**Goal: To correctly identifying Independent, Dependent Variables, constants and write an appropriate Hypothesis for an Investigation**

Recall the following definitions

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| **Independent** (Manipulated) **variable** | the factor being changed or manipulated by the experimenter. |
| **Dependent** (Responding) **variable** | the change or result that occurs because of what the experimenter does. This variable is changed by the independent variable. It is usually measured. |
| **Constant** | Factors kept the same for all trials in an experiment i.e. temperature, type of plant used |
| **Hypothesis** | a testable idea  an educated guess that answers your question… i.e. If you listen to Jazz while writing a science test then you will get a higher grade. Or  Listening to Jazz music will increase science test grades |

**Identify the required information for each investigation. Refer to definitions.**

**IV = Independent variable DV = Dependent Variable C = Constants (can be several)**

1. A study was done to find out if different tire treads affect the breaking distance of a car.

IV:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DV:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The time it takes to run a mile depends on the person’s running speed.

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1. The higher the temperature of the air in the oven, the faster a cake will bake.

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1. The amount of pollution produced by cars was measured for cars using gasoline containing different amounts of lead.

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1. Salt will dissolve the fastest in water at a temperature of 100°C.

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1. Does the height of bean plants depend on the amount of water they receive?

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Hypothesis:

1. Which type of laundry detergent removes stains more effectively? Tide Clean, Kirkland Clean or Arm and Hammer Clean varieties were tested.

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Hypothesis:

1. Does the type of oil affect the size of popcorn? During test olive oil, canola oil an sunflower oil was used.

IV:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DV:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_C:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Hypothesis:

**Reflection:**

Explain how you know which variable (factor) in an experiment is the independent variable.

What questions can you ask yourself to help you identify the dependent variable?