# Overview of Document

This guide provides a complete, teacher-ready package for delivering the ****Australian Curriculum: Science (Biological Sciences)**** for ****Prep****.

It supports teachers by:

* Explaining curriculum requirements in simple, practical terms.
* Providing ready-to-teach, developmentally appropriate lesson plans.
* Offering consistent structure, vocabulary scaffolds, and real-world examples.
* Embedding local environmental context through the Mount Tomber Bee Sanctuary and Mistake Mountains Range.

What this document contains:

* A curriculum summary of Biological Sciences (Prep–Year 2).
* Three year-group overviews outlining the scientific concepts required at each level.
* Fully developed lesson plans for Prep.
* Optional appendices including vocabulary, bee-specific extensions, and printable resources.

How to use this document:

* Begin with the curriculum summary to understand learning progression.
* Use each year-group overview to plan focus concepts.
* Deliver the provided lesson plans sequentially or adapt them to your context.
* Refer to appendices for extension work or bee-themed enrichment activities.

## Curriculum Summary (Prep–Year 2)

This section summarises the Biological Sciences content descriptions from the Australian Curriculum (v9.0) for Prep (Foundation), Year 1, and Year 2. It provides teachers with a quick reference to the scientific concepts and understandings students are required to learn.

## Biological Sciences Focus Across Prep–Year 2

Across the early years, students develop an understanding that:

* Living things have needs for survival.
* Living things have external features that help them live and grow.
* Living things live in places that meet their needs.
* Living things grow, change, and have offspring like themselves.

These ideas form a developmental sequence:

* Prep → basic needs
* Year 1 → features and habitats
* Year 2 → growth and life cycles

### Prep (Foundation Year) — Key Curriculum Requirement

* Living things have basic needs, including food and water.

Students distinguish between living and non-living things and explore how the environment helps living things meet their needs.

## Progression Overview

### Prep:

* Identifies the needs of living things.
* Recognises simple relationships with environment.

## Integration Opportunities

* Use bees as a recurring reference across all three levels.
* Connect lessons to the Mistake Mountains environment.
* Encourage observation, questioning, and simple comparisons.

This summary guides the structure of the year-level overviews and lesson plans that follow.

## Prep Biological Sciences Overview

### Curriculum Requirement (ACARA v9.0)

* Living things have basic needs, including food and water.
* Students learn to identify living and non-living things and recognise how environments help living things meet their needs.

#### *Key Concepts*

* Distinguishing living vs non-living things.
* Basic survival needs: food, water, air, shelter.
* Simple relationships between living things and their environment.
* Observing local plants and animals, including bees, as examples of living things.

#### *What Students Should Understand*

By the end of Prep, students should be able to:

* Identify living things in familiar environments.
* Describe what living things need to survive.
* Recognise that different environments provide different needs (e.g., water from a pond, food from plants).
* Begin making simple observations (e.g., “The plant grew when we watered it”).

#### *Classroom Connections*

* Sorting activities: living vs non-living items.
* Observing changes in plants over a short period (watering, sunlight).
* Exploring animals in the school grounds or local area.
* Simple drawing or diagramming of a living thing and its needs.

#### *Mount Tomber Bee Sanctuary Links*

* Bees as an example of a living thing with basic needs.
* Discuss how flowers (nectar, pollen), water sources, and hive shelters support bees.
* Connect observations to the Mistake Mountains habitat — a rich local example of how environments support life.

#### *Teacher Notes*

* Keep vocabulary simple (alive, needs, food, water, home).
* Maintain concrete, hands-on learning experiences.
* Reinforce that all living things, including bees, require their environment to survive.

### Prep Lesson Plans

#### *Lesson 1 — Living vs Non-Living*

##### Learning Focus

* Students identify the difference between living and non-living things.
* Students begin recognising that living things have needs.

##### Activities

* Class discussion: What makes something alive?
* Picture-sorting activity (living / non-living).
* Outdoor observation walks to identify living things around school.

##### Resources

* Picture cards, clipboards, and pencils.

##### Assessment

* Students correctly classify a small set of items as living or non-living.

#### *Lesson 2 — The Needs of Living Things*

##### Learning Focus

* Living things need food, water, and shelter to survive.

##### Activities

* Brainstorm: “What do living things need?”
* Match living things to their needs (bee → flower; plant → water).
* Simple drawing of a living thing with its needs labelled.

##### Resources

* Needs-matching cards, blank paper.

##### Assessment

* Students label at least three needs of their chosen living thing.

#### *Lesson 3 — Exploring Environments*

##### Learning Focus

* Students recognise that environments help living things meet their needs.

##### Activities

* Habitat pictures discussion: garden, pond, bushland.
* Students create a simple habitat collage showing food, water, shelter.
* Classroom talk: “Where do bees find their needs in nature?”

##### Resources

* Habitat photo cards, collage materials.

##### Assessment

* Students explain how their chosen habitat supports a living thing.

#### *Lesson 4 — Bees as Living Things*

##### Learning Focus

* Bees have basic needs met through their natural environment.

##### Activities

* Watch a simple video or teacher-narrated slideshow of bees.
* Identify features of a bee (wings, eyes, antennae).
* Discuss how these features help bees survive.

##### Resources

* Bee pictures, diagram templates.

##### Assessment

* Students label at least three external bee features.

#### *Lesson 5 — Bringing It All Together*

##### Learning Focus

* Students consolidate understanding of needs and habitats.

##### Activities

* Students choose one living thing (bee, plant, bird).
* Create a page showing its needs, habitat, and one special feature.
* Gallery walks to share learning with peers.

##### Resources

* Paper, coloured pencils.

##### Assessment

* Teacher checklist against outcomes for Prep Biological Sciences.

## Appendices

Appendix A — Vocabulary List (Prep–Year 2)

Key words students may encounter in Biological Sciences:

* Living
* Non-living
* Needs

Food

Water

Shelter

Habitat

Environment

Features

Wings

Legs

Antennae

Pollen

Nectar

Offspring

Life cycle

Egg

Larva

Pupa

Adult

Grow

Change

### Appendix B — Bee-Focused Examples for Lessons

Use bees as a consistent example across Prep–Year 2:

* Prep: Bees need food (nectar, pollen), water, and a safe place to live (hive).
* Year 1: Bees have external features (wings, eyes, antennae, pollen baskets) that help them survive.
* Year 2: Bees grow through life cycle stages — egg, larva, pupa, adult.
* Environmental link: Mistake Mountains Range provides rich habitat diversity for native flora and rehomed colonies.

### Appendix C — Mistake Mountains Habitat Notes

Use these descriptions in lessons and discussions:

* Mistake Mountains Range includes eucalyptus stands, wildflowers, rocky slopes, small watercourses, and forest edges.
* Bees rely on:
* Nectar sources: wildflowers, eucalyptus blossoms
* Pollen sources: seasonal native flora
* Water: small creeks, damp hollows, morning dew
* Habitat changes across seasons affect what bees can collect and how colonies grow.

### Appendix D — Sample Printable Worksheets

Teachers may print or adapt these templates:

* Living vs Non-Living sorting sheet
* Needs of Living Things diagram
* External Features labelling sheet
* Habitat matching sheet
* Bee body diagram
* Life cycle sequencing template (bee, butterfly, plant)
* Growth observation journal (simple daily entries)

### Appendix E — Assessment Ideas and Rubrics

Simple teacher assessment tools:

* Prep checklist — identifying needs, living things, and habitats.
* Year 1 checklist — labelling features, matching features to function, describing habitats.
* Year 2 checklist — sequencing life cycles, identifying offspring similarities, recording changes over time.
* Optional rubric for final project:
* Accuracy of science concepts
* Detail in diagrams
* Ability to explain thinking
* Completion and organisation

### Appendix F — Extension Ideas Across Year Levels

Support high-ability or highly interested students:

* Investigate different bee species (honeybees vs native bees).
* Compare habitats of mountain vs coastal environments.
* Create posters showing how humans help protect living things.
* Explore how weather and seasons affect plant growth and bee activity.
* Simple citizen-science activities (flower counts, insect observations).

### Appendix G — Safety Notes for Bee-Related Learning

* Use images or sealed frames only — no live bees in classrooms.
* Ensure videos are sourced from reputable educational providers.
* Emphasise respect for nature and safe observation practices.
* For excursions, follow school policies on safety and supervision.

### Appendix H — Links to Additional Teacher Resources

* ACARA Science Content Descriptions
* Queensland Curriculum & Assessment Authority Science Support
* Bee-friendly planting guides
* Mount Tomber Bee Sanctuary education pages (future)