**Fair Testing fact sheet**

**What makes a test fair?**

A test is fair if you can be sure that the only thing that is changing is the thing that affects what you are measuring.

An example:

* Testing which cup of tea is the sweetest is only fair if the only thing that changes is which cup of tea is being tasted, and other factors (variables) are being controlled, examples include:
  + The temperature of the tea
  + How much liquid there is
  + The person tasting the tea

**Variables**

Variables are **all** of the things that could change during an experiment, the different types of variables include:

* What is affecting what you are measuring **- independent variable** (because it is not dependent on another value)
* What you are measuring – **dependent variable** (because it is dependent on what is affecting this value)
* All other factors that you want to control so that it doesn’t affect what you’re measuring – **control variable**

**How do scientists get their results?**

Scientist can use observation, through microscopes for example, but sometimes our eyes can play tricks on us! Optical illusions are a good example of this.

It is often useful to combine observation with **measuring,** and to do this we need instruments.

**Blind testing**

This is when the subject does not know the identity of what is being tested e.g. brand names are removed and replaced with sample labels. This prevents bias and can be especially useful in taste tests e.g. between brand names and supermarket own-brands.