

# Speak like a SCIENTIST

## Planning an experiment

**Variable** A factor that can change in an experiment.

**Independent variable** A variable that is being changed during the experiment.

**Dependent variable** A variable that is being tested or measured during the experiment.

**Control variable** A variable that must be kept the same so the experiment is not affected.

**Prediction** Stating what you think will happen during an experiment, using scientific theory.

**Hypothesis** An idea about how something works that can be tested using experiments. Usually developed from a question based on an observation.

**Observation** Something that can be seen to be happening.

**Scientific method** Investigating by collecting and analysing data to demonstrate that an idea is right or wrong.

**Method** A description of how an experiment should be done - can be written as a list of instructions.

**Primary data** Data that has been collected from the original source for a specific purpose.

**Secondary data** Data that has already been collected through primary sources and made available for others to use.

**Apparatus** The equipment used to conduct an experiment.

**Accurate** Results are accurate if they're close to the true value.

**Precise** Results are precise if they've been repeated and are similar.

**Repeatable data** Getting similar results when repeating the experiment.

**Reproducible** Getting similar results when someone else does the experiment.

**Random error** Something that causes an unexpected difference between a measurement and the true value. May happen when equipment is used incorrectly, or readings are taken incorrectly.

**Systematic error** Something that causes the results to differ by the same amount each time. May happen when equipment is used incorrectly.

**True value** The result that you would get in an ideal measurement or experiment that is totally unaffected by errors.

**Outliers** Results that are very different from the others.

**Repeat readings/measurements** Taking measurements or observations of the same experiment more than once.

