

Name: _____ #: _____

Date: _____ Section: _____ HR: _____



Forming A Scientific Investigation

Scenario 1

Kelly and Jack are playing in the park. Jack rolls a marble down the small playground slide. Kelly proposes the idea that the marble would travel at a faster pace if it is rolled down the longer slide. This discussion leads to the following investigative question. After reading the investigative question and hypothesis, identify the cause and effect, the controlled variables, and the manipulated variable in the experiment. Record your answers on your worksheet.

Investigative Question: What happens to the speed at which a marble travels when the height of a ramp is changed?

Hypothesis: If the ramp is taller, the marble will roll at a greater pace.

Cause: _____

Effect: _____

Controlled Variables:

Manipulated Variable:

Scenario 2

Marissa is an extremely curious sixth grader. During a snow day she noticed a truck spreading salt all over the road. After the truck went past Marissa's house, she put on her snow boots, hat, and gloves and went to the edge of her driveway and made an observation. From her observation, Marissa designed the following investigative question for an experiment she later conducted. Write a hypothesis (identifying the cause and effect), identify the controlled variables and the manipulated variable in the experiment.

Investigative Question: What will happen if salt is added to ice?

Hypothesis:

Cause: _____

Effect: _____

Controlled Variables:

Manipulated Variable:

Scenario 3

Will works for a greenhouse in his local town. He learned how to conduct a controlled experiment in his science class. He decides to practice this newly gained scientific knowledge and design a controlled experiment that deals with the proper conditions to grow seeds. Write a possible investigative question. Remember this question must be measurable. Also, write a possible hypothesis (using cause and effect) for this experiment, identify the controlled variables, and the manipulated variable in the experiment.

Investigative Question: _____

Hypothesis:

Cause: _____

Effect: _____

Controlled Variables:

Manipulated Variable:

Scenario 4

Biologist Bill is planning to conduct a long term study dealing with the preferred habitat of earthworms. Before beginning the experiment Bill writes the following investigative question. After writing an investigative question, write a hypothesis, identify the controlled variables and the manipulated variable in the experiment.

Investigative Question: _____

Hypothesis:

Controlled Variables:

Manipulated Variable:

Scenario 5

Donna is a very clumsy individual. She uses a lot of paper towels to clean up her spills. Help her to find the most suitable paper towel. Write an investigative question. Remember this question must be measurable. Also, write a possible hypothesis for this experiment, identify the controlled variables, and the manipulated variable in the experiment.

Investigative Question: _____

Hypothesis: _____

Controlled Variables:

Manipulated Variable:
