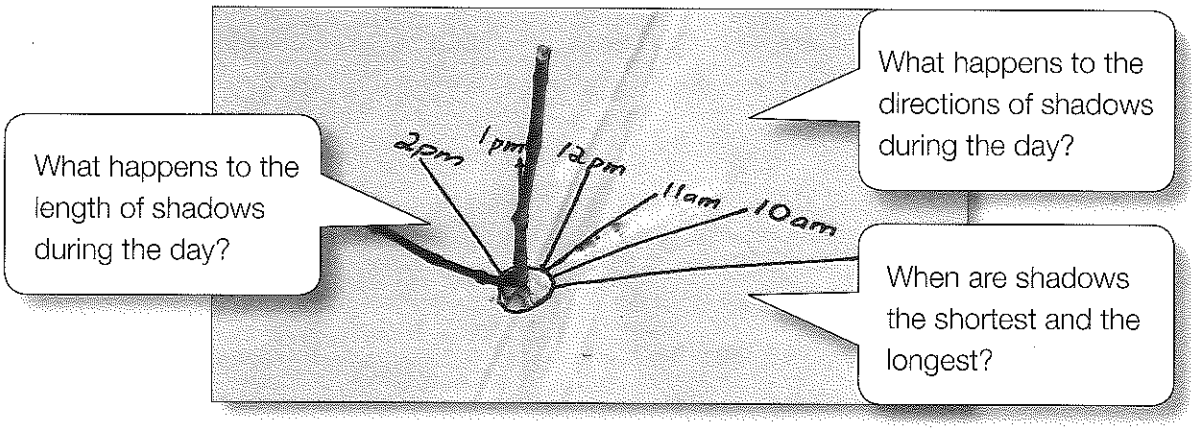
Appendix 4
How to conduct a fair test

Introduction

Scientific investigations involve posing questions, testing predictions, collecting and interpreting evidence and drawing conclusions and communicating findings.

Planning a fair test



All scientific investigations involve *variables*. Variables are things that can be changed (independent), measured/observed (dependent) or kept the same (controlled) in an investigation. When planning an investigation, to make it a fair test, we need to identify the variables.

It is only by conducting a fair test that students can be sure that what they have changed in their investigation has affected what is being measured/observed.

'**C**ows **M**oo **S**oftly' is a useful scaffold to remind students how to plan a fair test:

Cows: **Change** one thing (independent variable)

Moo: **Measure/Observe** another thing (dependent variable) and

Softly: keep the other things (controlled variables) the **Same.**

To investigate whether the time of day affects shadow length, students could:

CHANGE	time of day	Independent variable
MEASURE	shadow length	Dependent variable
KEEP THE **SAME**	the shadow stick, the shadow stick's position on the paper, the position of the paper, the location of the paper	Controlled variables