

ANSTO

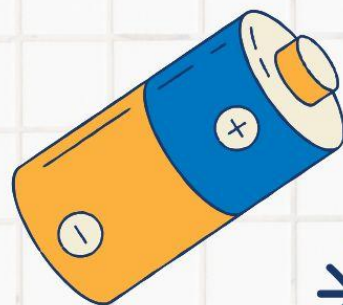


MY

Think
Science!

LOGBOOK

Years 7-10



2026



Questioning and Predicting

Research Question

What are you investigating?

Write a **scientifically testable question** that you want to answer from your investigation. Testable questions are about changing one variable or factor to see its effect on another variable.

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Make sure you choose a topic for your research question that follows our **safety guidelines**. Please keep in mind:

- ✗ **No** experiments growing mould, bacteria or fungus (including the use of agar plates)
- ✗ **No** use of radioactive sources and/or hazardous biological or chemical substances

Show your question to your teacher. Do they approve of your investigation question?

Teacher's initials



Planning and Conducting

What variable are you going to change (independent variable), and what variable are you going to measure (dependent variable)? How are you going to change and measure these variables?

How can you make your investigation a **fair test**? Think about the variables you will need to keep the same, and how you will do this.

independent variable (what you will change and how you will change it)	dependent variable (what you will measure and how you will measure it)	controlled variables (the things you need to keep the same, and how you will keep each thing the same)

Does your experiment need a **control** that you can use to compare with your test results? If yes, describe what you will use as your control.

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Equipment

What materials and equipment will you need for your investigation?

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Risk Assessment

How will you conduct your investigation safely?

Identify any dangers to yourself or others associated with your investigation, and state how you are going to minimise each danger. Consider any ethical issues if your research involves animals or humans.

Risk or danger	What harm could this risk or danger cause to you or others?	Ways to manage and minimise the risk or danger

Method:

What are you going to do?

Describe a step-by-step procedure that states what you are doing, how you are going to do it and the equipment that you are using to do it. Don't forget to include a sufficient number of replicate trials to help ensure the validity of your data.

Remember, you can talk through your procedure whilst showing us video of the set-up of your equipment and how you carried out your experiment.

[illegible]

Sketch a labelled diagram of the set-up of your equipment for your investigation.



Processing, Modelling and Analysing

Results:

Write down what you observe and measure during your investigation (your raw data) in an appropriate way, such as a table.

Don't forget to take some photos and/or video of your team carrying out your investigation and recording the results.

Think of other ways to present your results visually, such as an appropriate graph, photographs, or diagrams.

What do your results show? Describe any trends, patterns, relationship and anomalies you see in your results data.

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Is there anything you would do differently if you did this investigation again? What improvements might you make to improve the fairness, and quality of your results data?

Suggest any further research or actions that you think need to be carried out to extend this investigation and further your understanding of this topic.

Conclusion:

Write a conclusion for your investigation. A conclusion is like an answer to your aim, and gives a brief summary of your findings.



Communicating

The best videos are well planned before any filming is done, to ensure they fit the **maximum 5 minutes** allowed. To plan your video, create a **story board**. Your story board should indicate each scene (what you will show to the audience) and what you will say for each scene. Remember to include each member of your team. You can use our **storyboard template** to help you!

Don't forget to use your creativity. Plan a video that tells us about your investigation in an engaging, enjoyable and fun to watch way that grabs our attention. Check out all of our winners from 2025, including Primary school winners, at <https://www.ansto.gov.au/2025-think-science-competition-summary-and-results> to see what makes a great investigation video!

The following **video storyboard checklist** will help to ensure you have included everything you need in your video. We have also provided **maximum times** to cover each aspect in the video.

Put a tick against each item to check you have included it in your storyboard.

Video Storyboard Checklist

Questioning and predicting (maximum 60 seconds including introduction)



We have:

- ☐ stated the scientifically testable question or aim of our investigation
- ☐ presented a short summary of the science and scientific concepts that relate to our investigation
- ☐ proposed a testable hypothesis (what we think will happen based on our research)

Planning and conducting (maximum 90 seconds)



We have:

- ☐ identified the independent and dependent variables (what we changed and what we measured) and stated how we measured them
- ☐ described how other variables were kept the same to ensure a fair test
- ☐ stated safety risks and any ethical issues for our investigation, and explained how we minimised these risks and issues (risk assessment)
- ☐ included photos or video to show the set-up of our equipment for our investigation (equipment)
- ☐ clearly described the logical steps we followed to carry out our investigation (method)
- ☐ included video showing our team carrying out our investigation and recording the results

Processing, modelling and analysing (maximum 60 seconds)



We have:

- ☐ presented an appropriate, well-organised table of all our observations and measurements, including our trial averages (results raw data)
- ☐ included an appropriate graph or photos of our results
- ☐ described any patterns, trends or relationships shown by our results, and identified any anomalies

Evaluating (maximum 90 seconds)



We have:

- ☐ stated our conclusion, and whether or not our results support our hypothesis
- ☐ explained our results using our knowledge of the science and scientific concepts related to our investigation
- ☐ related our findings to the real world and suggested questions for further investigation
- ☐ reflected on possible sources of error in our investigation and stated how our investigation could be improved

Communicating

Now that you have checked your storyboard it's time to make your **video**. The time limit for your video is **5 minutes. Do not go over this time.**

Make a video that is interesting, engaging and enjoyable for the viewer to watch, so they pay attention and learn about your great investigation! Don't forget- use your creativity!

So here is a checklist for your team to consider when you are making your video:



We are:

- ☐ including creative ideas and features to engage the viewer and make it fun to watch
- ☐ filming in a quiet area so there is no background noise
- ☐ filming where there is enough lighting so that everything presented can be clearly seen
- ☐ looking at the camera when speaking and have only one team member speaking at a time
- ☐ speaking loud enough and clearly enough for the viewer to hear and understand
- ☐ speaking at the right pace (not too quickly or too slowly)
- ☐ ensuring that any text, data tables and graphs presented on screen are large enough to be easily read and to clearly see all details, and enough time has been allocated for the viewer to look at and understand them
- ☐ using voice-overs to explain tables, graphs and other visuals presented on screen
- ☐ checking the spelling of all our text
- ☐ checking that our final version of the video is **between 4 and 5 minutes long.**

Don't forget to watch your video before you submit it! This is very important. When watching your video, you should use the checklist again to check that everything you need has been included, and that it **does not exceed the 5-minute time limit**. This will enable you to edit your video if you have missed something or if it is too long. **Videos longer than 5 minutes will be excluded from judging.**

HINT: it is a good idea to learn the information you are presenting so that you can look at the camera and talk directly to your audience.

EXTRA HINT: Play your video for your teacher, friends and family to get their feedback before submitting – they might notice something you missed that needs fixing!

Have fun telling us about your investigation! We can't wait to see it. 😊