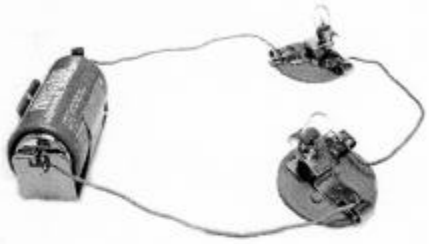
Student Example:
Investigating Series and Parallel Circuits

Name _____ Date _____

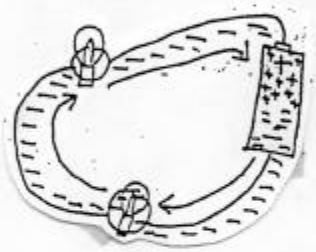
Set up the circuits pictured below and record your observations.

Series Circuit (bulbs in series)

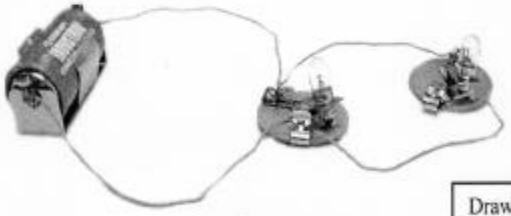


1) What happens? it lights
2) Do both bulbs light up? yes
3) Are there any differences in how bright they are compared to each other? Both have same brightness
....compared to when there is only one bulb in a circuit? much less bright
4) If you remove one of the bulbs, does the other one still light up? no

Draw a diagram showing what you think is going on at the level of electrons and protons to make the bulb light.

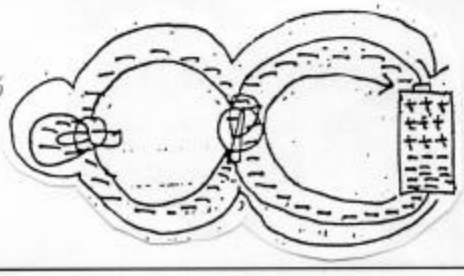


Parallel Circuit (bulbs in parallel)



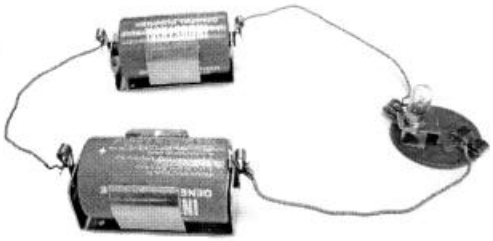
1) What happens? it lights
2) Do both bulbs light up? yes
3) Are there any differences in how bright they are compared to each other? both have same brightness
....compared to when there is only one bulb in a circuit? same brightness as one
4) If you remove one of the bulbs, does the other one still light up? yes

Draw a diagram showing what you think is going on at the level of electrons and protons to make the bulb light.



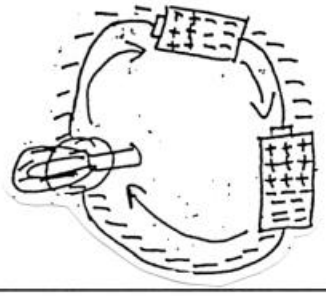
Student Example:
Investigating Series and Parallel Circuits

Series Circuit (batteries in series)

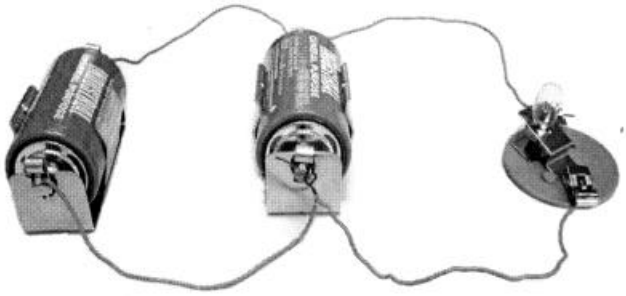


1) Does the bulb light? Yes
2) Are there any differences in how bright the bulb is compared to when there is only one battery in a circuit?
brighter
3) If you remove one of the batteries, does the bulb still light up? no

Draw a diagram showing what you think is going on at the level of electrons and protons to make the bulb light.



Parallel Circuit (batteries in parallel)



1) Does the bulb light? Yes
2) Are there any differences in how bright the bulb is compared to when there is only one battery in a circuit?
same
3) If you remove one of the batteries, does the bulb still light up? Yes

Draw a diagram showing what you think is going on at the level of electrons and protons to make the bulb light.