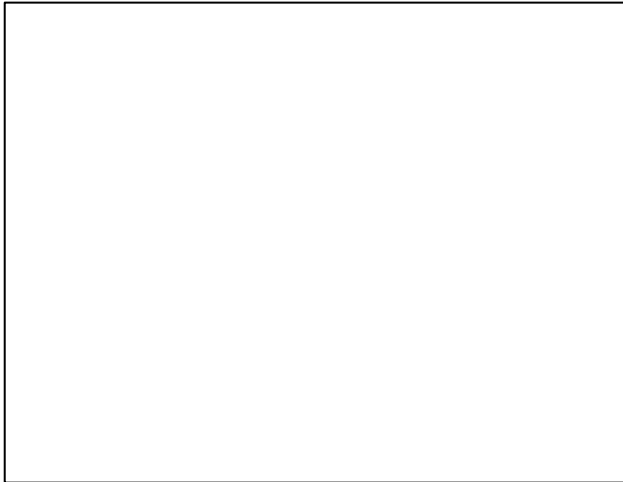


# Unit 11 Exercise 1



1. In the following circuit, which bulb lights first?

- A) Bulb A
- B) Bulb B
- C) Bulb C
- D) They all light at the same time
- E) A and C light first, B lights after them.

Study the three loops shown below.  
For each loop, state which of the bulbs will light when the connections are made.

**A**

**B**

2. \_\_\_\_\_

- A) bulb A
- B) bulb B
- C) both bulbs
- D) neither bulb

3. \_\_\_\_\_

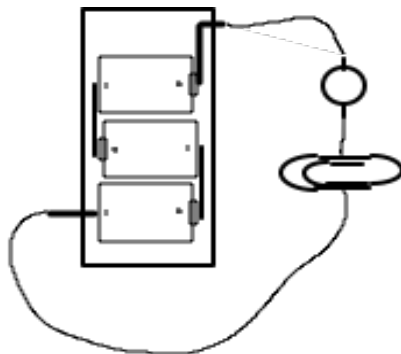
- A) bulb A
- B) bulb B
- C) both bulbs
- D) neither bulb

4. \_\_\_\_\_

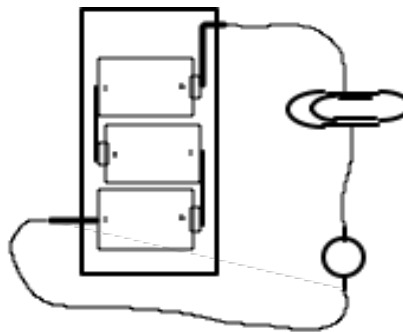
- A) bulb A
- B) bulb B
- C) both bulbs
- D) neither bulb

5. Using a colored pencil, go back and trace the continuous conducting paths in numbers 1 – 4.

6. Study the two circuits below in which a paper clip has been inserted between wires in a circuit.



**Circuit A**



**Circuit B**

Which of the following statements are true? \_\_\_\_\_

- (A) The bulb will light more brightly in Circuit A .
- (B) The bulb will light more brightly in Circuit B
- (C) The bulb will be the same brightness in either case.
- (D) The bulb will not light.

7. Explain why you believe your answer to the above question is correct. Use the words “insulator” and “conductor” correctly as part of your explanation.

8. Write in your own words a definition of the word circuit which anyone could use to determine if a given set of connections is or is not a circuit.

9. We have observed in several activities that as soon as a very small gap is produced anywhere in the circuit, the bulbs go out. Would you classify air as a conductor or an insulator? Explain.