

CLASS SET

Variables in Science

Dependent Variable: A **dependent variable** is what you measure in the experiment and what is affected during the experiment. The **dependent variable** responds to the **independent variable**. It is called **dependent** because it "depends" on the **independent variable**.

DRY – Dependent, Responding, graphed on the Y-axis

Independent Variable: The **independent variable** is what you change or choose. It is "manipulated," or changed or chosen by the scientist when he or she designs the experiment.

MIX – Manipulated, Independent, graphed on the X-axis

Controlled Variable: A controlled variable is one that is kept constant or the same in an experiment. The scientist "controls" it, and does this to make sure his experiment is "fair".

Example: I measure the outside air temperature every hour to see what time of day is the hottest. **Time is Independent**, because I choose when to go out. Do I go out every hour? Every 30 minutes? Every 15 minutes? I choose that. **Temperature is Dependent**, because I measure it with a thermometer. It changes depending on the time of day. **Where I measure is controlled**. Do I measure one time in the sun and the next time in the shade? No – I measure all temperatures in the same spot. Official temperatures are always measured in the shade.

