

Name: \_\_\_\_\_

# Scientific Investigations Review

**Directions:** Read each statement. Write “O” if it is an observation or “I” if it is an inference.

- \_\_\_\_\_ My sister is holding her stomach. She is frowning and groaning.  
\_\_\_\_\_ My sister isn't feeling well.
- \_\_\_\_\_ At recess, some children were playing baseball. I heard one of them shout, “Catch it!” When I looked at them, I saw that they were standing still. They were looking at the fence at the back of the baseball field.  
\_\_\_\_\_ The ball must have gone over the fence.

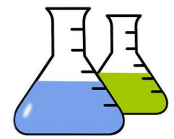
**Directions:** Read the sentences. What inference can you make?

- All of the teachers and students are standing outside of the school in lines.  
\_\_\_\_\_

- On my birthday, my mom told me to stay out of the basement.  
\_\_\_\_\_

**Directions:** Use the word bank to complete the sentences below.

milliliters	stopwatch	temperature
scale	meter stick	centimeters



- Scientists measure elapsed time with a \_\_\_\_\_.
- A \_\_\_\_\_ or balance can be used to measure an object's mass.
- We measured the distance between two apples and recorded the amount in \_\_\_\_\_.
- The volume of an object can be measured in \_\_\_\_\_.
- You can use a \_\_\_\_\_ to measure length.
- \_\_\_\_\_ is measured in degrees Celsius.

11. Number the steps of the scientific process from first to last.

- |                              |                          |
|------------------------------|--------------------------|
| _____ Analyze the data.      | _____ Form a hypothesis. |
| _____ Do research.           | _____ Draw conclusions.  |
| _____ Perform an experiment. | _____ Ask a question.    |
| _____ Share the results.     |                          |

**Directions:** Match the experiment terms with their definitions.

- |                                |   |
|--------------------------------|---|
| 12. _____ constant             | A. the factor that is changed on purpose by the experimenter                        |
| 13. _____ dependent variable   | B. the number of times the experiment is repeated                                   |
| 14. _____ independent variable | C. the factor that is measured by the experimenter                                  |
| 15. _____ trial                | D. a factor that is controlled by the experimenter so it doesn't affect the results |

**Directions:** Read the scenario below and answer the questions that follow.

Jackson wants to grow tomato plants in his backyard, but he isn't sure which brand of potting soil will be the best to help the tomato plants grow. He decided to perform an experiment to find out.

Jackson bought 2 baby tomato plants and 2 identical, large pots. The tomato plants were the same type and the same height. He also bought 2 different brands of soil. "Soil A" had 10 cups of nutrients added to the soil. "Soil B" did not have any extra nutrients added to the soil.

Jackson labeled the pots "Soil A" and "Soil B." He filled each pot halfway with its type of soil. Then, he planted a baby tomato plant in each pot. He put the pots in the same place in his backyard.



Over the next four weeks, Jackson watched the plants grow. Every day, he watered the pots with the same amount of water. At the end of the four week period, he used a meter stick to measure the height of the plants. He recorded the measurements in the chart below.

Brand of Soil	Starting Height	Height after 4 Weeks
Soil A	4 cm	15 cm
Soil B	4 cm	13 cm

**Directions:** Use the word bank to complete the sentences below. *Hint:* Not all of the words/phrases will be used!

constant	dependent	independent	conclusion	hypothesis
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16. Jackson used 2 different types of potting soil in his experiment. The type of soil is the \_\_\_\_\_ variable.
17. He measured the height of the plants to see which one grew the tallest. The height of the plant is the \_\_\_\_\_ variable.
18. "If a tomato plant is planted in soil with extra nutrients, then it will grow taller than the plant in soil without extra nutrients."
- This statement most likely shows Jackson's \_\_\_\_\_.

**Directions:** Answer the questions below.

19. What variables did Jackson keep constant?

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20. What other variables could have influenced the growth of the plants?

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21. What tool did Jackson use to measure the height of the plants?

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22. Look at Jackson's data. What conclusion could he make at the end of his experiment?

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