

Post-excursion resource

Grow your own Seeds

Level 3 – Level 6



Year

Grade 3 – Grade 6



Level

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Activity description

Students learn about plant life cycles. They conduct a guided investigation into the effects of water, soil and light on the germination of a seed. Students plant seeds and record observations as their seeds germinate and grow. They measure the amount of light and water their seed receives, identify patterns in data and record results in graphical form. Students share their findings in an oral presentation and teach others how to grow plants from seeds.



Key Topics

- Life cycles
- Seed germination
- Growing stages of a plant
- Observations and patterns in data



Materials required

- Worksheet: Seed Germination Investigation (1 per student)
- Poster paper (1 per student)
- Scissors
- Glue
- Sticky tape
- Textas
- Pencils
- Ruler
- Access to a whiteboard
- Whiteboard markers
- A place for students to leave their seeds over a 6-week period (full sun, part shade, dark).

Grow your own Seeds

- Seeds – beans, peas, pumpkins, sunflowers are easy to grow (2 per student)
- Soil – 3 different types: sand/clay, clay, organic mix (students choose 1 soil type)
- Clear plastic cups – cut some drainage holes in the bottom (1 per student)
- Permanent markers
- Water
- Measuring jug in millimetres (mm)

Instructions

1. Ensure you have all the materials to grow your own seed ready before you commence the lesson.
2. Students undertake a guided investigation of plant life cycles by germinating and growing their own seeds.

TUNE IN ACTIVITY:

Guide a discussion about plant life cycles and environmental factors that affect seed growth.

Begin by asking students about the different stages of a plant life cycle. With the students' input, draw a plant life cycle on the whiteboard. Discuss environmental factors that affect plant growth. Example: If you are growing an apple tree, what environmental factors affect the growth of the tree?

List all the environmental factors on the whiteboard.

3. THE INVESTIGATION:

Distribute a copy of the Seed Germination Investigation worksheet to each student.

4. Outline the investigation with the students, discuss variables and predictions.
5. Share the learning intention and the associated tasks with the students.

Remind students that they will be documenting and presenting their findings in both written and graphical forms ready to create a poster presentation. They must be accurate and use scientific language throughout.

6. Students commence their seed investigation using the materials provided.
7. Once the students have their seeds planted and have drawn and labelled a diagram of their cup, discuss how they will keep tally of their variables. Discuss the following:
 - What kind of graphs will best represent your data over 6 weeks?
 - How many millimetres of water did you decide to water the seed with on day 1? Why?
 - Will the amount of water change over time?
 - What were the reasons why you choose your soil type?
 - Did you plant one or two seeds in your cup?
 - What light exposure did you choose? Why?

8. THE TASK:

You are now the orchardist and the teacher. Share your findings with another class. Create a life cycle of a plant poster using the information from your seed germination investigation. Write a description or a procedure using the correct scientific words. Include the parts of the plant, changes to the seed in the germination process and the seedling during the growth stages.

Give a 3-minute presentation to others. Display your germinated seeds and include some materials (cups, soil, seeds) so others can plant a seed too.

Worksheet: Life Cycle of a Plant – Seed Germination Investigation

MY INVESTIGATION: I will investigate the impact of soil, water and light on the germination of the seed.

VARIABLES:

SOIL – Choose either sand/clay, clay or organic mix.

LIGHT – Choose either full sun, part sun/part shade, shade or dark.

WATER – Choose the amount (in mm) that you water your seed.

Think about how you are going to record your data and how you are going to present your data (tables, tallies, graphs). Remember, you are going to be recording your findings for 6 weeks.

MY VARIABLES

The variables I chose are:

SOIL –

LIGHT –

WATER –

MY PREDICTION: I predict that

Draw and label a diagram of a seed showing its germination and growth. Briefly describe what you see at each stage.

WEEKS 1 & 2

WEEKS 3 & 4

WEEKS 5 & 6

YEAR 1 – What do you think the seed will look like in a year?

YEARS 3–5 – What will be happening by year 3?

RESULTS

Provide a summary of your results.

PREDICTION

Were your predictions correct?

What would you do differently next time?

What environmental factors affect the life cycle of a plant?

When you shared your variables among your class, which variables seem to produce the best results?

THE TASK

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