

Writing and Science

Science helps us understand the world around us.

Students learn about living things, materials, forces, energy, Earth, space, weather, technology and scientific investigations.

What Do Students Learn in Science?

Science is not just about memorising facts. It is about learning how to:

- ask questions
- observe carefully
- test ideas
- collect information
- record results
- explain what happened
- use evidence
- solve problems
- understand the natural and designed world

Scientists are curious thinkers. They do not just ask, **“What happened?”** They also ask, **“Why did it happen?”** and **“How can we prove it?”**

1. Working Scientifically

What is Working Scientifically?

Working Scientifically means using science skills to investigate questions and solve problems.

Students learn how to plan investigations, make predictions, collect data and explain results.

Common Learning Areas

Students may learn how to:

- ask scientific questions
- make predictions
- write a hypothesis
- plan a fair test
- observe carefully
- measure accurately
- record results
- use tables and graphs
- explain patterns
- write conclusions
- use evidence to support ideas

Example Topics

- Which material absorbs the most water?
- Which surface creates the most friction?
- What happens when different objects are placed in water?
- Does sunlight affect plant growth?
- Which material keeps ice frozen the longest?

Useful Science Writing

This topic connects to:

- scientific reports
 - procedures
 - observations
 - tables
 - graphs
 - conclusions
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2. Living World 🌱

What is Living World?

Living World is about plants, animals and other living things.

Students learn how living things grow, survive, change and depend on their environment.

Common Learning Areas

Students may learn about:

- plants and animals
- habitats
- ecosystems
- food chains
- food webs
- adaptations
- survival needs
- producers, consumers and decomposers
- threatened species
- human impact on environments
- protecting living things

Example Topics

- How do animal adaptations help them survive?
- Why do camels survive in deserts?
- How do plants survive in dry places?
- What is a food chain?
- What happens when one animal disappears from a food web?
- How do humans affect habitats?
- How can we protect endangered animals?

Useful Science Writing

This topic connects to:

- information reports
 - explanations
 - labelled diagrams
 - comparisons
 - observations
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3. Material World

What is Material World?

Material World is about materials and substances.

Students learn what things are made from, how materials behave and how they can change.

Common Learning Areas

Students may learn about:

- solids, liquids and gases
- properties of materials
- natural and processed materials
- absorbent materials
- waterproof materials
- dissolving
- mixtures
- solutions
- reversible changes
- irreversible changes
- recycling
- waste
- sustainable materials

Example Topics

- Which material is the most waterproof?
- Which paper towel absorbs the most water?
- What dissolves in water?
- How can we separate mixtures?
- What happens when chocolate melts?
- Which materials are best for packaging?
- How can we reduce waste?

Useful Science Writing

This topic connects to:

- scientific reports
 - procedures
 - observations
 - tables
 - graphs
 - comparisons
 - explanations
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4. Physical World ⚡

What is Physical World?

Physical World is about energy, forces and movement.

Students learn how things move, how energy is used and how electricity works.

Common Learning Areas

Students may learn about:

- push and pull forces
- friction
- gravity
- movement
- electrical energy
- simple circuits
- batteries
- wires
- bulbs
- switches
- conductors
- insulators
- electrical safety
- energy transfer

Example Topics

- Which surface creates the most friction?
- How does gravity affect falling objects?
- How does a simple circuit work?
- What happens when a switch is opened or closed?
- Which materials conduct electricity?
- Which materials are insulators?
- How can electricity be used safely?

Useful Science Writing

This topic connects to:

- procedures
 - scientific reports
 - labelled diagrams
 - explanations
 - safety instructions
 - tables and graphs
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5. Earth and Space 🌍 🌙

What is Earth and Space?

Earth and Space is about Earth, the sky, weather, climate and objects in space.

Students learn about natural systems and how Earth is part of a much larger universe.

Common Learning Areas

Students may learn about:

- Earth, Sun and Moon
- day and night
- seasons
- planets
- the solar system
- stars
- weather
- climate
- natural events
- storms
- floods
- droughts
- bushfires
- erosion
- changes to Earth's surface
- space technologies

Example Topics

- What causes day and night?
- Why do we have seasons?
- How is weather different from climate?
- How does rain form?

- How do floods affect environments?
- What causes erosion?
- How do space technologies help people?
- What are the planets in our solar system?

Useful Science Writing

This topic connects to:

- explanations
 - information reports
 - labelled diagrams
 - tables
 - graphs
 - observations
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6. Digital Technologies and Data

What is Digital Technologies and Data?

Science often uses technology to collect, organise and explain information.

Students learn how data can help people understand patterns and solve problems.

Common Learning Areas

Students may learn about:

- collecting data
- recording data
- tables
- graphs
- charts
- patterns
- digital systems
- input, process and output
- simple coding
- using technology safely
- designing digital solutions

Example Topics

- How can we record plant growth data?
- How can a graph show weather changes?
- What patterns can we see in rainfall data?
- How can technology help solve environmental problems?
- How can sensors collect information?
- How can we display science results clearly?

Useful Science Writing

This topic connects to:

- tables
- graphs

- observations
 - explanations
 - design plans
 - evaluations
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Common Science Units

Students may study different science units during the year. Each unit focuses on different science ideas and skills.

Unit Title	What It Is About	Useful Text Types
Amazing Adaptations	How plants and animals survive	Information report, explanation, labelled diagram
Food Chains and Ecosystems	How living things depend on each other	Explanation, diagram, comparison
Materials Matter	Properties and uses of materials	Scientific report, procedure, table
Dissolving and Mixtures	How substances mix, dissolve or separate	Scientific report, observation, explanation
Waste and Sustainability	Reducing waste and caring for the environment	Information report, comparison, explanation
Electricity and Circuits	How simple circuits work	Procedure, scientific report, labelled diagram
Forces and Friction	How forces affect movement	Scientific report, table, graph
Weather and Climate	Weather patterns and climate	Information report, explanation, graph
Earth, Sun and Moon	Day, night, seasons and space	Explanation, diagram, information report
Space and Beyond	Planets, stars and space technology	Information report, labelled diagram
Collecting and Displaying Data	Recording and showing results	Tables, graphs, observations
Design a Science Solution	Solving problems using science and technology	Procedure, labelled diagram, evaluation

Science Topics and Text Types

Different science topics need different types of writing.

Science Topic	Best Text Type	Why?
Testing which paper towel absorbs the most water	Scientific report	It records an experiment
How rain is formed	Explanation	It explains how something happens
Facts about koalas	Information report	It gives facts about a living thing
How to build a simple circuit	Procedure	It gives steps to follow
Comparing solids and liquids	Comparison	It shows similarities and differences
Observing a plant grow	Observation	It records what is noticed
Parts of a flower	Labelled diagram	It shows parts clearly
Plant growth over one week	Table or graph	It organises results
How animals adapt to their habitats	Explanation	It explains how features help survival
Weather changes over a month	Graph	It shows patterns in data

Key Science Words

Here are some important science words students should know.

Word	Meaning
Observe	To look carefully and notice details
Predict	To say what you think will happen
Hypothesis	A scientific prediction that can be tested
Investigate	To test or study something carefully
Fair test	An investigation where only one thing is changed
Variable	Something that can change in an experiment
Measure	To find the size, amount or length of something
Data	Information collected during an investigation
Results	What happened in an investigation
Evidence	Information that supports an idea
Conclusion	What you learnt from the results
Diagram	A drawing that helps explain something
Label	A word that names part of a diagram
Graph	A visual way to show data
Pattern	Something that repeats or changes in a clear way

Learning Check

Answer these questions in full sentences.

1. What does it mean to work scientifically?
 2. Why do scientists make predictions?
 3. What is a fair test?
 4. What is the difference between results and a conclusion?
 5. Which science topic teaches us about animals, plants and habitats?
 6. Which science topic teaches us about materials and substances?
 7. Which science topic teaches us about forces and electricity?
 8. Which science topic teaches us about Earth, weather and space?
 9. Why are tables and graphs useful in Science?
 10. Which text type would you use to explain how rain forms?
 11. Which text type would you use to record an experiment?
 12. Which text type would you use to give facts about an animal?
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Student Activity

Choose **three** science topics from the list below.

For each one, write:

1. the science topic
2. the best text type
3. one sentence explaining why that text type is suitable

Topic Options

- How rain is formed
- Facts about sea turtles
- Testing which material is waterproof
- How to plant a seed
- Comparing solids and liquids
- Observing a growing plant
- Parts of a flower
- How a simple circuit works
- Weather changes over one week
- How animals survive in the desert

Example

Science Topic	Best Text Type	Why?
How rain is formed	Explanation	This text type is suitable because it explains how something happens.

Final Reminder 🌞

Science writing should be:

- clear
- accurate
- organised
- based on facts
- supported by evidence
- easy for the reader to follow

In Science, we do not just write what we think.

We write what we can **observe, test, measure, record** and **explain**.

A good science student is a careful thinker, a curious questioner and a neat recorder of discoveries.