

SOIL MATTERS

Discovering the Living World Beneath Our Feet

OUR SOIL INVESTIGATION



Students begin their investigation by exploring the soil in our school garden

Why did we join the competition?

We joined the Soil Week Australia School Competition to encourage our students to look closely at the soil beneath their feet and discover why healthy soil is important for our school garden, our food and our environment.

Our inquiry question

Why does soil matter?

Why did we join the competition?

Students investigated soil through hands-on activities, making predictions, collecting and observing soil, exploring its properties and discovering the living organisms and natural processes that make healthy soil possible

LEARNING JOURNEY

From getting our hands dirty to looking closely at the hidden world of soil

1 SOIL INVESTIGATION



We explored our soil using our senses and made our first observations.

2 SOIL PROFILE IN A JAR



We mixed soil with water and watched different particles settle into layers.

3 SOIL IS ALIVE



We discovered that soil is home to many living organisms

4 SOIL IN A BOTTLE



We explore the different layers of soil and discover that healthy soil is made up of many natural materials

QUESTION → PREDICT → INVESTIGATE → OBSERVE → DISCOVER

LEARNING JOURNEY

From getting our hands dirty to looking closely at the hidden world of soil

5

MAGNIFYING GLASS CHALLENGE



We looked closely to discover details we could not see with our eyes alone.

6

FROM SOIL TO SUNFLOWERS



QUESTION → PREDICT → INVESTIGATE → OBSERVE → DISCOVER



Checking pH

Soil results around our school





Collecting soil samples



Working on ball and ribbon test



pH results



Working together as soil detectives

ACTIVITY 1 — SOIL INVESTIGATION

Getting our hands dirty and starting with what we could see, feel and wonder about

PURPOSE

To encourage students to investigate soil using their senses, make observations and ask questions about what they could see, feel and find in the soil.

OUR CHALLENGE

What can we discover about soil just by looking closely?

INVESTIGATING LIKE SCIENTISTS

Before we could find answers, we had to investigate. Students explored soil using their senses and recorded what they noticed.

LOOK

What colour is the soil?

What can we see?



soil is brown and feel wet

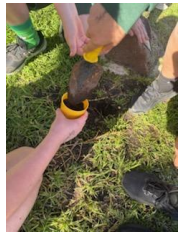
FEEL

Is it soft, rough, dry or crumbly?



SMELL

Does the soil have a smell?



EXPLORE

Can we find anything living?



Recording what we noticed before finding out why

Adobe Acrobat Document



Ball and rubbon test



pH results in different areas on our campus



WHAT DID WE DISCOVER?

WATER
We discovered that soil can hold and move water

LIFE
We found that soil can contain living things such as worms and tiny organisms

SOIL IS MORE THAN DIRT !

PLANTS
We learned that healthy soil provides plants with the support and nutrients they need to grow.



DIFFERENCE
We noticed that soil can look and feel different depending on where we collected it











RUM PRIMARY SCHOOL | SOIL W
AUSTRALIA 2026



ACTIVITY 2 — SOIL PROFILE IN A JAR



Finding the right spot



Preparing our soil sample



What is hiding inside our soil?

PURPOSE

To investigate what soil is made of and discover how different soil particles separate into layers when mixed with water

OUR QUESTION

What will happen when we mix soil with water?

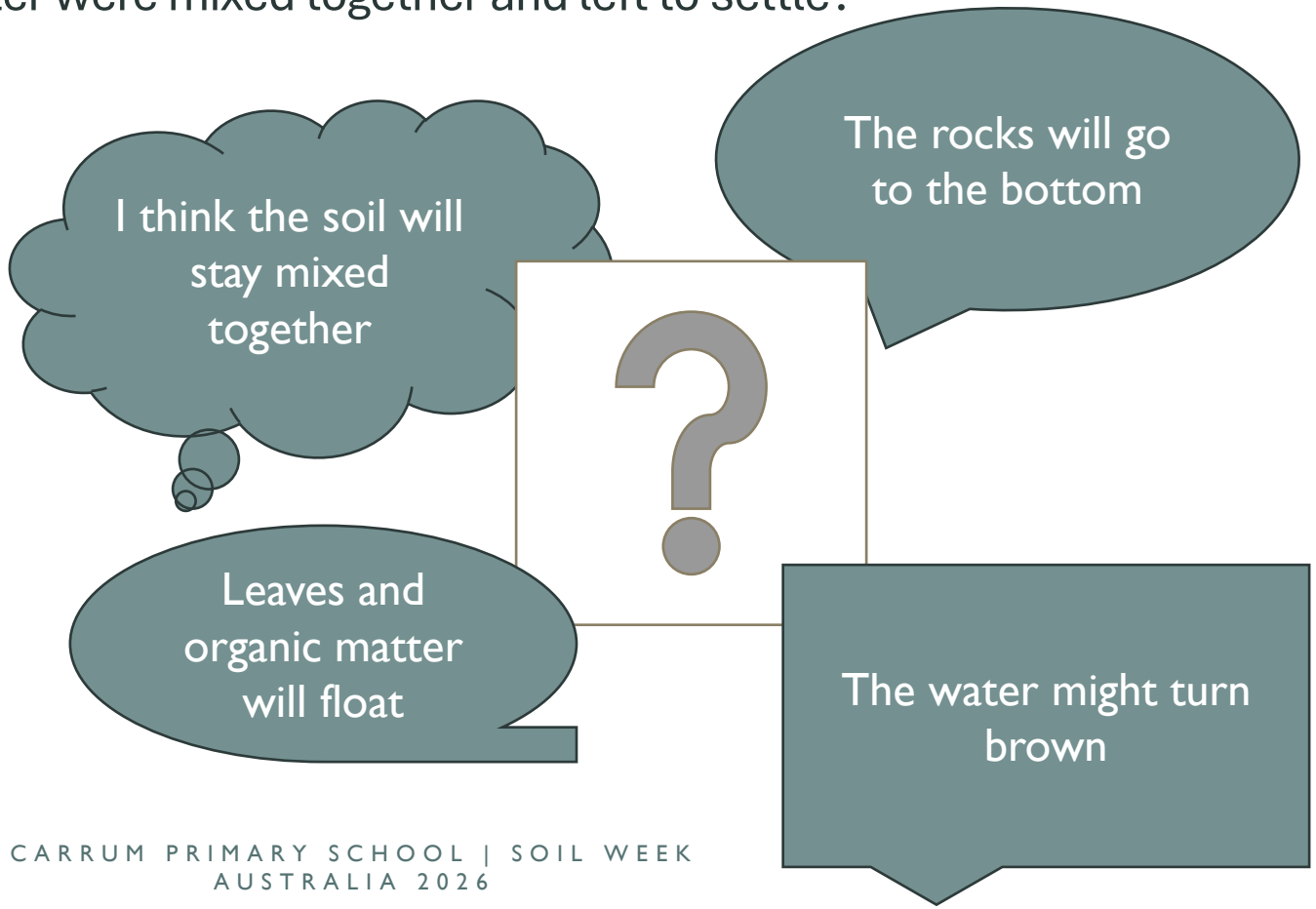
PREDICT → MIX → WAIT → OBSERVE → DISCOVER

WHAT DID WE THINK WOULD HAPPEN?

Recording what we noticed before finding out why

Adobe Acrobat Document

Before conducting our experiment, students made predictions about what would happen when soil and water were mixed together and left to settle?



Our scientists made a prediction before they had the answer



What do we think will happen?

LET'S DO THE EXPERIMENT?

Recording what we noticed before finding out why

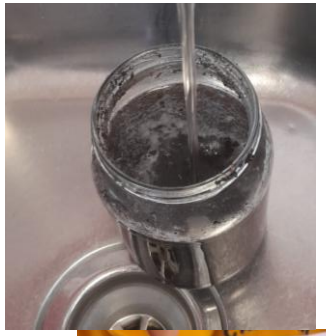
Adobe Acrobat Document

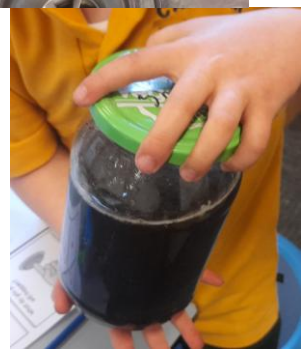
SOIL + WATER + TIME

Step 1
COLLECT



Step 2 and 3
COLLECT and SHAKE

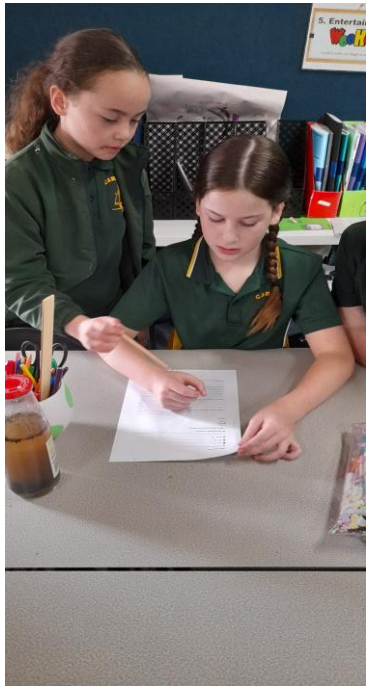




Step 4
WAIT 3 DAYS



Step 5
OBSERVE



WATCHING THE SOIL SETTLE?

A SURPRISE UNDER THE SURFACE

3rd August 2026 @ 11.30am



Soil and water mixed together

12am



Larger particles begin settling

3pm



More distinct layers appear

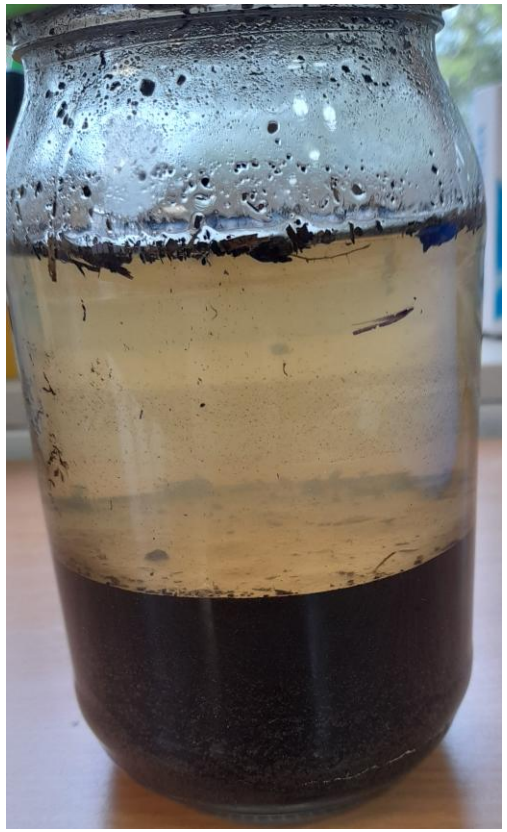
What changed? Students observed that the soil did not remain mixed together. Different materials settled at different rates, creating visible layers

WHAT DID YOU DISCOVER?

CARRUM PRIMARY SCHOOL | SOIL WEEK AUSTRALIA 2026

5th August 2026

Our soil has layers!!



A clearer soil profile



Results

Adobe Acrobat Document

Top

Water and organic matter

Middle

Silt , fine particles

Lower

Clay, very fine particles

Bottom

Sand, larger, heavier particles

WHAT DID WE LEARN?

Group reflection
We thought we were looking at muddy water, when you add water with soil it will float

Group reflection
We thought it sinks and it get dirty depending where you got it from

SOIL IS NOT ONE SINGLE MATERIAL. IT CONTAINS PARTICLES OF DIFFERENT SIZES AND OTHER ORGANIC MATERIALS. WHEN MIXED WITH WATER AND LEFT UNDISTURBED, MANY OF THESE MATERIALS SETTLE AT DIFFERENT RATE

Group reflection
We discovered that the clay and sand are at the bottom, we did not predict that it would have clay and water to be brown.

Group reflection
We discovered that they are a lot of soils that are different

DIFFERENCE
We noticed that soil can look and feel different depending on where we collected it












5. Entertaining

ACTIVITY 3 — SOIL IS ALIVE

Who lives beneath our feet?

We became soil detectives and started looking beneath the surface.



PURPOSE

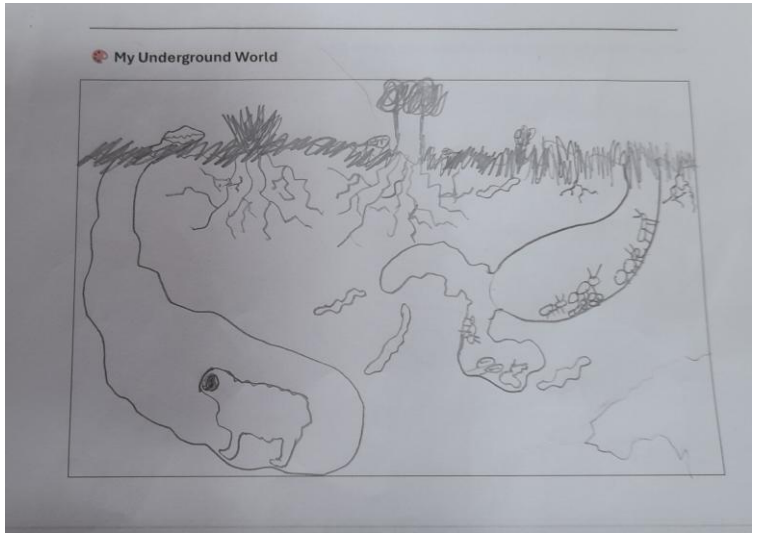
We want to discover whether soil is simply dirt or whether it is home to living things

OUR QUESTION

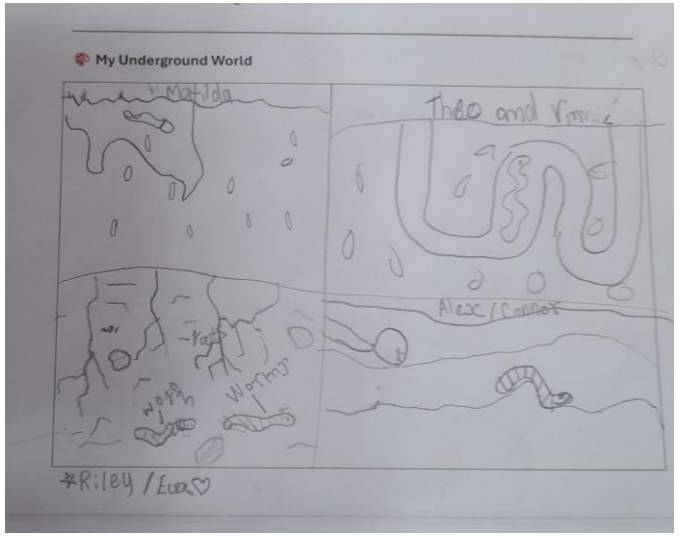
What do you think is happening underneath your feet?

WHAT DID WE FIND?

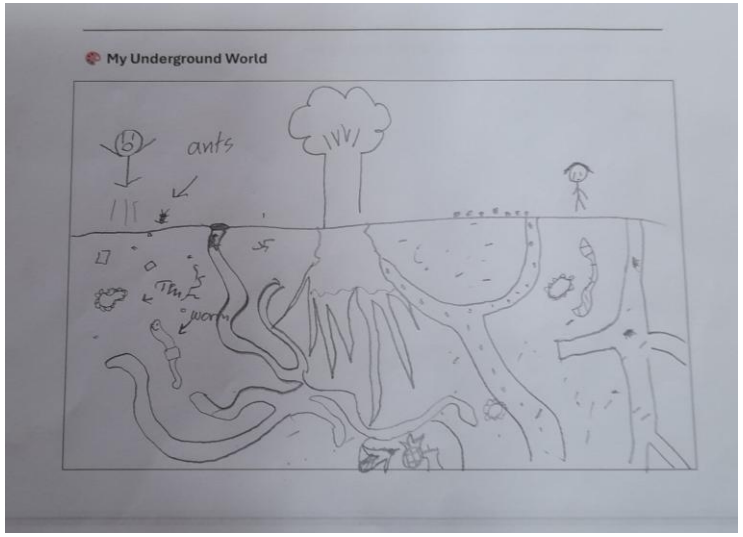
Students explored soil carefully and looked for signs of life and organic material.



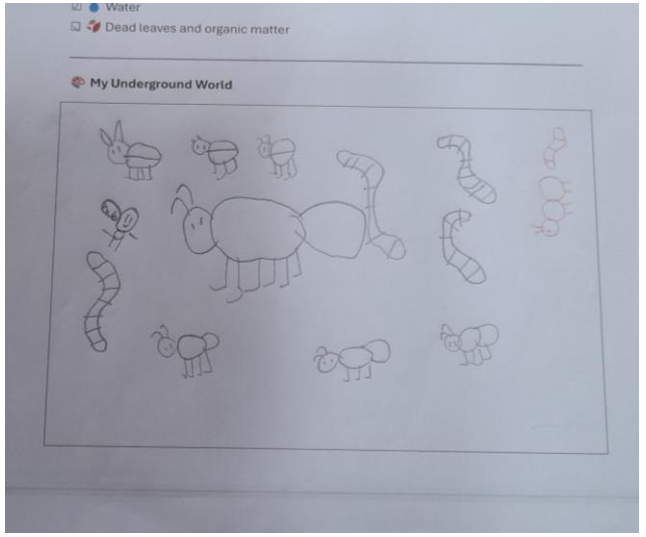
Under a tree Platypus group



Near the water tank prep. Side Parrot group



Near bike shed Cockatoo group



Near the yarning circle Wallaby group

Recording what we noticed

Adobe Acrobat Document

We discovered that soil is much more than dirt. It is a busy underground world full of living things, water, air, worm, dead leaf, and bacteria, dirt.





CARRUM PRIMARY SCHOOL | SOIL WEEK
AUSTRALIA 2026







ACTIVITY 4 — SOIL IN A BOTTLE

Building a model of healthy soil

PURPOSE

We created a soil bottle to explore the different layers that make up healthy soil and understand why each layer is important

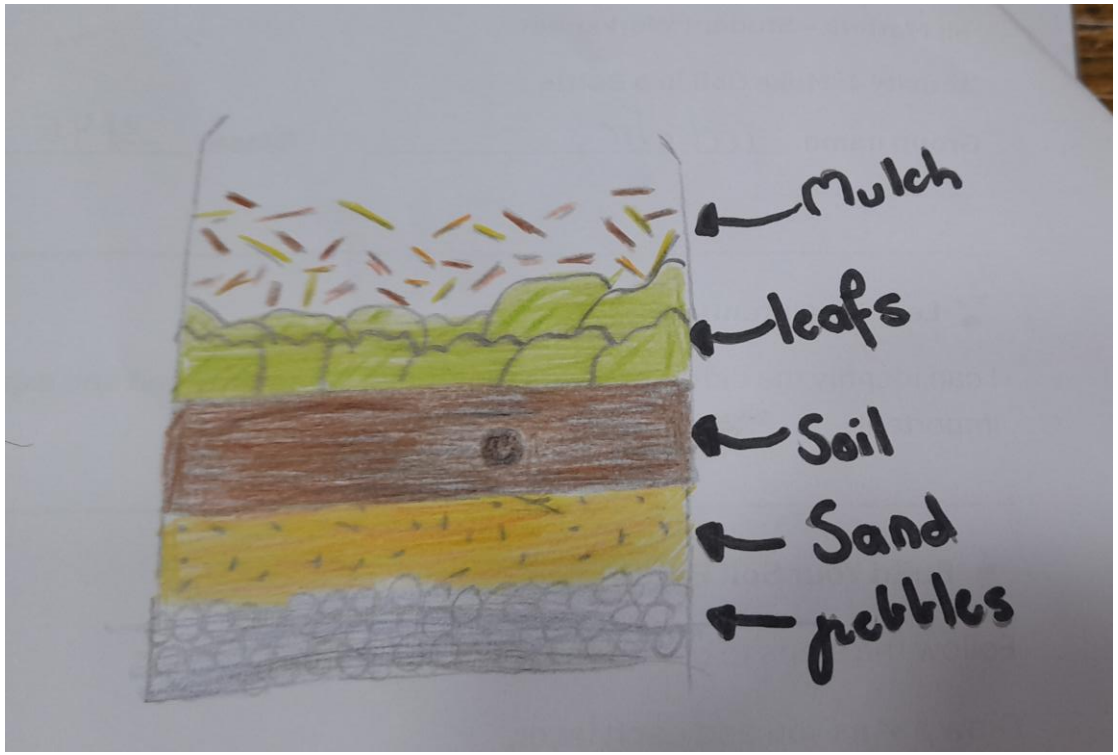
OUR QUESTION

What make healthy soil?

BUILD → OBSERVE → DISCUSS → LEARN

BUILDING OUR SOIL BOTTLE

Building the layers





WHAT DID WE LEARN?

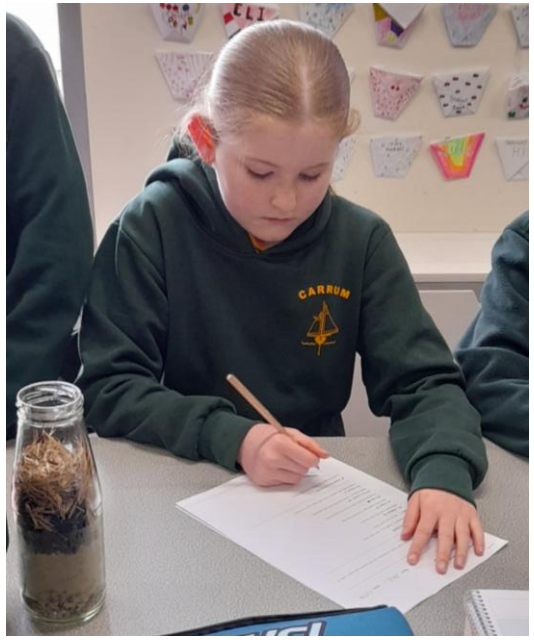
Which layer do plant root grow in?
Soil, because roots absorb water and nutrients

Which layer will slowly turn into new soil?
Leafs, dry leaves they break down

WHAT DID YOU SOIL BOTTLE TEACH US?

Which layer helps keep the soil moist?
Mulch

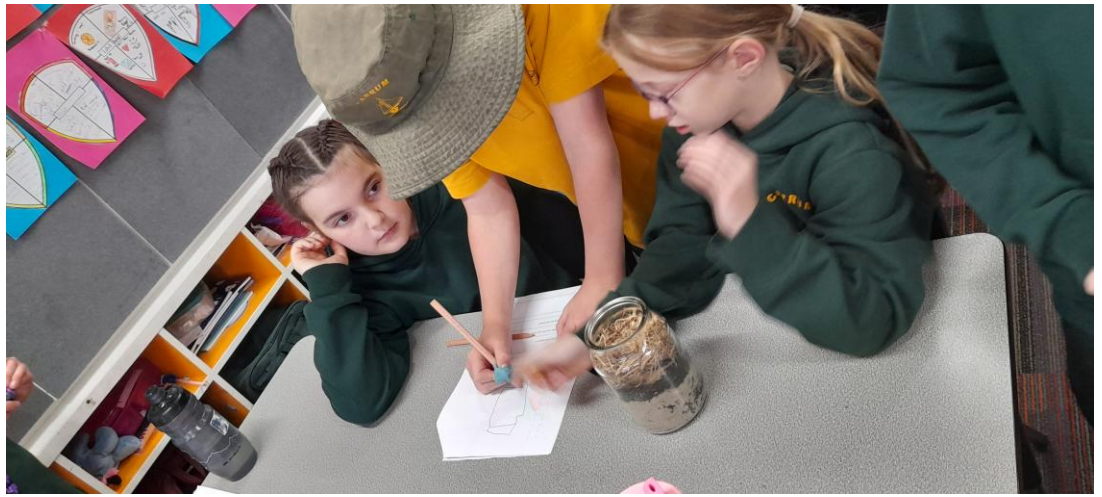
What I learned
A lot (from Cockatoo team)
Mulch keeps the soil moist (from Wallaby team)
There is multiple layers to make soil jar (from platypus team)
How much to make amazing soil (from Parrot team)











WE BUILT IT → WE UNDERSTOOD THE LAYERS → WE LEARNED WHY HEALTHY SOIL MATTERS.



ACTIVITY 5 — MAGNIFYING GLASS CHALLENGE

Looking closely at the hidden world of our garden

PURPOSE

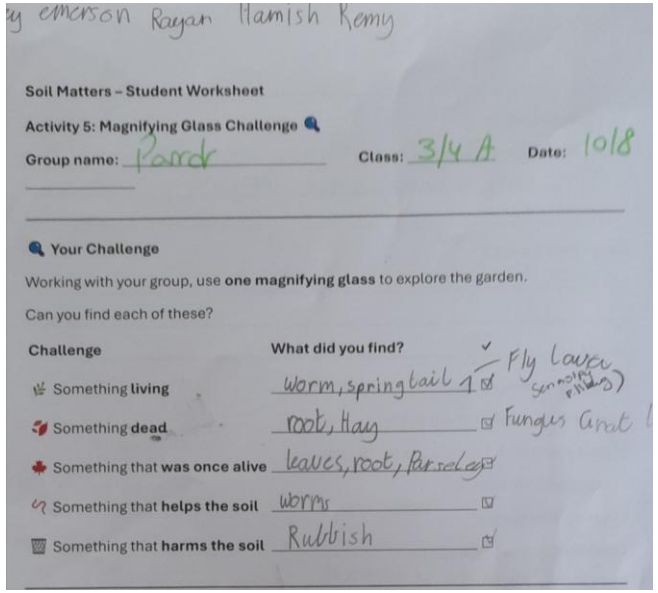
To encourage students to slow down, observe carefully and discover the living and non-living things around us.

OUR CHALLENGE

What can we discover when we look closely?

LOOK → SEARCH → DISCOVER → RECORD

WHAT DID WE FIND?



emerson Rayan Hamish Remy

Soil Matters – Student Worksheet

Activity 5: Magnifying Glass Challenge

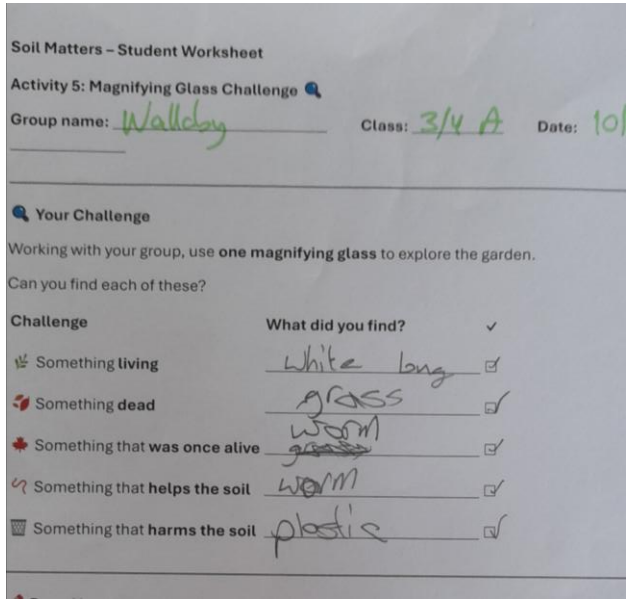
Group name: Pardr Class: 3/4 A Date: 10/8

Your Challenge

Working with your group, use **one magnifying glass** to explore the garden.

Can you find each of these?

Challenge	What did you find?	✓
Something **living**	worm, springtail, Fly Lavea (something flying)	☑
Something **dead**	root, Hay, Fungus Gnat	☑
Something that **was once alive**	leaves, root, Parsley	☑
Something that **helps the soil**	worms	☑
Something that **harms the soil**	Rubbish	☑



Soil Matters – Student Worksheet

Activity 5: Magnifying Glass Challenge

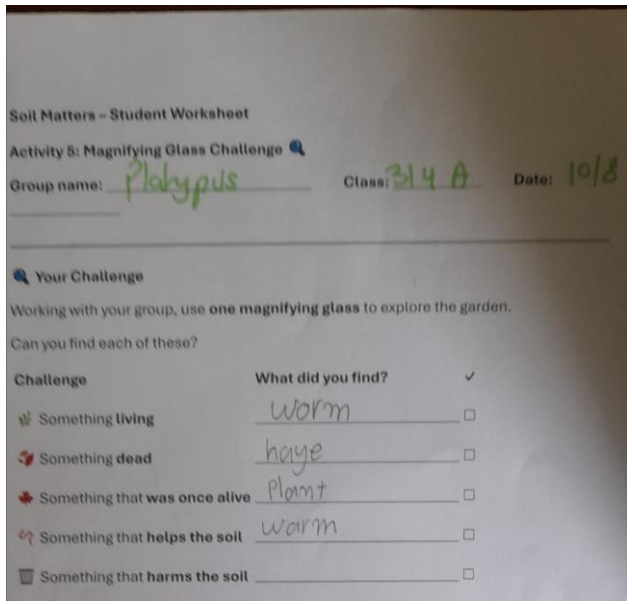
Group name: Wallaby Class: 3/4 A Date: 10/

Your Challenge

Working with your group, use **one magnifying glass** to explore the garden.

Can you find each of these?

Challenge	What did you find?	✓
Something **living**	White bug	☑
Something **dead**	grass	☑
Something that **was once alive**	worm, ~~grass~~	☑
Something that **helps the soil**	worm	☑
Something that **harms the soil**	plastic	☑



Soil Matters – Student Worksheet

Activity 5: Magnifying Glass Challenge

Group name: Platypus Class: 3/4 A Date: 10/8

Your Challenge

Working with your group, use **one magnifying glass** to explore the garden.

Can you find each of these?

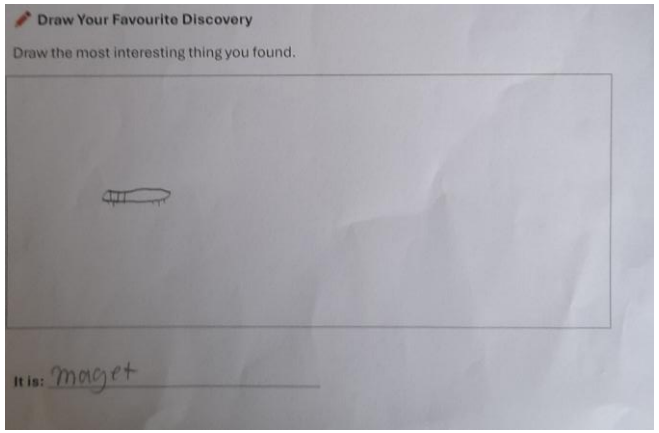
Challenge	What did you find?	✓
Something **living**	worm	☐
Something **dead**	haye	☐
Something that **was once alive**	Plant	☐
Something that **helps the soil**	warm	☐
Something that **harms the soil**		☐

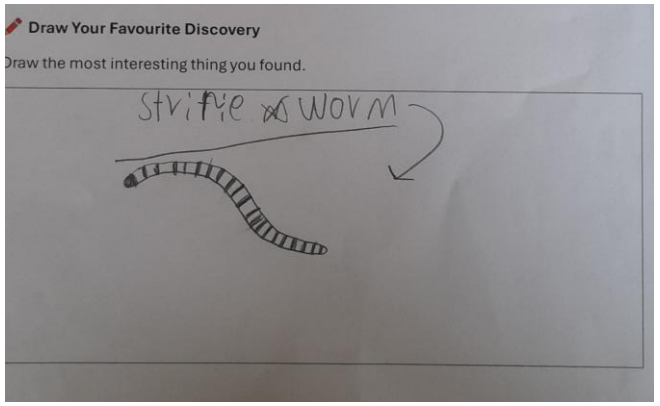
Our favourite discoveries — drawn by our soil detectives

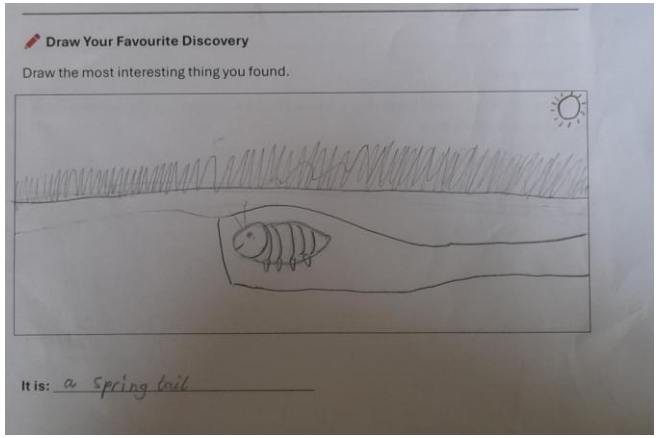
OUR DISCOVERIES?

LOOKING CLOSELY CHANGED WHAT WE SAW

When we slowed down and looked carefully, we noticed things that we might normally walk past







From discovery to action

What helps keep soil healthy?

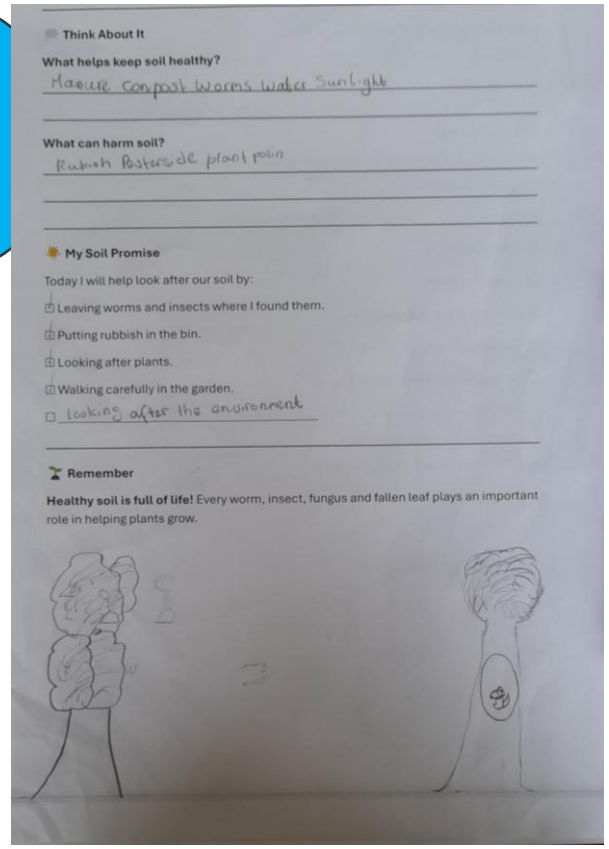
Manure

water

Compost

Worm

Sunlight



Think About It

What helps keep soil healthy?

Manure Compost Worms Water Sunlight

What can harm soil?

Rubish Bysterside plant poin

My Soil Promise

Today I will help look after our soil by:

- Leaving worms and insects where I found them.
- Putting rubbish in the bin.
- Looking after plants.
- Walking carefully in the garden.
- Looking after the environment

Remember

Healthy soil is full of life! Every worm, insect, fungus and fallen leaf plays an important role in helping plants grow.

What can harm soil?

Rubbish
Platypus
team 3/4A

Pestecide
3/4A

Plant poison
(Parrot
team 3/4A)

OUR SOIL PROMISE

Looking after the environment

Leave worms and insects where we find them

Put rubbish in the bin

Look after plants

pH test to work out if the soil is good

HEALTHY SOIL IS FULL OF LIFE !

Every worm, insect, fungus and fallen leaf plays an important role in helping plants grow.



WE DISCOVERED → WE UNDERSTOOD → WE CAN HELP PROTECT OUR SOIL

ACTIVITY 6 — FROM SOIL TO SUNFLOWERS

Putting our soil learning into action



Planting our sunflower seeds



17/08

PURPOSE

After investigating soil and discovering why healthy soil matters, students planted sunflowers seeds and began exploring what plants need to grow.

After just one week of growth, the students were amazed to see some of the sunflower seedlings emerge from the soil with the seed still attached to the top of the plant! They could hardly believe that the little seed they had planted was now sitting on top of their growing sunflower.

SEED → SOIL → WATER → GROWTH

OUR QUESTION

What will happen when we plant our sunflower seeds?

A SEED HOLDS A SURPRISE!

Looking inside a sunflower seed



What is inside a seed?





“I didn't know there was a tiny plant inside!”

We opened a seed so we could look closely at what was inside. Students were surprised to discover that a seed contains the beginnings of a new plant

LOOK CLOSER → ASK QUESTIONS → DISCOVER

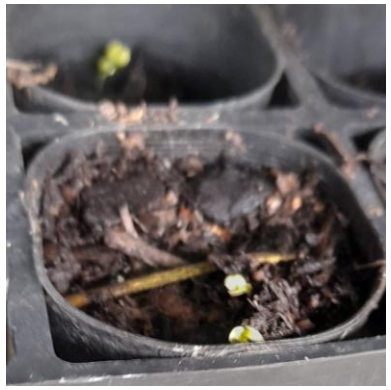
FROM SEED TO PLANT

Watching our sunflowers grow

SEED



SPROUT



YOUNG PLANT



1 WEEK



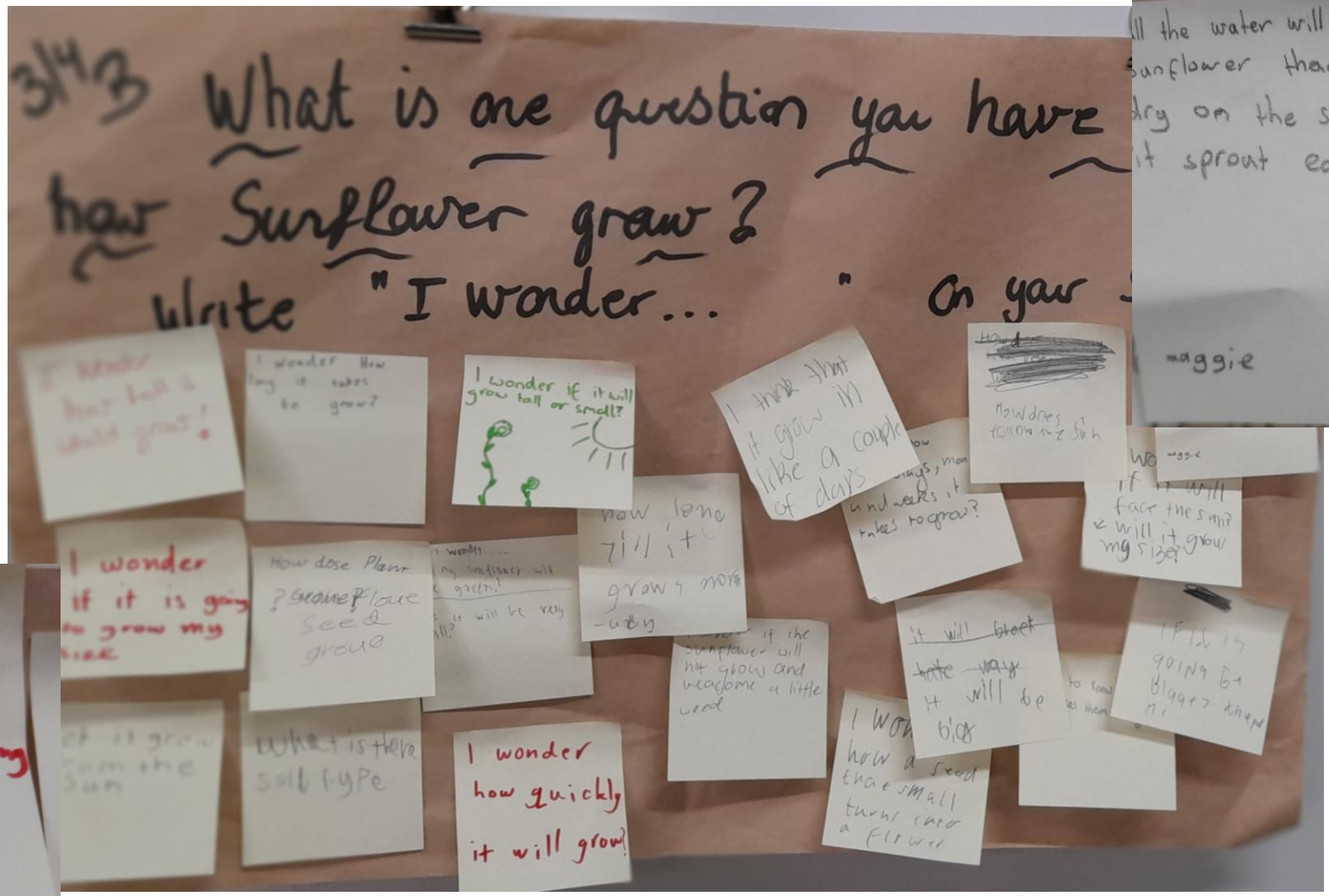
2 WEEKS

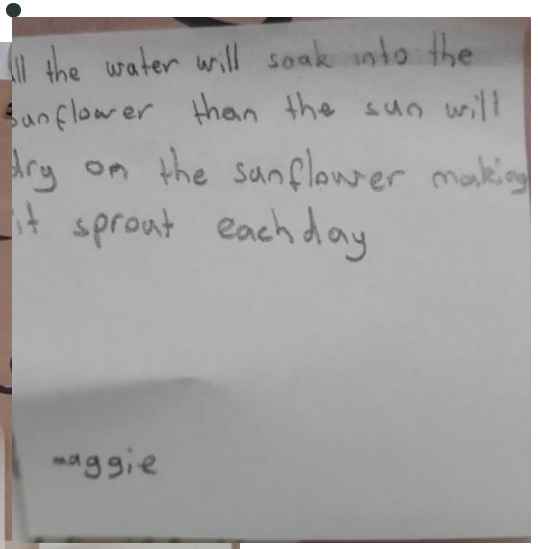
SUNFLOWER

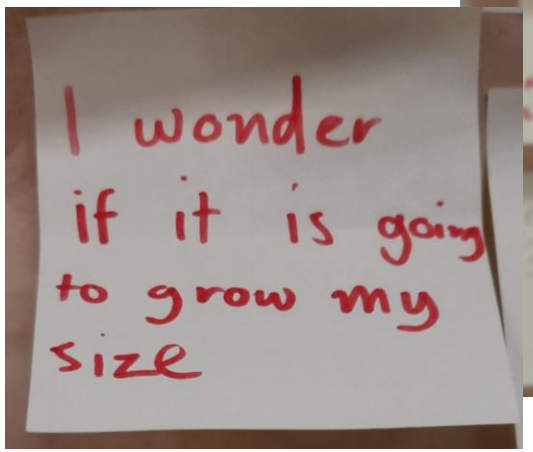
Plants need the right conditions to grow. Our sunflower investigation helped us connect what happens **beneath the soil** with what we can see **above the soil**.

UNDERSTANDING SOIL → GROWING PLANTS → DESIGNING A GARDEN FOR THE FUTURE

WHAT IS ONE QUESTION YOU HAVE ABOUT HOW SUNFLOWER GROW?







AFTER PLANTING AND OBSERVING OUR SUNFLOWER SEEDS, STUDENTS REFLECTED ON WHAT THEY HAD DISCOVERED ABOUT SEEDS, PLANTS AND THE IMPORTANCE OF HEALTHY SOIL.

We have learned:

"Seed taste good !"

"starts of a small rain drop shaped plant and grows into a young, healthy, thriving sunflower"

"Grows well in healthy soil and needs water and sunlight"

Plants need sunlight

Recording what we noticed



Adobe Acrobat Document

Plants need water

Seeds change as they grow

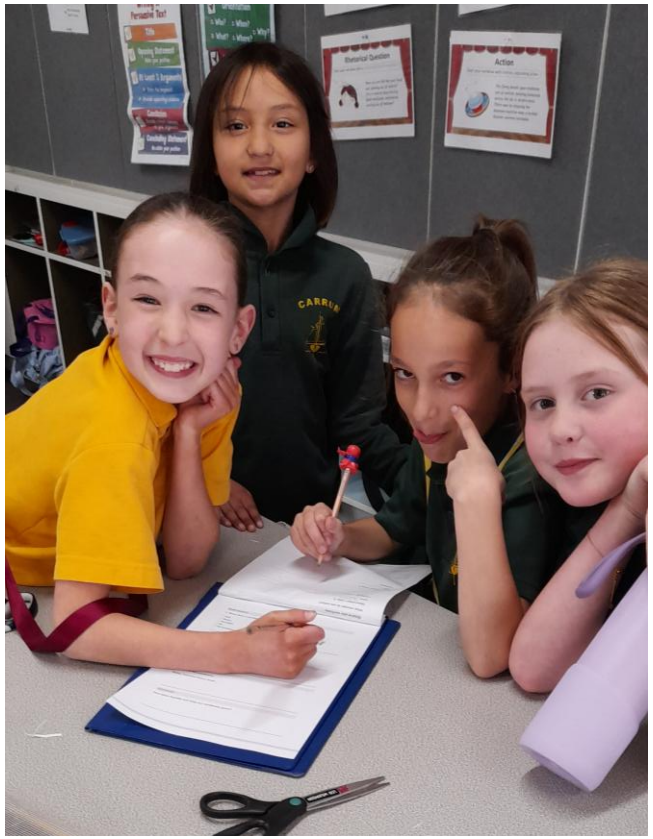
Healthy soil helps plants grow

"That is amazing and good nutrients"

"The soil is like healthy food for the plant"

"It give good nutrients"

Student 3/4B




line leader
phone monitor
sports tub monitor

