with their correct definition:



Match the following terms with their correct definition:

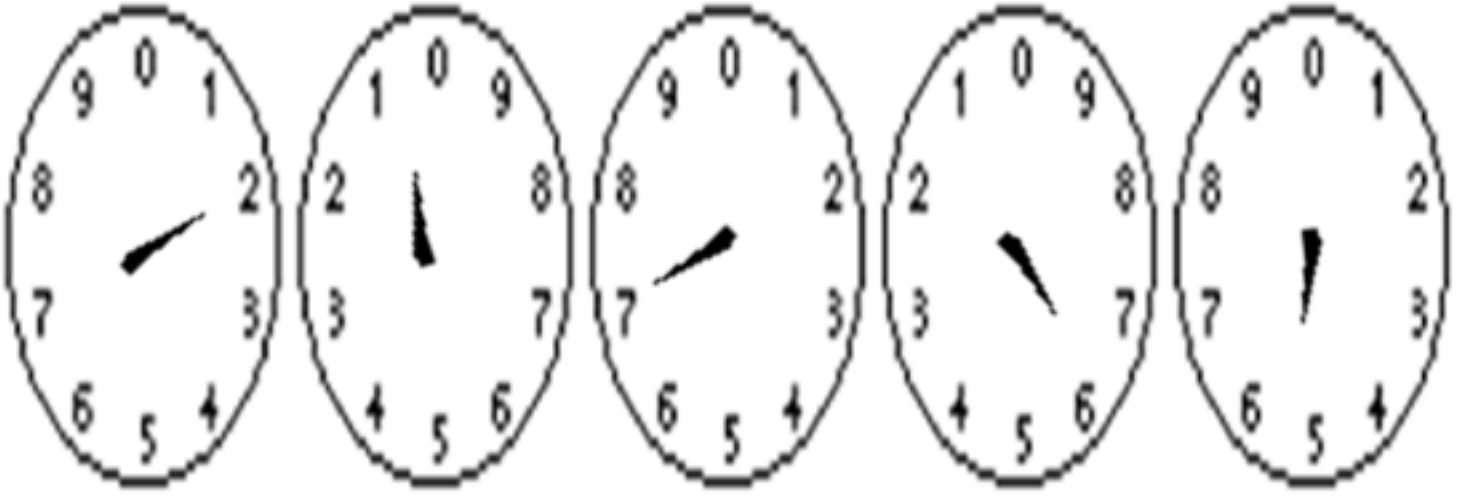


What is the reading on the meter below?



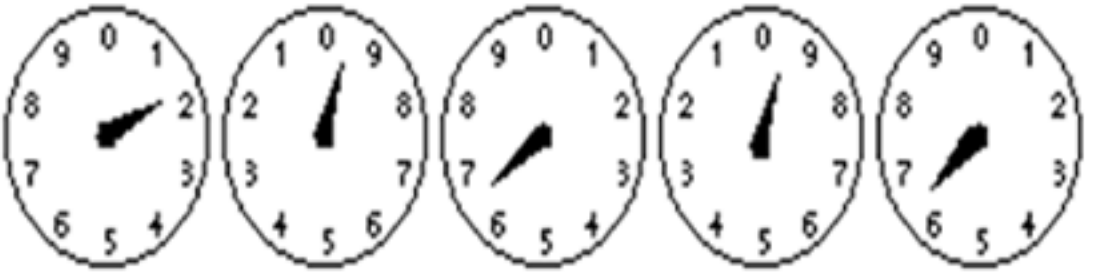
19,696

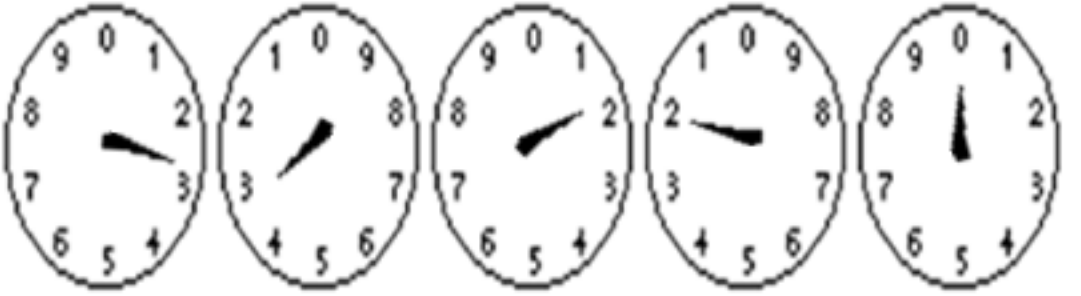
What is the reading on the meter below?



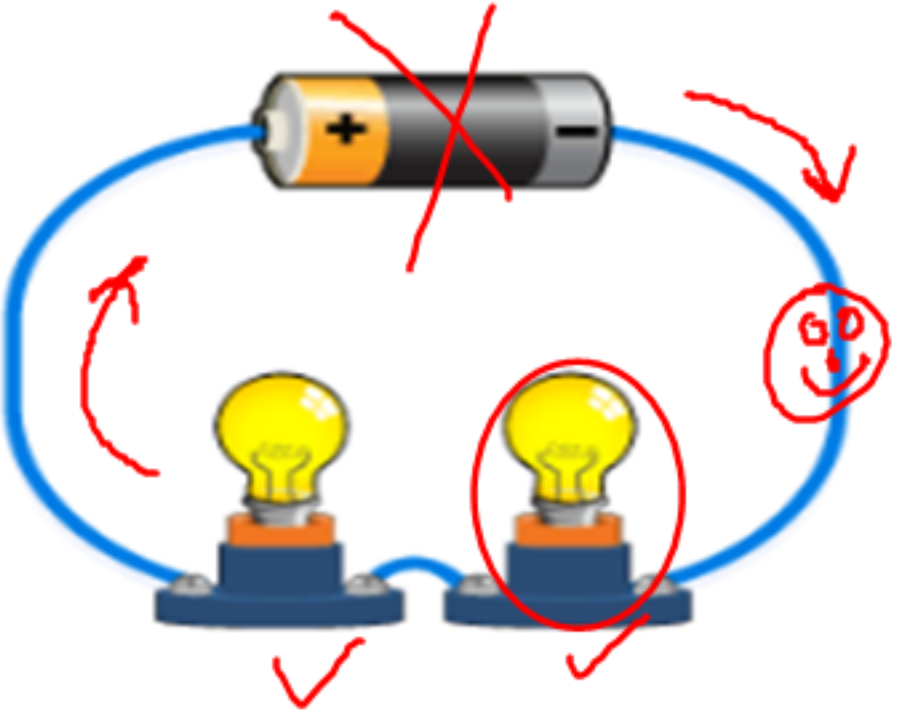
20,765

Electricity costs $0.15 per kWhr. What will be the power bill during the 1 month period shown below?

May 

June 

23,120
- 19,696
3424 x $0.15 = $513.60



Steps:

1. Draw arrows to show direction of electron flow!!!

2. Circle with a red pen the lightbulb with the highest voltage!!

3. Place an "X" on the object that acts an energy source!!

4. Place a "Smiley Face" on the object that acts as an energy conductor!!

5. Place a "check mark" on the energy receiver(s)!!

Series vs. Parallel Circuits

Current is same throughout

Add a bulb, get dimmer

1 path

1 out, all out

Add a bulb, stay same brightness

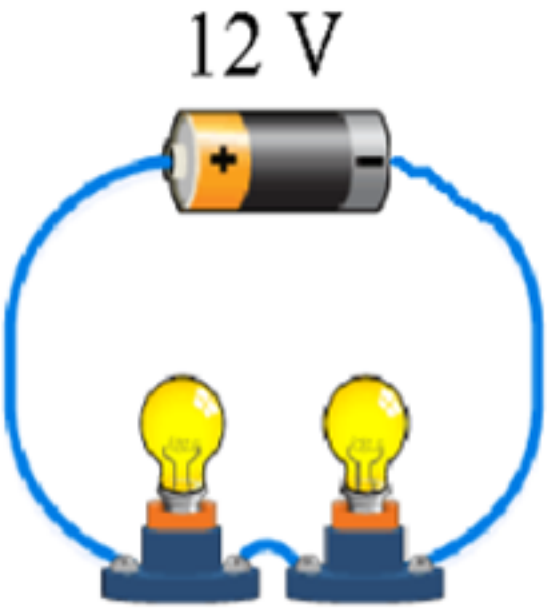
More than 1 path

1 out, rest on

Voltage is same throughout

Homes are wired this way

What is the resistance in the following circuit below?



$V = 12V$

$I = 3A$

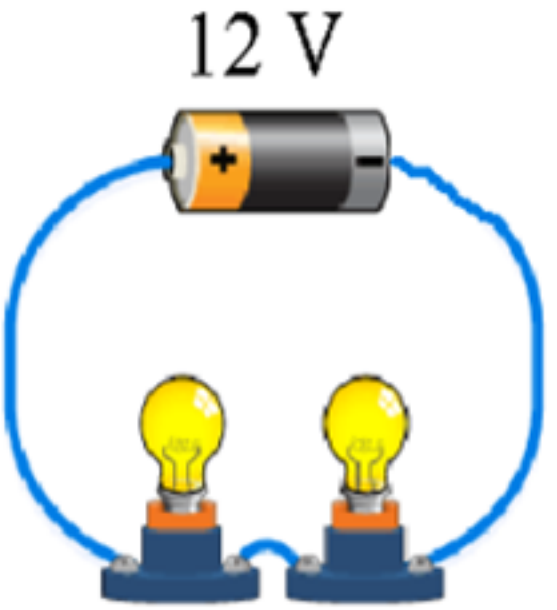
$R = ?$

$V = IR$

$R = \frac{V}{I} = \frac{12V}{3A}$

$R = 4\Omega$

What is the power in the following circuit below?



V = 12V

I = 3A

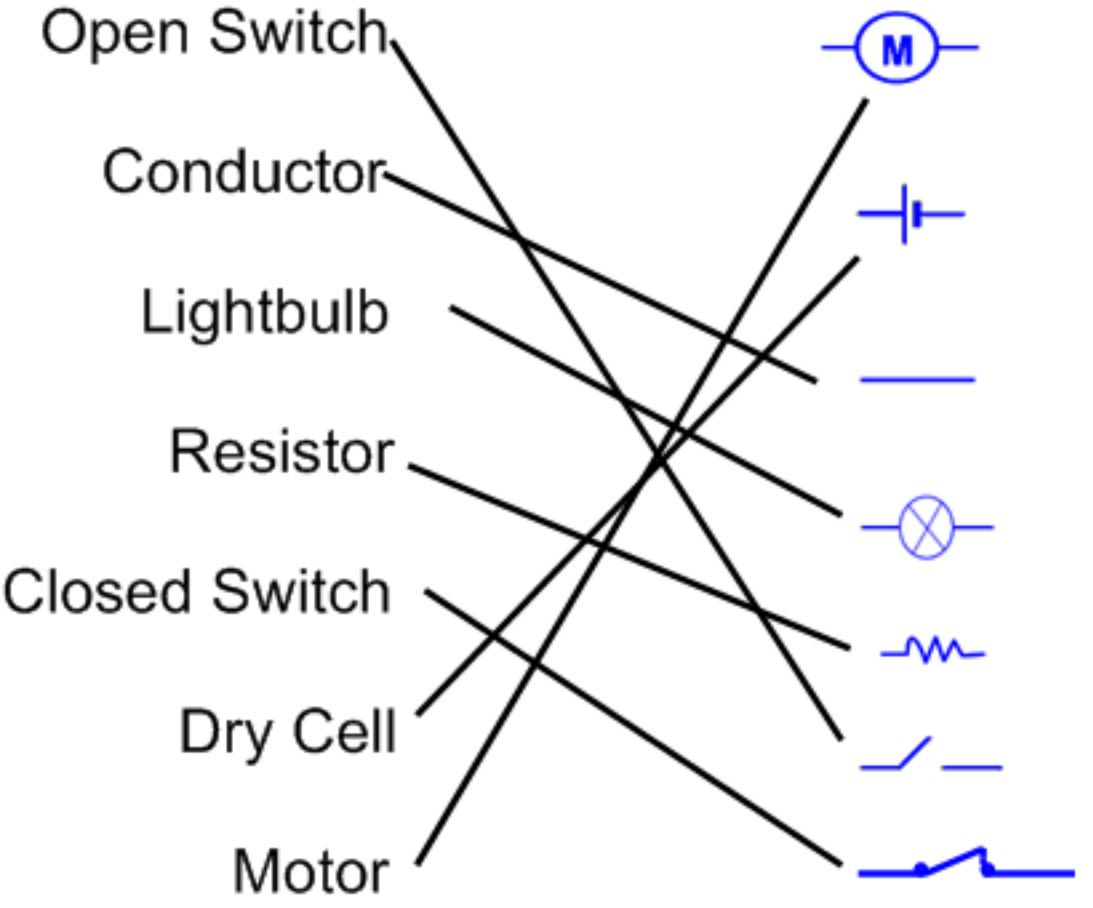
P = ?

P = VI

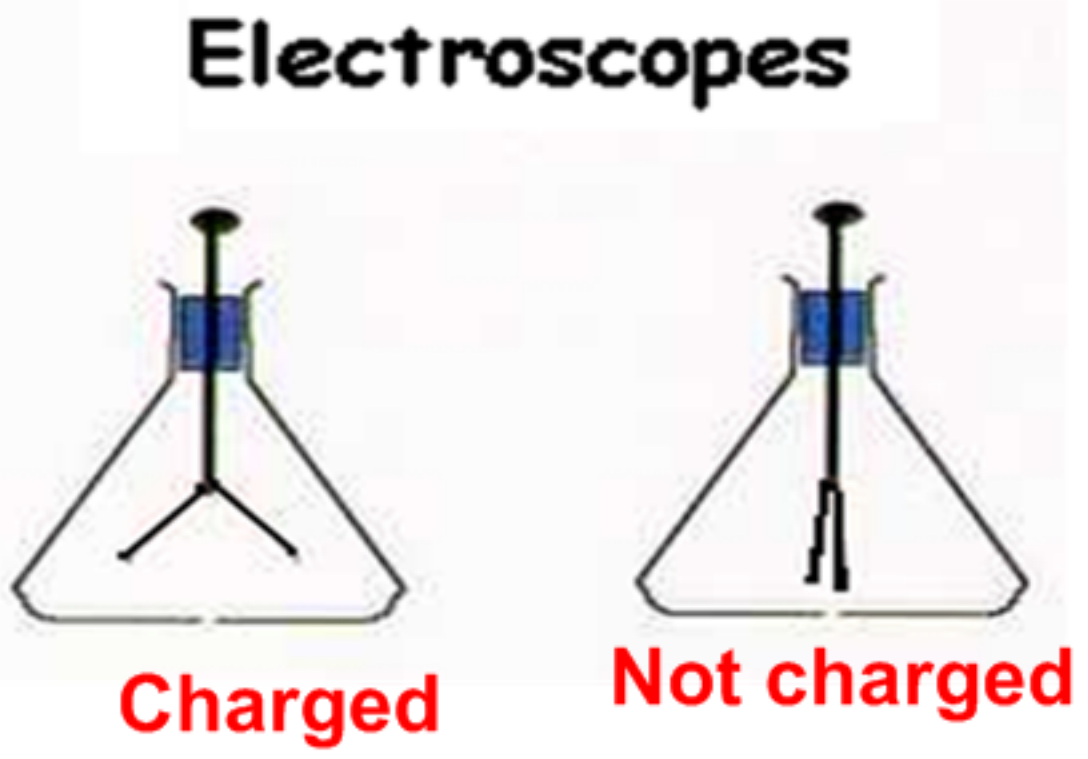
= 12(3)

P = 36W

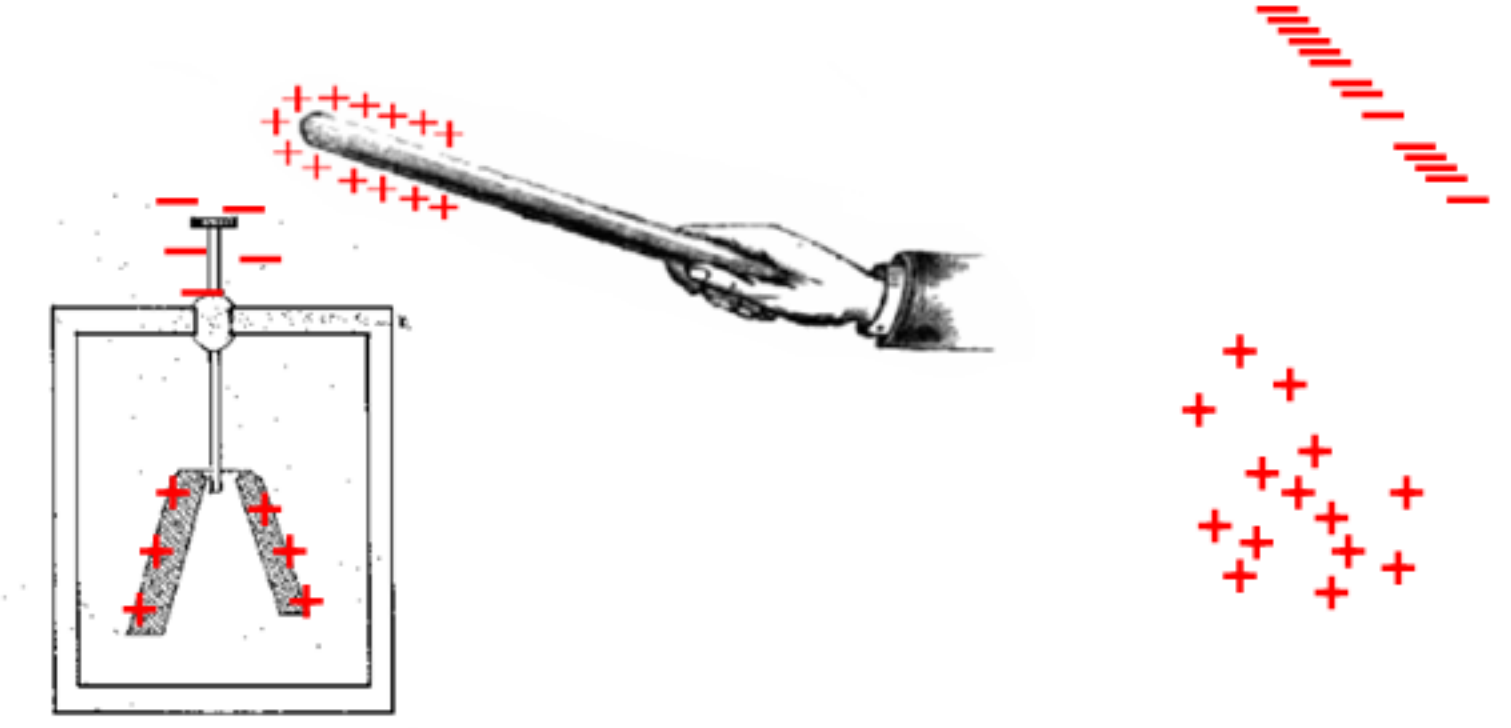
Match the circuit symbol with their correct meaning:



Which is charged, which is not charged?

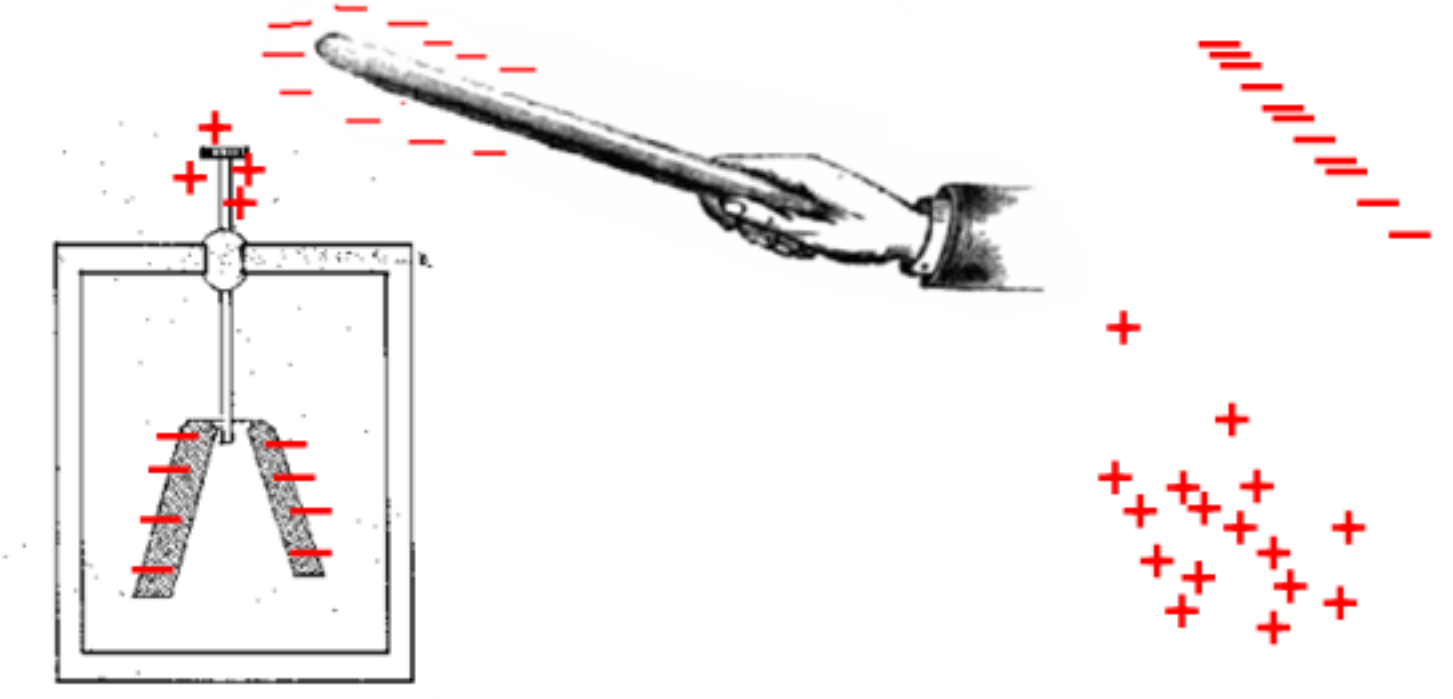


In the diagram below, drag protons and electrons onto the electroscope to indicate why the leaves are separated:



Electrons move toward (+) rod, leaving protons behind!!

In the diagram below, drag protons and electrons onto the electroscope to indicate why the leaves are separated:



The electons repel from the (-) rod, moving down into the leaves!!

Solve for the unknown:

R = 10 ohms

I = 2 A

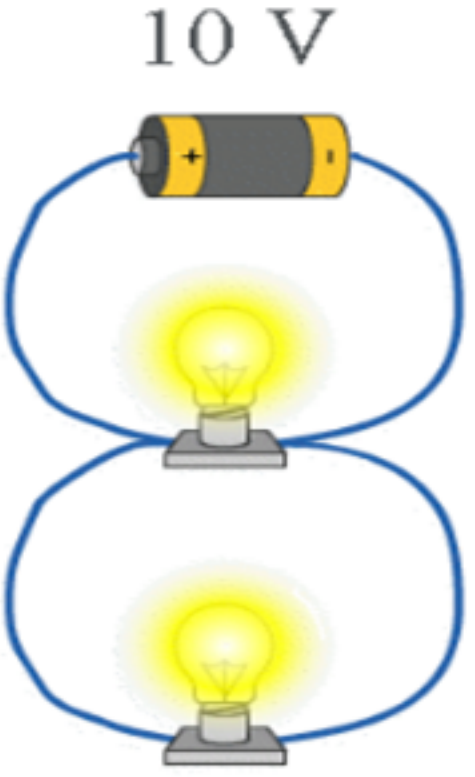
V = ?

$V = IR$

$= 2A(10\Omega)$

$V = 20V$

The circuit below has a total resistance of 5 Ω. Find the current that will flow through the circuit!!



V = 10V

R = 5Ω

I = ?

$V = IR$

$I = \frac{V}{R}$

$= \frac{10V}{5\Omega}$

I = 2A

An air conditioner uses 2000 W of power when plugged into a wall outlet that operates at a voltage of 220 V. What is the current flowing through the air conditioner?

$P = 2000\,W$

$V = 220\,V$

$I = ?$

$P = VI$

$I = \frac{P}{V} = \frac{2000\,W}{220\,V}$

$I = 9.09\,A$

What type of charge do 1-3 have? To see if you are right pull the word into the yellow area.

1. protons
2. electrons
3. neutrons

The law of charges states that ....

opposite charges

like charges

What are the names of the three ways to charge an object

1. rubbing
2. direct contact
3. no direct contact

Answer the question and pull the question towards the red to see if you are right.

What is an insulator?

What is static electricity?

What is a conductor?

A. an object that lets charges flow through it easily

B. a build-up of electric charges

C. an object that doesn't let charges flow through it easily

Electricity Terminology

Move the words below their correct definitions. To see if you are correct click on the gray box.

circuit

resistance

conductor

induction

proton

friction

insulator

conduction

Charging a neutral object by bringing it close to a charged object!

A material that lets charges flow through easily

The path through which electric charges flow.

A material that doesn't let charges flow easily.

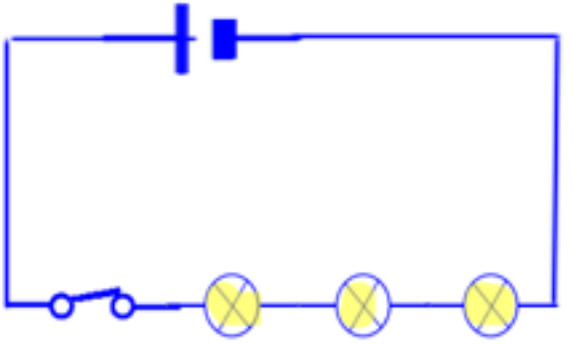
A positive charged particle that is found in the nucleus.

Charging an object by direct contact.

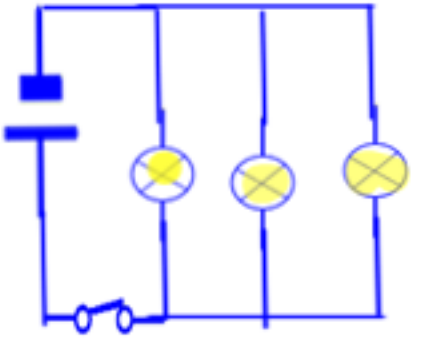
A force that opposes the movement of charged particles.

Rubbing two objects together to charge an object.

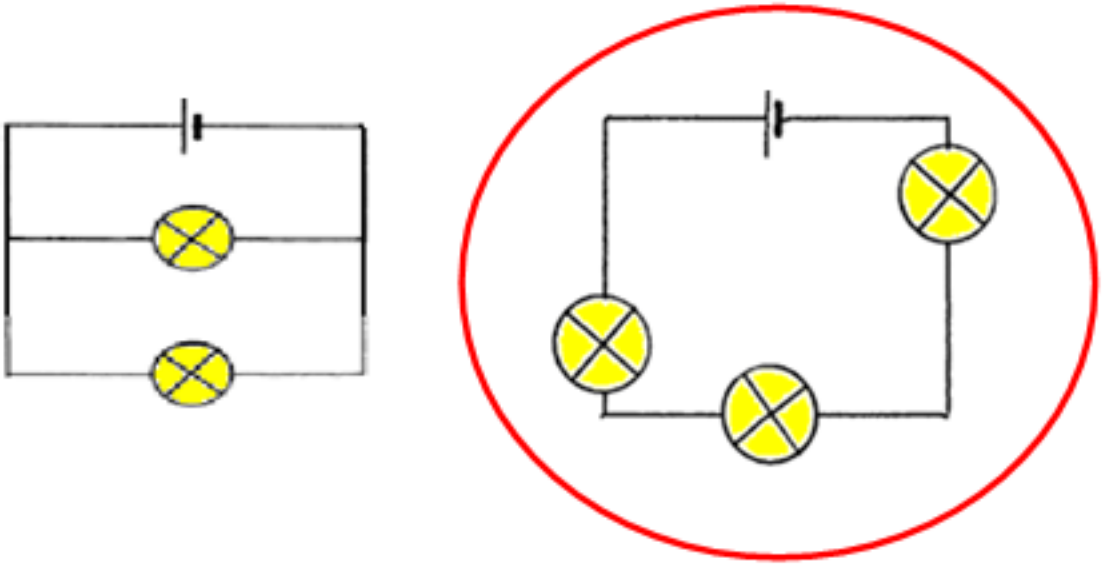
Create a series circuit with a dry cell, 3 lamps, and a closed switch! You can copy and paste(right-click) the components to "create more"!! Color the lamp yellow if the bulb comes on!!



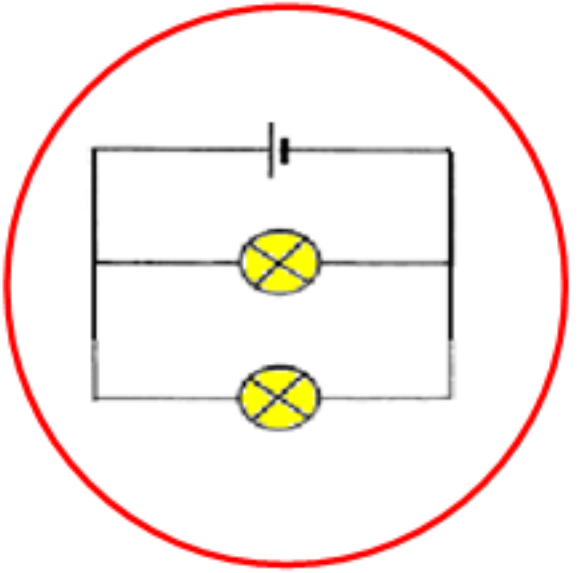
Create a parallel circuit with a dry cell, 3 lamps, and a closed switch! You can copy and paste(right-click) the components to "create more"!! Color the lamp yellow if the bulb comes on!!

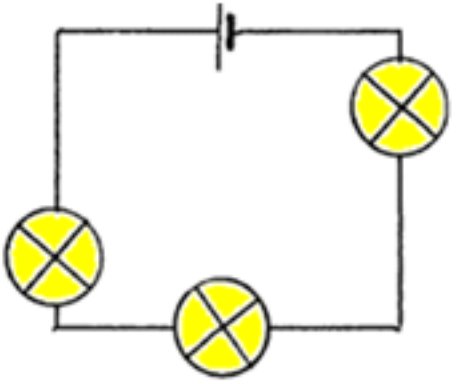


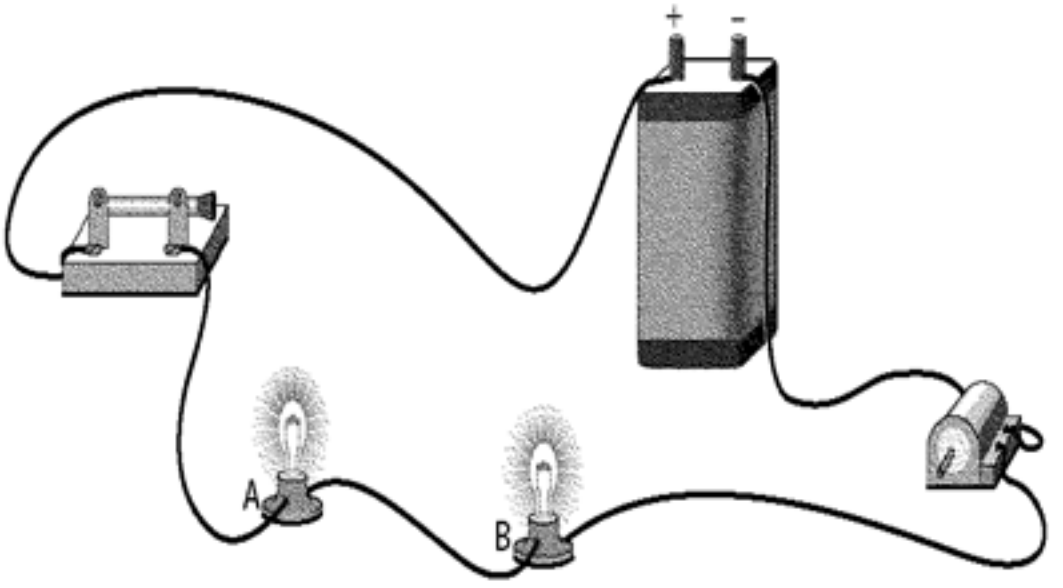
In which circuit would the lightbulbs grow dimmer if another bulb is added?(Circle your answer!!)



If each lightbulb below offered the same resistance, in which circuit would you find the lowest resistance? (Circle your answer!!)







1. In which direction does the current flow?

+ to - or - to +

2. Is the Voltage higher at A or B? Why?

A or B

gets there first

3. What causes current to flow from one terminal to the other?

Potential difference

H	28.	Unit for velocity
F	29.	Unit for acceleration
C	30.	Unit for force, including weight
D	31.	Unit for kinetic and potential energy
E	32.	Unit for electrical energy
G	33.	Unit for power
D	34.	Unit for work
J	35.	Unit for potential difference
K	36.	Unit for current
I	37.	Unit for resistance
B	38.	Unit for mass
G	39.	Unit for electrical power
H	40.	Unit for speed
D	41.	Unit for thermal energy
A	42.	Unit for heat capacity or specific heat
L	43.	Unit for temperature

a) J/g*°C
b) kg
c) N
d) J
e) kWh
f) m/s/s
g) W
h) m/s
i) Ohm
j) V
k) A
l) °C or K
m) m