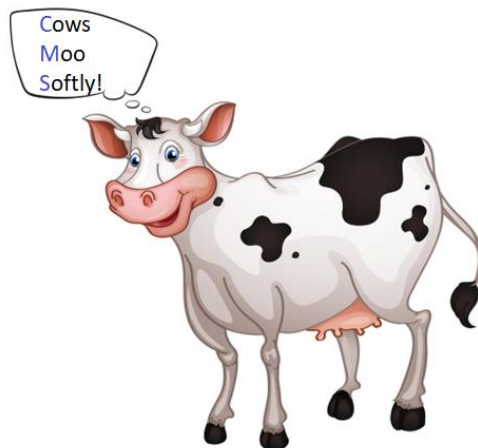


Think Science! Newsletter 2

This month: Planning and conducting

Welcome to our second newsletter for *Think Science! 2024*. Many student teams will now have started their investigation or be close to starting. The information below will be useful for the planning and conducting inquiry skill that forms the second part of their investigation. If you have any questions or comments, please email us at thinkscience@ansto.gov.au



Fair tests

While planning their investigations student teams will need to consider all elements of a fair test. Applying the simple mnemonic 'Cows Moo Softly' may be useful:

- | | |
|------------------|---|
| C ows - | C hange one thing (independent variable) |
| M oo - | M easure another thing (dependent variable) |
| S oftly - | Keep all the other things the S ame (controlled variables) |

Setting this out in a table can make it easier for students to see. As an example, the table below refers to the investigation question: 'Does changing the height of a ramp affect how far a ball will travel?'

Variables	What?	How?
C hange	The height of a ramp	Add books of same height to increase the height of the ramp; measure height with ruler
M easure or observe	The distance the ball travels	Use measuring tape to measure distance from the end of the ramp to where the ball stops
Keep the S ame	Same ball Same ramp Same distance travelled down ramp	Tennis ball Use a wooden ramp, 1m in length Draw a start line on the ramp

Other planning considerations

Teams will need to describe each step of their procedure, and list all the materials and equipment that they will need. They should also describe how they will use materials and equipment **safely**.

An important consideration at this stage is the **number of trials**. Conducting two (or more) trials is a good practice, and one which is strongly encouraged in *Think Science!* This will increase reliability and produce more results for analysis.

Conducting

Clear photos or video footage of the experimental set-up and investigation in progress is an advantage. Apart from providing proof, photos and video can help to 'fill in the gaps' when specific aspects are not well described by students in their final submission.

It would also be helpful to see photos of any observations and measurements recorded during the investigation. Student logbooks can be used to record all data collected and are available on the *Think Science!* [website](#).

Role of teachers

We strongly encourage you to support your students in developing their science inquiry skills during *Think Science!*

Two important areas where teacher assistance can be crucial to successful student investigations is in developing a testable question, and in planning the investigation. Addressing these aspects correctly sets teams up for success from the start!

If you missed Newsletter 1, which focused on topic selection and testable questions, you can find it [here](#).



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