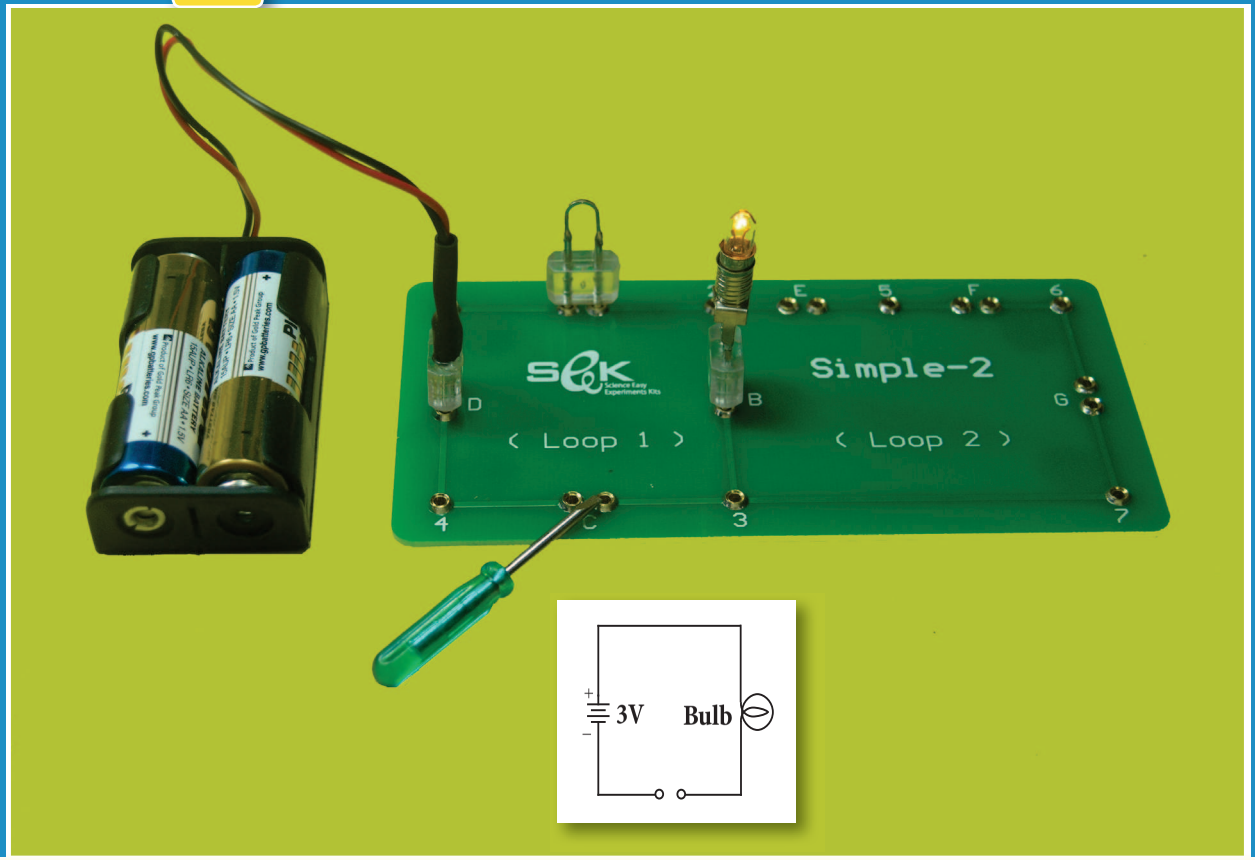
Experiment 2 Electrical Conductors and Insulators



Objectives

1. The student will be able to differentiate between electrical conductors and insulators by testing a range of materials practically.

Apparatus

- Experiments Board (Simple-2)
- 2xAA Battery Holder w/AA batteries
- Mini Screw Driver
- Jumpers
- Switch
- Bulb
- conductors and insulators materials e.g. coin, plastic, wood, copper wire, iron wire, aluminum,...etc

Procedure & Conclusions

1. Build a simple circuit as shown in the photo.
2. Press the switch button and see if the bulb glows.
3. Remove the switch from the pair (B).
4. Use the metal end of the mini screw driver to connect the two points of pair (B), as shown in the in the photo.

- We conclude that the iron (metal end of the mini screw driver) is a good … conductor / insulator …

5. Use the plastic handle of the mini screw driver to connect the two points of pair (B) as shown in the below photo.

- We conclude that the plastic (the handle of the mini screw driver) is a good … conductor / insulator …

6. Use a coin to connect the two points of pair (B) as shown in the below photo.

- We conclude that coins are good … conductor / insulator …

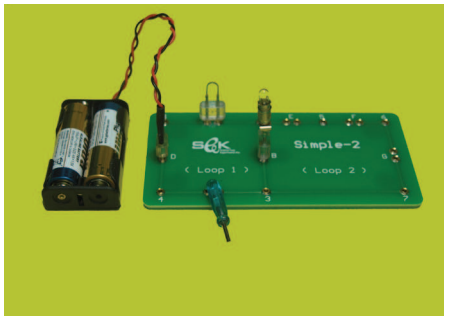
7. Use the graphite end of a pencil to connect the two points of pair (B) as shown in the below photo.

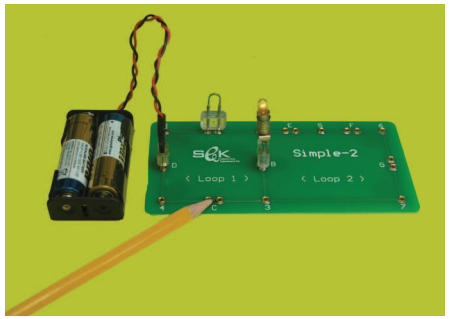
- We conclude that graphite is a good … conductor / insulator …

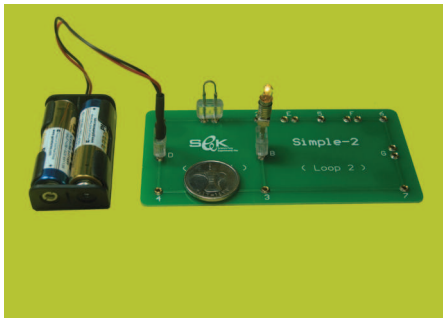
8. Use more different materials (e.g. copper wire, wood, paper, glass, rubber, …etc) to connect the two points of pair (B) and see what materials are conductors and make the bulb glow in the circuit.

- The following materials are electrical conductors: ……
  ……
  ……

- The following materials are electrical insulators: ……
  ……
  ……







Discussion

1. Discuss the physics meaning and the definition of conductors & insulators.