

PGRD 1004

**Sunflower
Stories Yrs 3/4**

Stage 2



GRDC™

GRAINS RESEARCH &
DEVELOPMENT CORPORATION

Instructions for Students



SUNFLOWER STORIES

YEARS 3/4



This course will consist of five (5) online lessons. Each lesson will require you to read or view important information.

Each lesson will require you to complete a short quiz based on the information they have learnt. To pass each quiz, a score of at least 50% will be needed to progress to the next lesson. Each lesson will outline hands-on activities, experiments or design tasks that can be completed in the classroom.

In each lesson, you will be asked to reflect on and record your learning in the learning journal which you can submit to your teacher at the end of the course as evidence of understanding and progress.

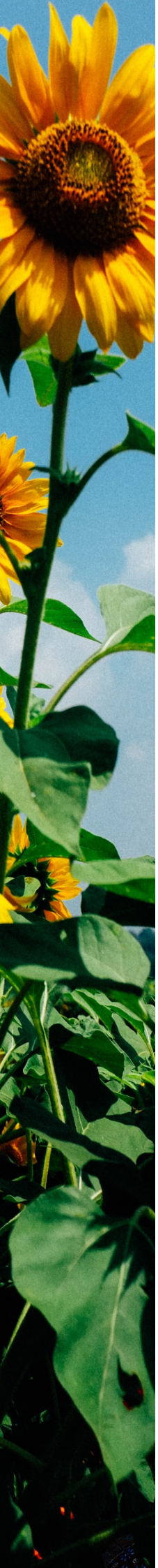
Save the Learning Journal to Your Computer:

- PowerPoint: [Sunflower-Stories-Journal.pptx](#)

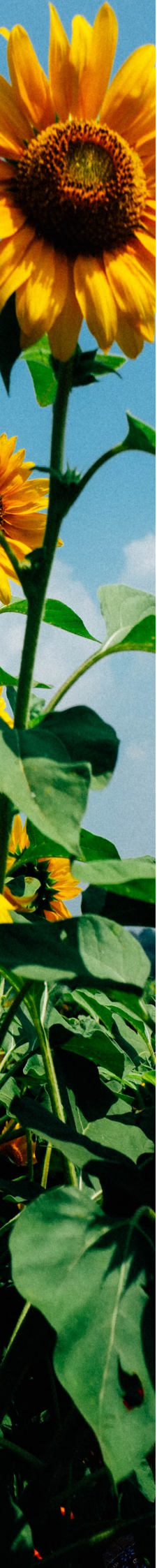


The learning journal can be used in the following ways. You may choose to:

- Save the PowerPoint document in the Google Drive. The document can be opened and edited at any time in Google Slides. Changes will be saved automatically. At the completion of the online course, you can email your teacher with a link to their learning journal as evidence of work completed.



- Save the PowerPoint document on the computer. The document can be opened, edited and saved at any time. At the completion of the online course, you can email your teacher with the PowerPoint document attached as evidence of work completed.
- Open the PowerPoint document, download and print the pages. Record learning with hand-written responses. At the completion of the online course, you can submit the hard copy of their work to your teacher as evidence of work completed.



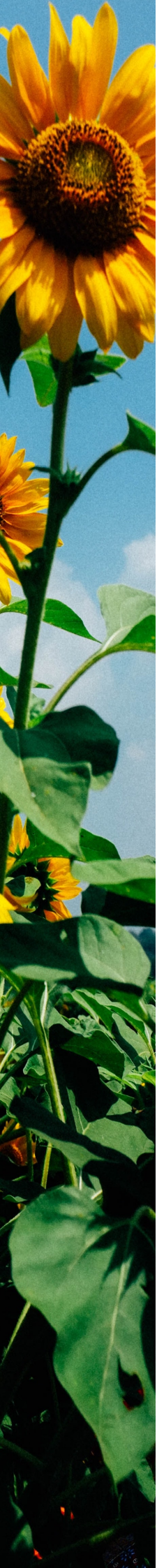
Information for Teachers

The table below outlines the content and structure of the course, with links to the NSW and Australian Curriculums.

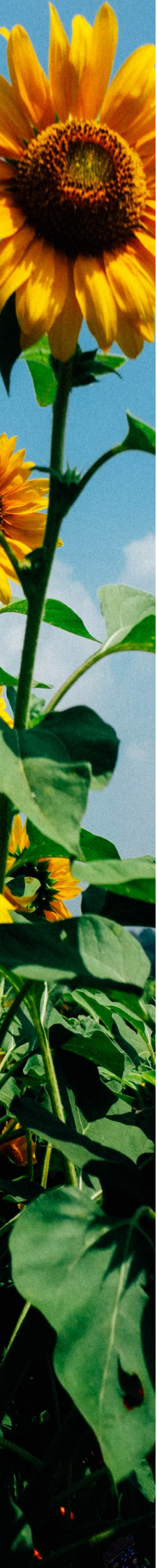
Lesson	Learning Content	NSW Curriculum Links	Australian Curriculum Links
1	Sunflower Stories E-Book.	ST2-5LW-T ST2-4LW-S	ACTDEK012
2	Planting Seeds	ST2-5LW-T ST2-4LW-S	ACTDEK012
3	Discovering Oils	ST2-5LW-T	ACTDEK012
4	Oil Seeds - Kitchen Audit	ST2-5LW-T	ACTDEK012
5	How Do Farmers Grow Sunflowers?	ST2-5LW-T	ACTDEK012

Resources required for the hands-on learning tasks in this course are outlined below:

Lesson 1	Hands-on Learning Task: Know Your Seeds <ul style="list-style-type: none">assorted bird seed which includes sunflower seedspresoaked sunflower seeds (only needs 20 minutes)handheld magnifier or microscope
Lesson 2	Hands-on Learning Task: Plant Your Own Seed <ul style="list-style-type: none">Clear plastic cupSeed raising mix/ potting soilSunflower seedsSpray bottle (water)
Lesson 3	Hands-on Learning Task: Crush Seeds to Observe Oil



	<ul style="list-style-type: none">• white paper• rolling pin or heavy object• sunflower seeds, other seeds
Lesson 4	Hands-on Learning Task: Kitchen Audit Kitchen audit – find products which list oil in their ingredient list: <ul style="list-style-type: none">• Spreads• Oils• Dressings• Cakes and cookies• Any products with oil listed as an ingredient



Introduction to Sunflowers

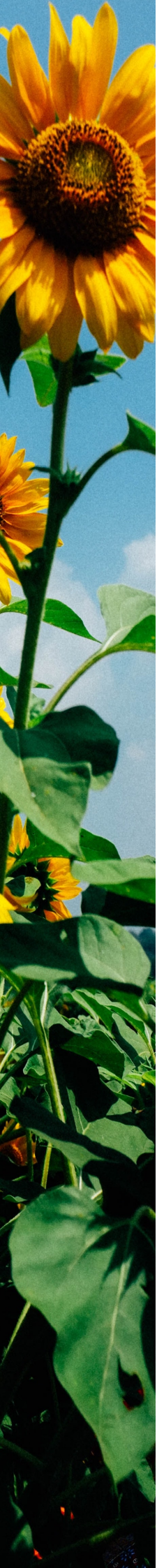
Sunflowers are one of the most popular flowers in the world. Their smiling "faces" follow the sun across the sky every day. Apart from being beautiful, sunflowers provide us with food and oils that we use in our daily lives.

Their seeds are not only popular for snacking on, but they are also used as food for our pet birds and farm animals. Sunflower seeds are a major source of food for many animals. Its oil is also used for cooking as it's a healthy, rich source of omega fatty acids.

Activity 1

To learn a little more about Sunflowers, watch these videos:

- [Discover Five Sunflower Facts](#)
- [Life Cycle of a Sunflower](#)



Sunflower Stories

Have you ever seen a sunflower? Have you seen fields of sunflowers? Have you ever grown a sunflower? Do you know what a sunflower seed looks like?



Photo: Alex Bourke Photography

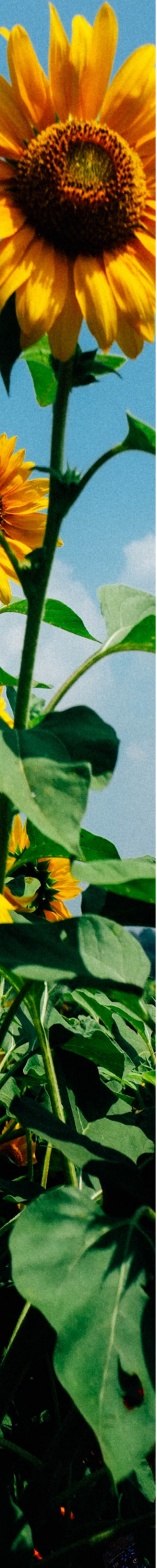
Activity 1

1. Click on the link and read this eBook: [As Big as Dinner Plates](#).
2. Open your learning journal to Lesson 1 and answer the questions about the story.

Activity 2 - Seed Sorting

1. Take a small handful of bird seeds and sort them into seed types. Identify the sunflower seeds.
2. In your learning journal, draw sunflower seeds and the other seeds that are different.
3. If possible, examine seeds under magnification (soak some seeds before the lesson to make removing the outer coat easier)
4. Remove the seed coat; draw and label the parts of a seed showing coat and seed.
5. Watch the YouTube clip below to see a time-lapse video of a sunflower seed germinating.

<https://www.youtube.com/watch?v=eKo5F87A8a0>



QUIZ 1

Choose only ONE best answer.

The term germinate means:

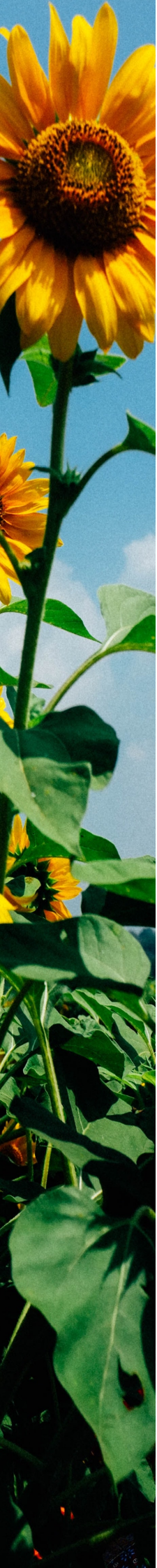
- a. is full of germs.
- b. will not grow.
- c. beginning to sprout.
- d. ready to plant

Which pests can damage a sunflower crop?

- a. Caterpillars
- b. Cockatoos
- c. Snails
- d. Rutherglen pest
- e. All of the above

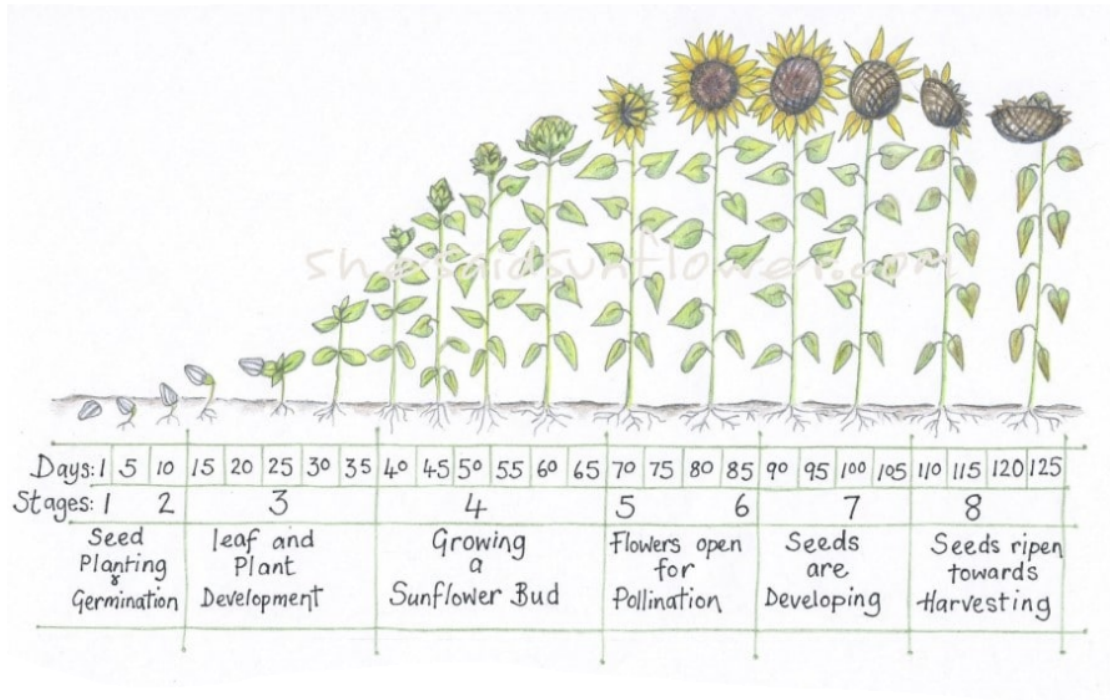
A sunflower seed is

- a. Long and black or striped grey
- b. As tiny as grains of sand
- c. Bright yellow



How Do Sunflower Plants Grow?

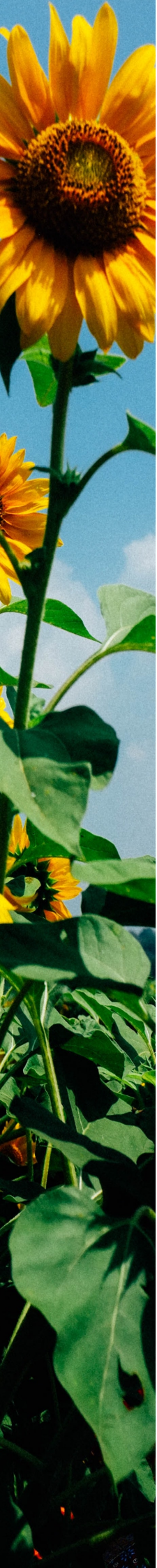
1. Look at the timeline of the sunflower's growth. How many weeks and months are in 125 days?



2. Watch the following videos to help you answer Question 3:





- [Let the Sunshine In - Fact Sheets - Gardening Australia - GARDENING AUSTRALIA](#)
- [Tallest Sunflower - Guinness World Records](#)





3. In your learning journal, arrange the growth stages of a sunflower into steps. Match the picture with the growth phase and use the timeline to learn how long each stage lasts:

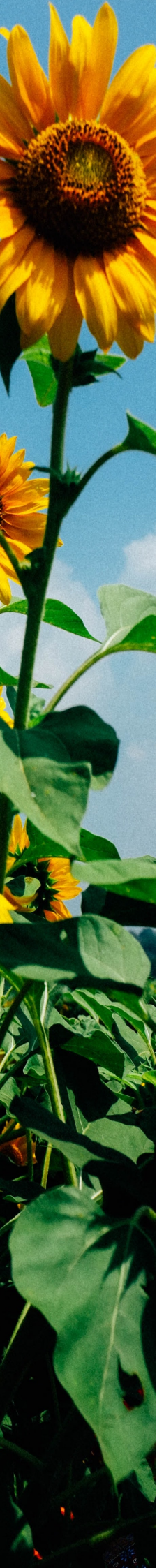
Flowering plant Seed Young plant Seedling (germination)

Picture	Growth Phase	Timeline
		
		
		
		

<https://www.vecteezy.com/>

4. Time to grow your own sunflower in a pot or a bag! On the next page, follow the instructions for growing them in a pot or a bag. You can choose which will be easiest for you to complete.





Planting Instructions in a Pot

You will need:

- Label with your name
- Plastic cup or small pot
- Seeds
- Seed raising mix
- Spray bottle of water

Method:

1. Place name on cup.
2. Fill cup with seed raising mix.
3. Plant 2-3 sunflower seeds into the soil, not too deep.
4. Spray soil with water until damp.
5. Water every day.
6. Transplant when roots and shoots appear.



Planting Instructions in a Bag

You will need:

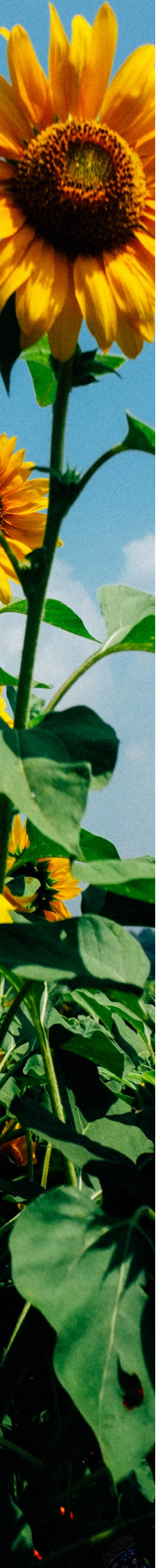
- A resealable plastic bag
- A biro to write your name on it
- A folded sheet of paper towel
- A small amount of water
- 3 - 4 sunflower seeds
- Sticky tape

Method:

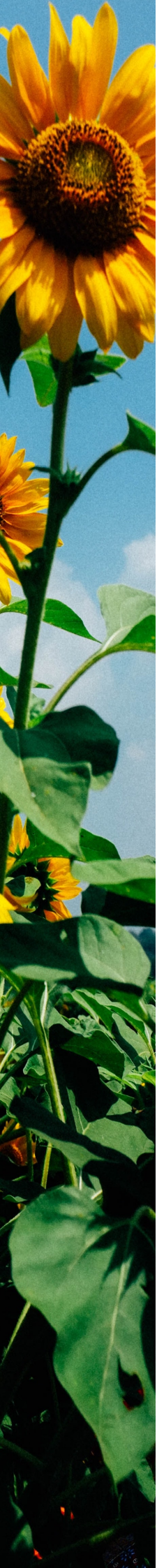
1. Write your name on the bag.
2. Fold the paper towel across the inside of the bag.
3. Add a small amount of water (1 - 2 tablespoons).
4. Place seeds between the bag and the paper towel.
5. Use sticky tape to stick the bag to a window with the seeds facing outside.
6. Careful transplant when roots and shoots appear.
7. Open your learning journal and fill in the plant journal.



Germinated seeds in re-sealable bag



8. Remember to water your plant!



QUIZ 2

Choose only ONE best answer.

The tallest sunflower ever was:

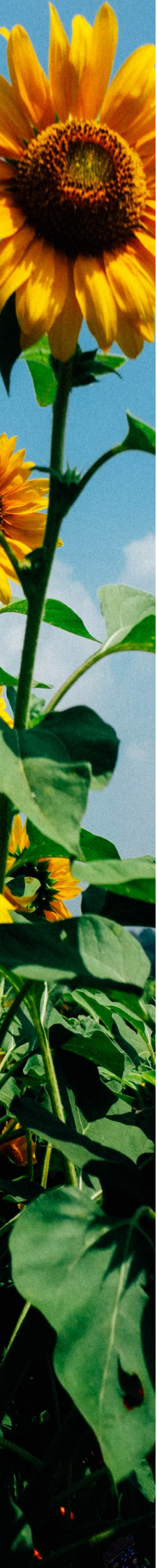
- a. 1.23 m
- b. .17 m
- c. 6.9 M
- d. 19.4 m

When you plant a sunflower seed:

- a. You must plant it in a huge paddock.
- b. The soil needs to be moist.
- c. The soil needs to be dry as they don't like a lot of water.
- d. Look for a nice shady spot.

From planting a sunflower seed until it produces seeds for oil is about:

- a. 125 days
- b. 2 weeks
- c. 6 weeks
- d. At least a year.



How Did People Discover That Seeds Contain Oil?

Crushing Seeds

This activity will help you make your own discoveries about seeds and their oil content.

Equipment:

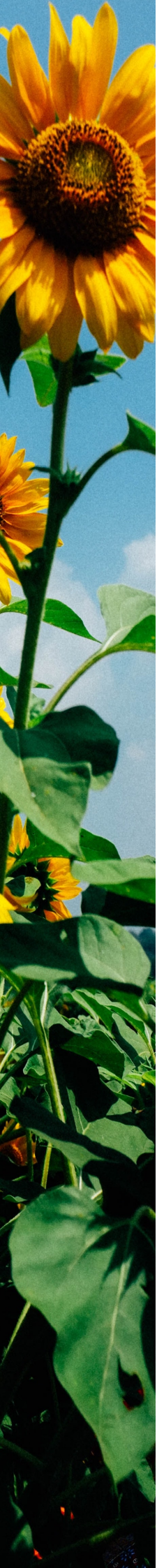
- A variety of seeds including sunflower seeds, such as in bird seed
- Plain white paper
- A rolling pin or object that you can roll over the seeds

Method:

1. Group the seeds in small groups of the same seeds, such as sunflower seeds, other seeds together.
2. Place on half the paper and fold the paper in half over the seeds.
3. Roll the rolling pin over the top, pressing down hard to push and crush the seeds.
4. Check under the fold to see which seeds left an oily mark.
5. Fill out the tally table in your learning journal.

Seed	Drawing of Result	Contains Oil (Yes or No)

Don't forget to check your seeds and record any growth or observations in your learning journal!



Quiz 3

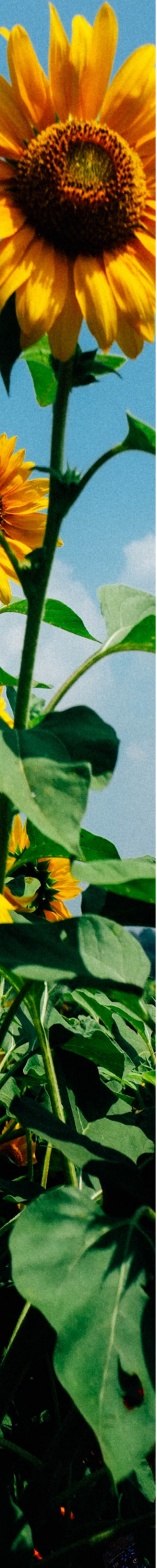
Choose only ONE best answer.

To harvest sunflowers, you need:

- a. Many friends to help pick them
- b. A harvester
- c. Sharp knives
- d. A presswheel

To get oil from a sunflower seed, you need to:

- a. Squeeze it gently
- b. Tip it upside down and let the oil drip out
- c. Soak it in water
- d. Crush it



How Do People Use the Oil From Seeds?

Activity 1

This activity will help you investigate your family's eating habits and discover what oilseeds might be in your food. Be great ingredient detectives!

Equipment:

Your pantry and your learning journal

Method:

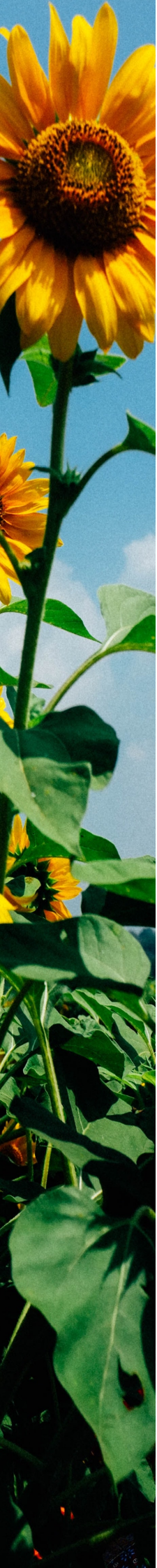
1. Find the list of ingredients on packaged foods in your pantry. This is usually on the back.
2. Read the contents.
3. Record those items that contain oil. What types of oil is it?
4. Transfer your data to the table in your journal.

Question

Why do you think these ingredients are often in tiny print?

Note: Don't forget to check your sunflower plants and record their growth in your learning journal!





Quiz 4

Choose only ONE best answer.

Oil from seeds could be found in:

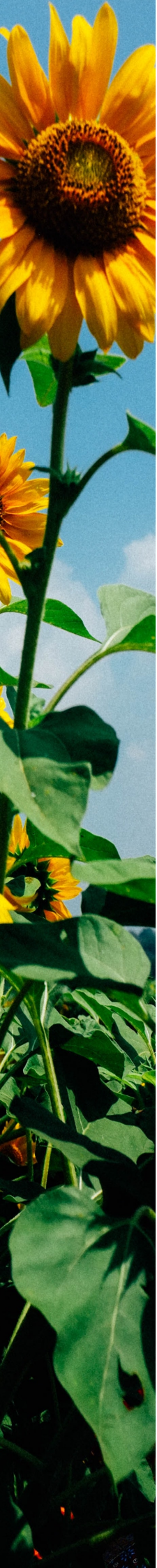
- a. Apples
- b. Orange juice
- c. A packet of chips
- d. Ice blocks

If there was a flood after the farmer planted a sunflower crop, the sunflowers would:

- a. Grow extra tall because they were well watered.
- b. Grow larger flowers
- c. Be a paler yellow.
- d. Probably not grow well.

Sunflower crops are grown in Tasmania.

- a. True
- b. False



How Do Farmers Plant Sunflower Seeds?

When do you plant sunflower seeds? What are some of the things farmers might need to do to look after their crop?

1. Watch the YouTube clip below and answer the questions below in your learning journal.

<https://www.youtube.com/watch?v=HnUWYvdF3f8>

- Where were the sunflowers growing?
- Why haven't the farmers been able to grow sunflowers?
- Why are they able to grow them now?
- How many hectares of sunflowers had been planted?
- Sunflowers are great for producing seeds, but what else do people like to do with sunflower crops?

2. In your learning journal, complete the activity: *On The Farm: How Do Farmers Grow Sunflowers?*

