



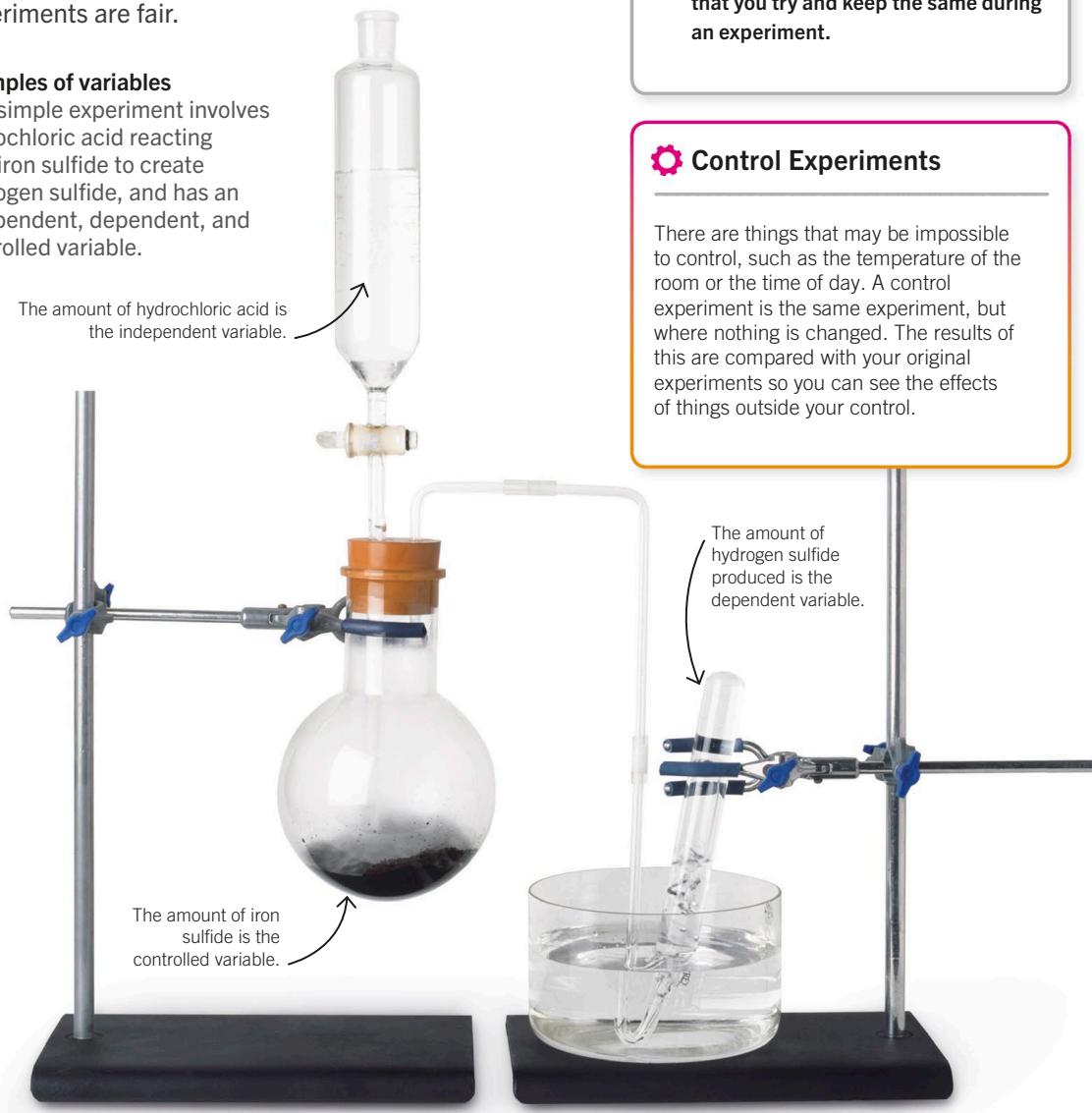
Experiment Variables

When testing a hypothesis, scientists conduct experiments by changing one thing and seeing how it will influence something else. Sometimes, they need to keep some things the same so they can understand how one thing affects the other. These things are called variables, and by identifying them, scientists ensure their experiments are fair.

Examples of variables

This simple experiment involves hydrochloric acid reacting with iron sulfide to create hydrogen sulfide, and has an independent, dependent, and controlled variable.

The amount of hydrochloric acid is the independent variable.



Key Facts

- ✓ Variables are things that can affect the results of your experiment.
- ✓ The independent variable is the thing that you change during an experiment.
- ✓ The dependent variable is the thing that you measure when you change the independent variable during an experiment.
- ✓ The controlled variables are the things that you try and keep the same during an experiment.



Control Experiments

There are things that may be impossible to control, such as the temperature of the room or the time of day. A control experiment is the same experiment, but where nothing is changed. The results of this are compared with your original experiments so you can see the effects of things outside your control.