

Scientific Method Part 2: Investigations Practice (Demo Version)

Read each question carefully.

1) What should you do if you cut your finger during science class?

- A) Put on plastic gloves.
 - B) Tell your teacher.
 - C) Press ice onto the cut.
 - D) Hold your finger in the air.
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2) In science class, students are making electromagnets. They are wrapping a wire around a nail, and attaching the ends of the wire to a battery.

What should the students do so that the experiment is safe?

- A) They should place the materials in a plastic container.
 - B) They should wash their hands before touching the nail.
 - C) They should wrap tape around the ends of the battery.
 - D) They should wear gloves when handling the wire.
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- 3) A science class is learning about leaves. Their teacher tells them to collect leaves for class.

What safety measure should students take in this investigation?

- A) They should collect dead leaves only.
 - B) They should place the leaves in plastic bags.
 - C) They should wash their hands after handling the leaves.
 - D) They should use soap and water to remove dirt from the leaves.
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- 4) A group of students is measuring the temperatures of water samples in science class. Their glass thermometer falls on the floor and breaks.

What should the students do?

- A) Pour water onto the broken thermometer.
 - B) Cover the broken thermometer with paper.
 - C) Trade thermometers with another group.
 - D) Tell the teacher about the broken thermometer.
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"Margo's Magnet Experiment"

Margo predicted that magnet strength would increase with temperature. She experimented to find out if this is true. She tested the same magnet at four temperatures. For this experiment, she started by bringing the magnet to the correct temperature. Then she lowered it into a bowl of 200 paperclips for about two seconds. Then she removed it from the bowl. Lastly, she counted the number of paperclips the magnet had attracted. She conducted three trials at each temperature. The table below shows her results.

How Temperature Affects Magnet Strength

Temperature (°C)	Number of Paperclips Attracted to Magnets			
	Trial 1	Trial 2	Trial 3	Average
-78	185	160	151	165
0	112	99	68	93
30	63	58	49	57
100	15	21	30	22

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- 5) from "Margo's Magnet Experiment"

Which of these variables should be kept the same during the experiment?

- A) the room temperature
 - B) the temperature of the magnet
 - C) the number of paperclips the magnet attracts
 - D) the length of time the magnet holds the paperclips
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- 6) Nora is conducting an experiment to find out how catnip affects her cat's behavior.

Which of these variables should be kept the same during the experiment?

- A) the type of food she feeds her cat
 - B) how much her cat plays
 - C) the amount of catnip she gives her cat
 - D) how much her cat sleeps
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- 7) Sabrina is conducting an experiment to find out how precipitation affects erosion.

Which of these variables should be kept the same during the experiment?

- A) the speed at which rain falls
 - B) the rate at which the area erodes
 - C) the amount of rain the area receives
 - D) the area where she conducts the experiment
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- 8) Gabriel is conducting an experiment to find out whether wind speed affects the surface temperature of water.

Which of these variables should be kept the same during the experiment?

- A) air temperature
 - B) wind speed
 - C) water temperature
 - D) movement of the water
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- 9) Jay is conducting an experiment to find out how air temperature affects plant growth.

Which of these variables should be kept the same during the experiment?

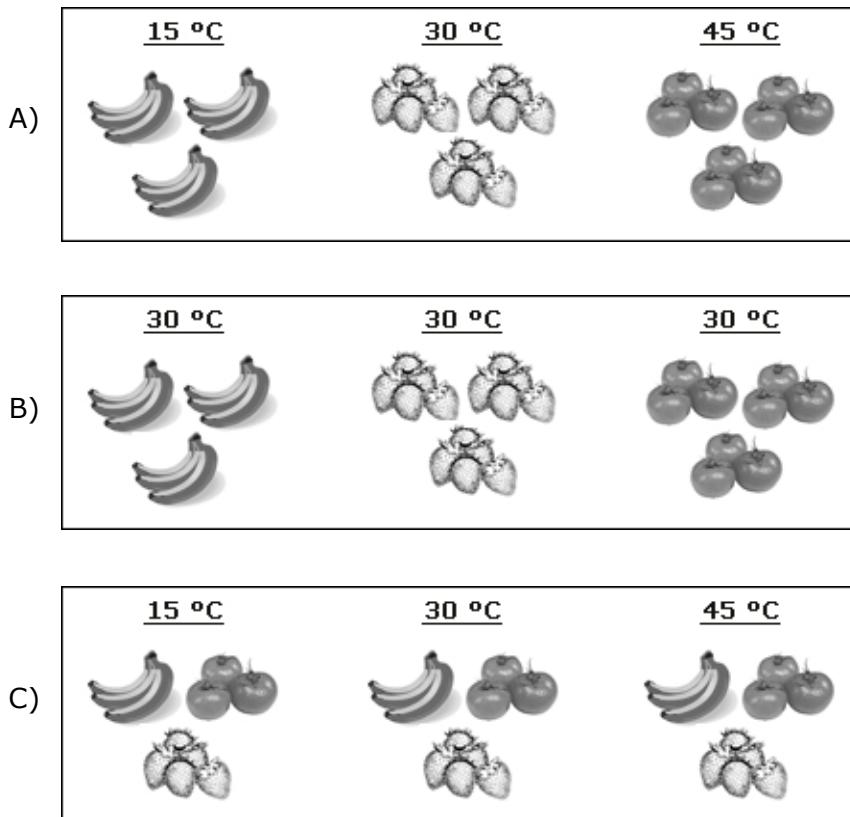
- A) the air temperature
 - B) the rate at which the plants grow
 - C) the appearance of the plants
 - D) the amount of sunlight the plants receive
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- 10) Which is a controlled experiment?

- A) measuring wind speed with an anemometer made out of paper cups and other materials
 - B) seeing how static electricity works by rubbing a balloon against a piece of wool and then testing to see if it will stick to a wall
 - C) placing a plate of ice cubes on top of a jar of very warm water to show how condensation forms when warm and cool air masses meet
 - D) finding out how the state of matter affects size by comparing how high snow measures in a jar to how high the water measures once the snow has melted
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- 11) Which arrangement is best for finding out how temperature affects the ripening of fruit?



- 12) Violet is conducting an experiment to find out what kind of soil tomatoes grow best in.

What should she do first?

- A) get several different kinds of tomato plants
- B) get several of the same type and size tomato plant
- C) get several of the same type of tomato plant in different sizes
- D) get several different kinds of tomato plants and several other types of plants

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