

**Name:****Class:****Date:****Question #1****Which of the following is the best example of static electricity?**

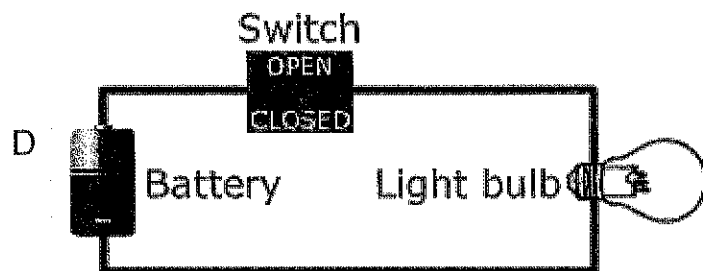
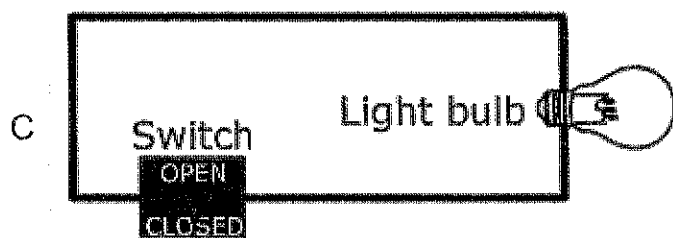
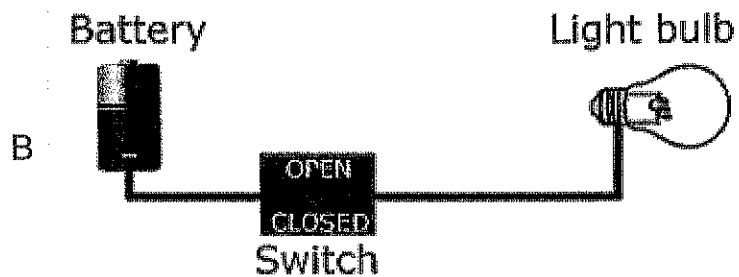
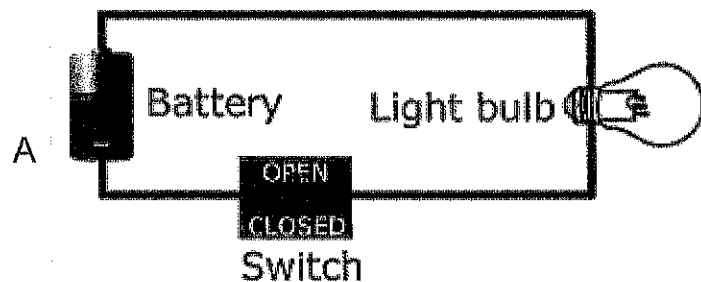
- A a light bulb turning on when a switch is turned on
- B using a flash light to see
- C receiving a shock when walking across a carpet in winter
- D using a stove to heat up leftovers

**Question #2****Which of the following is an example of human-harnessed electricity?**

- A lightning striking a building
- B getting a small shock when touching a doorknob
- C a hydroelectric dam on a river
- D socks sticking together in a dryer

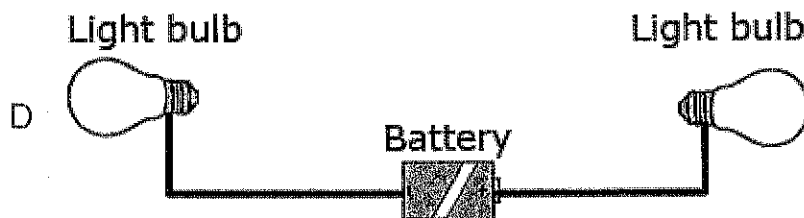
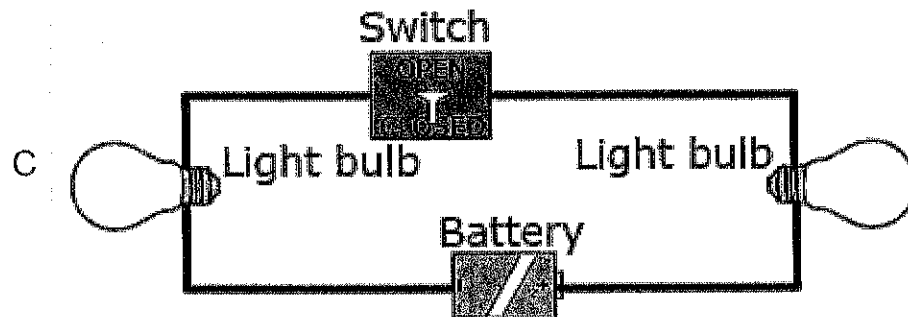
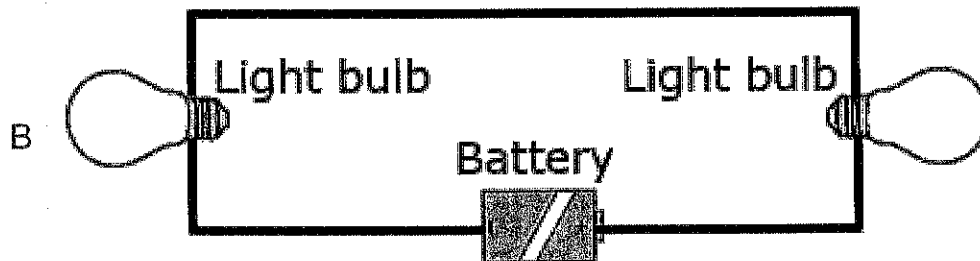
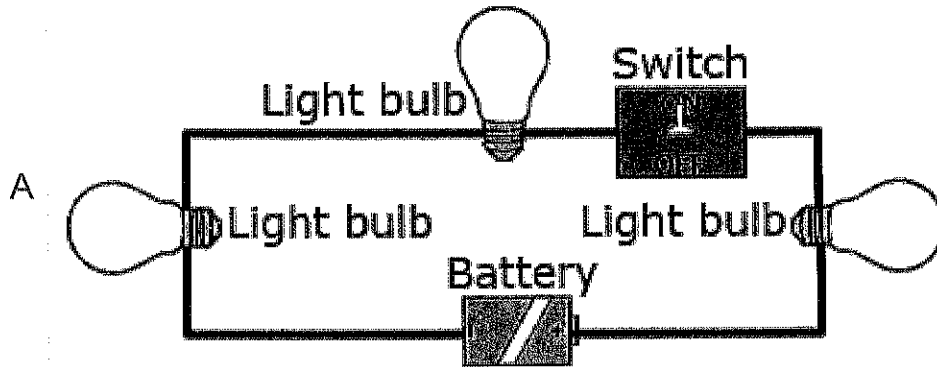
Question #3

In which circuit will the light bulb be on?



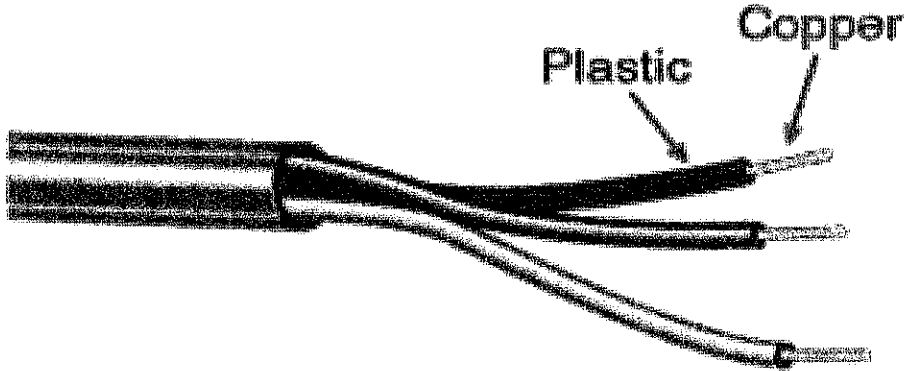
Question #4

Which of the following is NOT a complete circuit?



**Question #5**

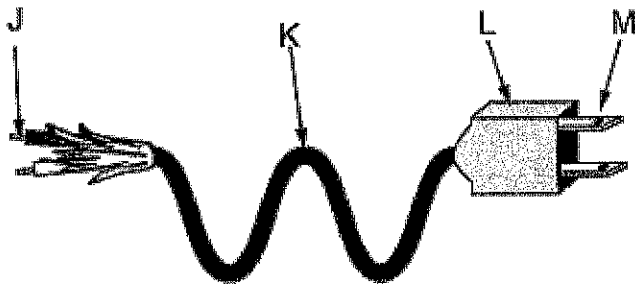
The image below shows the plastic covering on a lamp's cord. Why is the electrical wire wrapped in plastic?



- A Plastic is a good insulator.
- B Plastic is a good conductor.
- C Plastic is less expensive than steel.
- D Wires are never wrapped in plastic.

**Question #6**

The diagram shows a portion of an electrical plug with a cut end.



Select all of the materials from the diagram that are poor electrical conductors.

- A M
- B L
- C K
- D J

**Question #7**

A student is comparing two types of magnets. The student asks five questions and then finds the answers to the questions by experimenting with the magnets. The results are shown in the table.

Question	Magnet 1	Magnet 2
Can it be turned on and off?	yes	no
Does it require an energy source?	yes	no
Can its strength be changed?	Yes	no
Does it attract iron and steel object?	Yes	yes
Can it lift 50 paper clips?	Yes	yes

Using the data above, which of these comments below are correct?

- A Magnet 1 is a permanent magnet and Magnet 2 is an electromagnet.
- B Magnet 1 is an electromagnet and magnet 2 is a permanent magnet.
- C Magnet 1 and magnet 2 are both electromagnets.
- D Magnet 1 and magnet 2 are both permanent magnets.

**Question #8**

A student is investigating with two magnets. The table shows her observations.

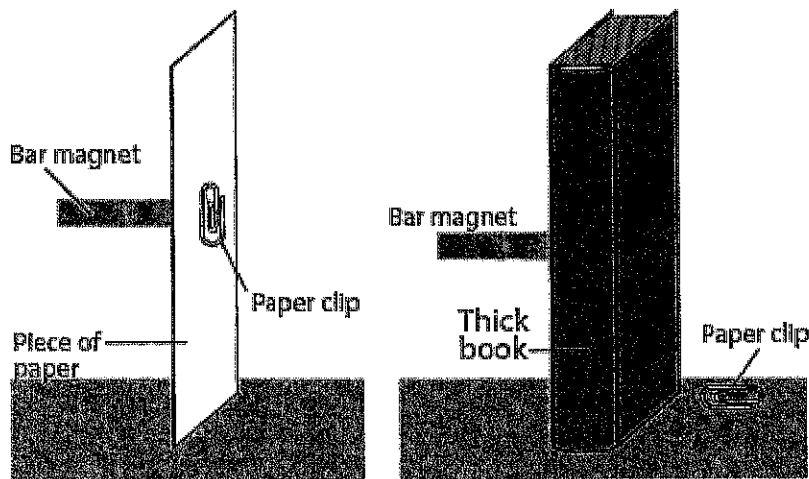
Property	Magnet 1	Magnet 2
battery required	yes	no
can attract iron objects	yes	yes
can attract steel objects	yes	yes

Which argument can the student make using her data?

- A Magnet 1 is an electromagnet that can be turned off.
- B Magnet 2 is an electromagnet that can be used outdoors.
- C Magnet 1 is a permanent magnet that needs a source of electricity.
- D Magnet 2 is a permanent magnet that has an adjustable field strength.

**Question #9**

A student is investigating with a bar magnet. She places a sheet of paper between a bar magnet and a paper clip. She observes the paper clip is attracted to the magnet through the piece of paper. Next, she places a book in between the magnet and the paper clip. She observes that the paper clip is not attracted to the magnet. Her investigation is shown.

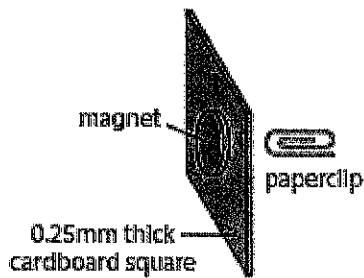


Which BEST explains why the paper clip is not attracted to the magnet through the book?

- A Adding the book changes the directional flow of the magnet.
- B Adding the book changes the magnetic properties of the paper clip.
- C Adding the book changes the poles of the paper clip from north to south.
- D Adding the book changes the magnetic force between the paper clip and magnet.

**Question #10**

Mary is investigating with a magnet and a paperclip. She places the paper clip on one side of a cardboard square and the magnet on the other side of the square. She observes that the paper clip is attracted to the magnet. Mary's set up is shown.



Mary performs five trials with different cardboard squares and records her information in the table shown.

Trial	Thickness of Cardboard (mm)	Observation
1	0.50	paper clip is attracted to the magnet
2	0.75	paper clip is attracted to the magnet
3	1.00	paper clip is attracted to the magnet
4	1.25	paper clip is not attracted to the magnet
5	1.50	paper clip is not attracted to the magnet

What is Mary MOST LIKELY investigating?

- A How does distance make a magnet stronger or weaker?
- B How does cardboard help a magnet attract a magnetic object?
- C How does distance affect interactions between a magnetic field and a magnetic object?
- D How does cardboard help to increase the magnetic force that a magnet exerts on an object?