

Provincial Science Assessment Practice

Grade 8

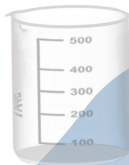
A student wanted to see how temperature affects the dissolving rate of salt in water.

She had four beakers of water that she filled from the tap as she counted to five. The temperatures of the beakers read: 1°C , 5°C , 20°C and 32°C .

She put 1 tablespoon of salt in each beaker and each beaker was stirred at the same rate.

Why can't the results of the experiment be trusted as valid?

- The temperatures were all different.
- The beakers should not have been stirred at the same rate.
- There was a different amount of salt in each beaker.
- The amount of water in each beaker was not measured.



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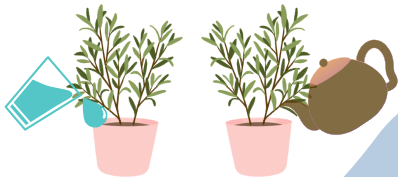
A student's grandfather said that watering your plants with cold, brewed tea was better than just using tap water. They wanted to put it to the test.

1. What would be the best testable question for this experiment?

- a. How does the amount of sunlight affect plant height?
- b. The plant will grow taller if it is watered with cold, brewed tea.
- c. How does the type of liquid used to water, affect plant height?
- d. Will the plant grow better if it is watered with cold, brewed tea?

2. What are the dependent and independent variables for this experiment?

- a. Dependent Variable: Type of Soil
Independent Variable: Type of Liquid
- b. Dependent Variable: Growth of Plant
Independent Variable: Type of Liquid
- c. Dependent Variable: Type of Liquid
Independent Variable: Growth of Plant
- d. Dependent Variable: Type of Liquid
Independent Variable: Amount of Sunlight



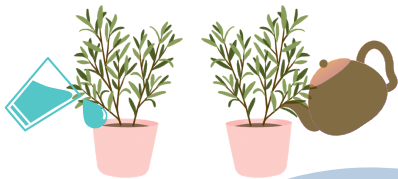
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A student's grandfather said that watering your plants with cold, brewed tea was better than just using tap water. They wanted to put it to the test.

What variables need to be controlled in this investigation to ensure the results are valid?

- a. amount of liquid, growth of plant, type of soil, sunlight, type of plant
- b. amount of liquid, type of soil, container, sunlight, type of plant
- c. type of liquid, sunlight, container, growth of plant, type of plant
- d. type of liquid, type of soil, container, sunlight, type of plant



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The diagram below shows a rock being placed in a graduated cylinder containing water.

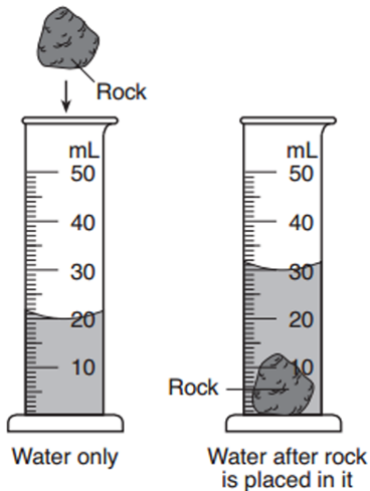
What is the volume of the rock?
(1 mL = 1 cm³)

a. 20 cm³

b. 10 cm³

c. 15 cm³

d. 30 cm³



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The table below outlines information about planets in our solar system. Use this information to answer the question below.

Planet	Diameter (<i>km</i>)	Distance from Sun (<i>millions of km</i>)	Temperature (<i>°C</i>)
Mercury	4879	70	350
Venus	12 104	109	480
Earth	12 756	152	22
Mars	6792	249	-23

Based on the information in the table, which of the following is TRUE?

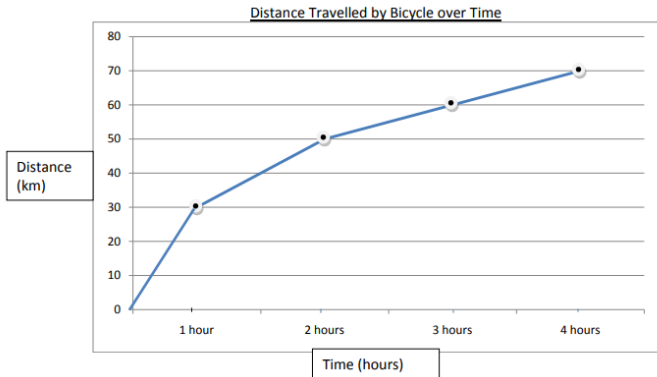
- a. Mercury is bigger than Mars.
- b. Mars has the highest surface temperature.
- c. Venus has the highest surface temperature.
- d. Earth is 152 km from the Sun.

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A cyclist is travelling by bicycle over a period of 4 hours. Use the information below to answer the question(s).

(Note: Speed = Distance / Time)



Which conclusion describes the pattern observed in this graph?

- a) Speed has no effect on the amount of distance travelled.
- b) Decreased speed causes an increase in the amount of distance travelled.
- c) Increased speed causes a decrease in the amount of distance travelled.
- d) Decreased speed causes a decrease in the amount of distance travelled.

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A student added paper clips to a balloon rocket to investigate the effect of weight on its distance travelled.

Based on the pattern in the data below, predict what the distance will be when 6 paper clips are added to the balloon.

Launch Trials	Distance Travelled (cm)	Quantity of Paper Clips Attached	Time in the Air (seconds)
Balloon 1	195 cm	0	5 s
Balloon 2	80 cm	2	3 s
Balloon 3	35 cm	4	1 s

- a) 60 cm
- b) 25 cm
- c) 40 cm
- d) 15 cm

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Each student in a science class of 25 conducts the same experiment. One student gathers all the data from her classmates and summarizes the results of the experiment for the class. She compares the data she personally recorded with the class data.

Which of these might indicate to her that her results are valid?

- a. Three other classes performed the same experiment.
- b. The same experiment was repeated two years in a row.
- c. Many other students recorded data similar to hers.
- d. Another student in her class reached a different conclusion.

