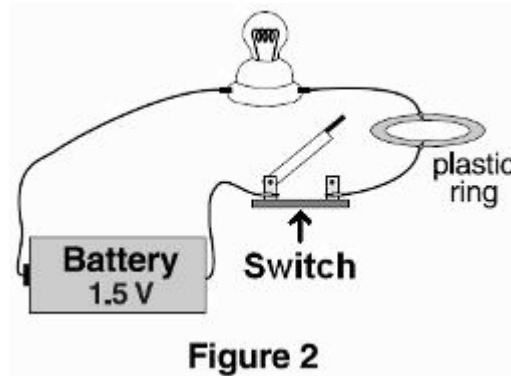
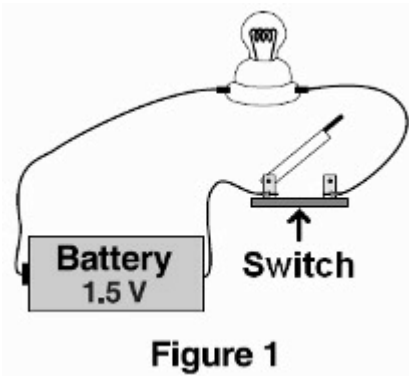


Marking Instructions	
<ul style="list-style-type: none"> <li>• Use a No. 2 pencil or a blue or black ink pen only.</li> <li>• Do not use pens with ink that soaks through the paper.</li> <li>• Make solid marks that fill the response completely.</li> <li>• Make no stray marks on this form.</li> </ul>	<p><b>CORRECT:</b> ●</p> <p><b>INCORRECT:</b> ○ ⊗ ⊙ ⊖</p>

Name: ANSWER KEY Date: \_\_\_\_\_

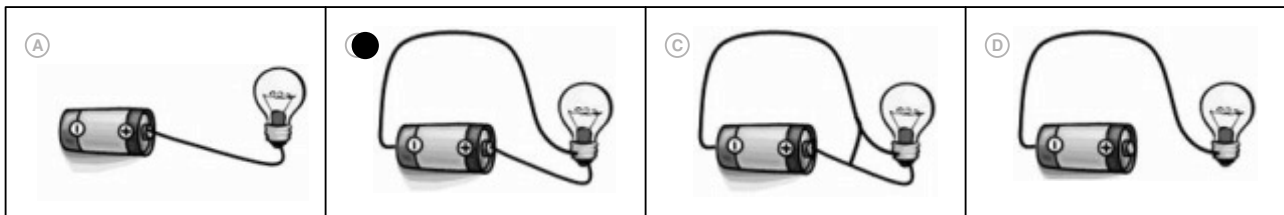
For each question below, fill in the bubble for the **BEST** answer.

1. The figures below show a light bulb connected to a battery in two different ways. When the switch in Figure 1 is closed, the bulb will light. What will happen when the switch is closed in Figure 2?



- (A) The bulb will light just as it did in Figure 1.
- (B) The bulb will be brighter than it was in Figure 1.
- (C) The bulb will light, but it will be less bright than it was in Figure 1.
- (D) The bulb will not light at all.

2. Which picture shows a circuit that will cause the bulb to light up?



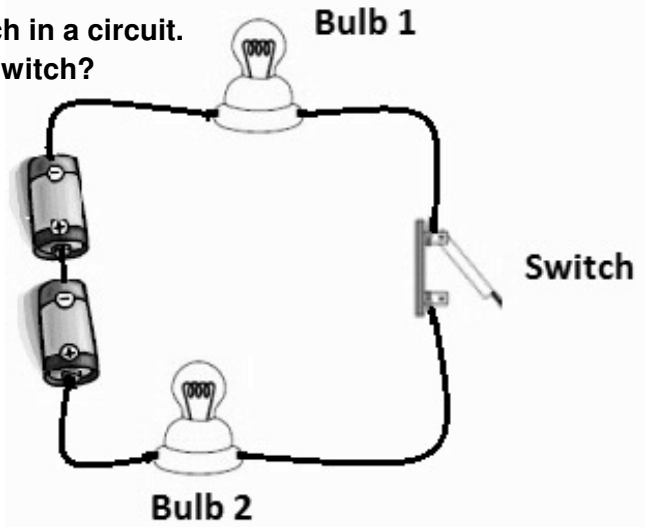
PLEASE DO NOT WRITE IN THIS AREA



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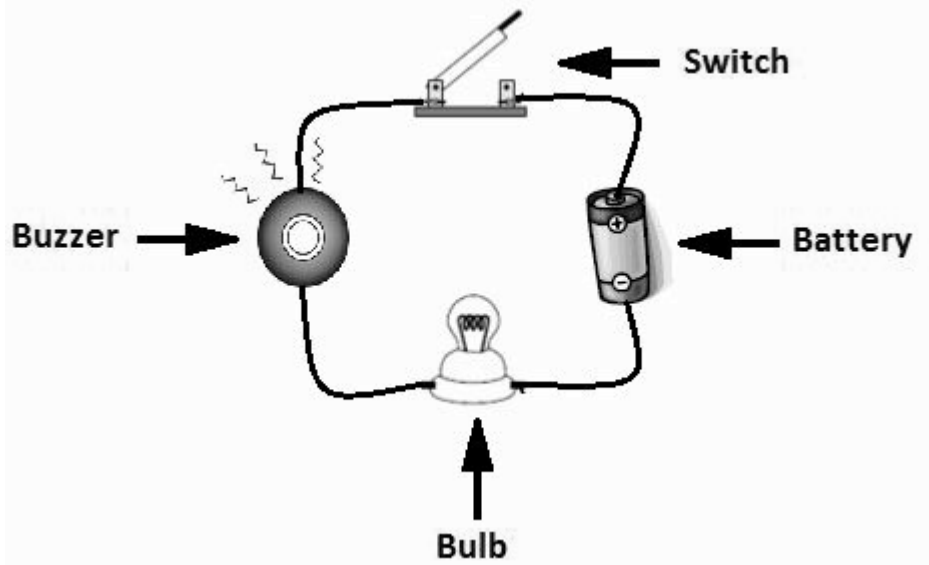
3. The picture to the right shows two bulbs and a switch in a circuit.  
Which of the bulbs can be turned on and off by the switch?

- (A) bulb 1
- (B) bulb 2
- (C) both bulbs
- (D) neither bulb



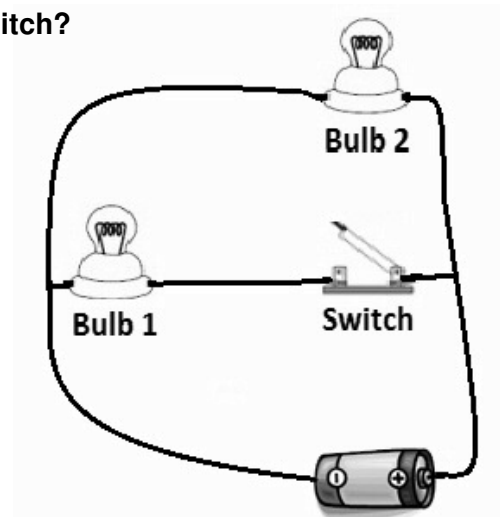
4. Which set of parts could you replace with wire in the circuit below? You should still have a safe and complete circuit.

- (A) battery and bulb
- (B) battery and buzzer
- (C) switch and bulb
- (D) switch, bulb, and buzzer

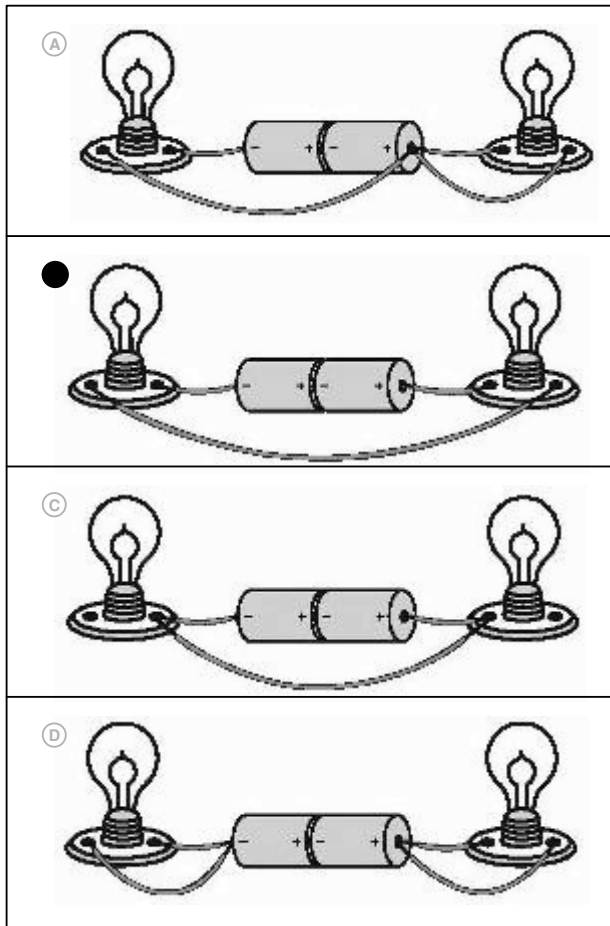


5. The picture to the right shows two bulbs and a switch in a circuit.  
Which of the bulbs can be turned on and off by the switch?

- (A) bulb 1
- (B) bulb 2
- (C) both bulbs
- (D) neither bulb

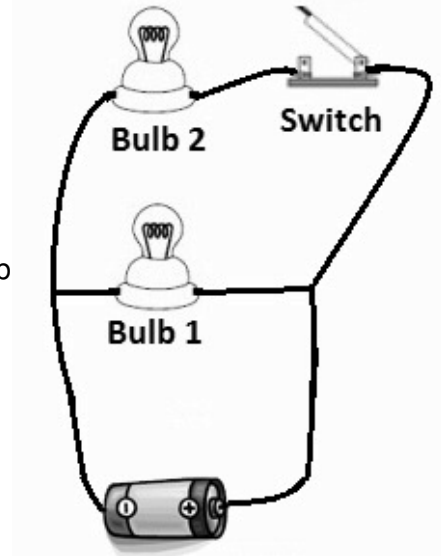


6. In which circuit below will both bulbs light?

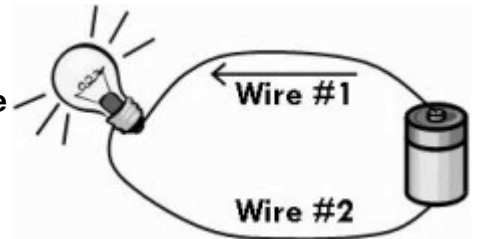


7. The picture below shows two bulbs and a switch in a circuit. Which of the bulbs can be turned on and off by the switch?

- A bulb 1
- B bulb 2
- C both bulbs
- D neither bulb



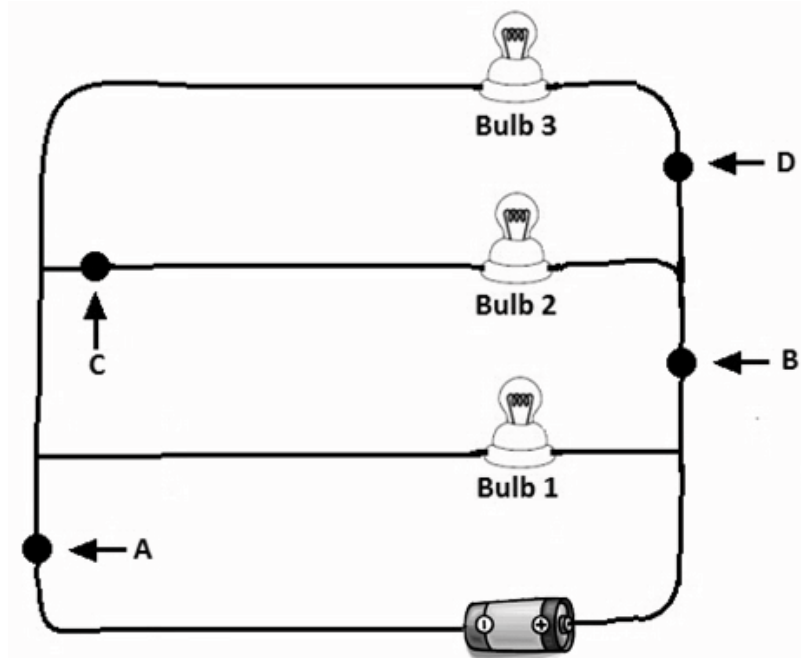
8. The picture to the right shows a glowing light bulb connected to a battery using wires. An electric current is flowing from the battery, through Wire #1, to the bulb.



What is happening in Wire #2?

<p><input type="radio"/> A The electricity flows through Wire #2 from the battery to the bulb.</p>	<p><input checked="" type="radio"/> B The electricity flows through Wire #2 away from the bulb to the battery.</p>
<p><input type="radio"/> C No electricity flows in Wire #2, it is all used up by the bulb.</p>	<p><input type="radio"/> D Electricity flows both ways through Wire #2, from the battery to the bulb and back again.</p>

The picture below shows three light bulbs in a circuit. Use the picture to answer questions 9 and 10.



9. Where should you put a switch so that bulb 2 and bulb 3 can be switched on and off, but bulb 1 will stay on all the time?

- location A
- location B
- location C
- location D

10. Where should you put a switch so that bulb 2 can be turned on and off, but bulb 1 and bulb 3 will remain on all the time?

- location A
- location B
- location C
- location D

Question 3 from MCAS 2007 STE Assessment- Gr 5.  
Question 4 from MCAS 2003 Science and Technology/Engineering (STE) Assessment - Grade 5. Question 9 from MCAS 2010 STE Assessment- Gr 5.  
Massachusetts Department of Elementary and Secondary Education, Boston.

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