Name _____

Electrical Circuits Parallel and Series Batteries Activity Sheet

Materials:	1 - #40 bulb 1 – bulb holder	8 - 15 cm copper wires 4 battery holders	4 batteries 1 screwdriver	1 switch

Circuit A on page 13 of SAB

1. Construct Circuit A. Close the switch and observe.

   Are the batteries connected in series or parallel? _____

   How can you prove this? _____

   _____

2. Predict what will happen to the brightness of the bulb if two more batteries are added to Circuit A in series.

   _____

   _____

   Add two more batteries in series to Circuit A. What do you observe about the bulb?

   _____

   _____

Circuit B on page 13 of SAB

3. Construct Circuit B. Note the polarity of the batteries. Close the switch and observe.

   Are the batteries connected in series or parallel? _____

   How can you prove this? _____

   _____

Close

4. Predict what will happen to the brightness of the bulb if two more batteries are added in parallel to Circuit B.

   _____

   _____

   Add two more batteries in parallel to Circuit B. What do you observe?

   _____

   _____

   _____

5. What is the **voltage** of one battery? _____

6. When batteries are connected in **series**, the voltage of all batteries is added together.

   How much voltage is in a series circuit with four batteries? _____

   How much voltage is in a series circuit with seven batteries? _____

7. When batteries are connected in **parallel**, the voltage is the same as one battery.

   How much voltage is in a parallel circuit with four batteries? _____

   How much voltage is in a parallel circuit with seven batteries? _____

8. You are taking a battery powered nightlight with you camping. Would you want the batteries wired in series or parallel? Explain your answer.

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

Close