



PGRD 1000

**Introduction To
Grains, Oilseeds
and Pulses
Yrs 3/4/5/6**

Stage 2 & 3



Instructions for Students



INTRODUCTION TO GRAINS, OILSEEDS & PULSES

YEARS 5/6/7/8



This Netquest will consist of five (5) lessons to introduce you to grains & oilseeds.

In each lesson you will need to read or view important information on a website. You will then need to answer questions based on the information you have learnt from those web pages & videos. All activities can be completed in the classroom or at home.

In each lesson you will be asked to record your answers in a learning portfolio/journal, which you can submit to your teacher at the end of the Netquest as evidence of completion.

NOTE: You should talk to your teacher to confirm how they want you to submit your work.

You will need to create a file named **Intro to Oilseeds, Grains and Pulses Portfolio 5-6 - YOUR NAME** that includes all of your answers. Make sure that you include *all text, drawings, tables, brainstorm, model photos, etc* that are asked for in the tasks. Once you have completed all of the activities, you will need to send this **one (1) file** to your teacher for marking.

It is your choice what software you will use to create your portfolio. We recommend:

- Microsoft Word
- Microsoft PowerPoint

Other tools you could use to present your portfolio include:

- Keynote
- Pages
- Google Docs
- Google Slides

To complete this unit, you need to complete all of the lessons, videos & tasks.

Enjoy learning all about grains & oilseeds!

Instructions for Teachers

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

Students will need access to the Internet to follow links so that they can answer the questions in each of the lessons. They should record their answers in a document for marking. Marking could be completed as a class group to encourage discussion about the results.

Lesson	Learning content	Learning tasks	NSW Curriculum links	Australian Curriculum links
1	What Are Grains, Oilseeds and Pulses?	Introduction Reading	ST3-5LW-T	ACTDEK021
2	Oilseeds in Australia	Lesson 1 Research task	ST3-5LW-T ST3-4LW-S	ACTDEK021 ACSSU072
3	Popular Grains	Lesson 2 Research task	ST3-5LW-T ST3-4LW-S	ACTDEK021 ACSSU072
4	What are Pulses?	Lesson 3 Research task	ST3-5LW-T ST3-4LW-S	ACTDEK021 ACSSU072
5	How Much Do We Grow?	Lesson 4 Research task	ST3-5LW-T ST3-4LW-S	ACTDEK021

What Are Grains, Oilseeds and Pulses?

In Australia, we grow a large range of grains, oilseeds and pulses. Here is a list of the types we grow:

Cereals and coarse grains:

Wheat
Barley
Oats
Sorghum
Maize
Triticale
Millet
Rye
Canary seed
Rice

Pulses:

Lupins
Field peas
Chickpeas
Faba beans
Vetch
Peanuts
Mung beans
Navy beans
Pigeon peas
Cowpeas
Lentils

Oilseeds:

Canola
Sunflower
Soybean
Safflower
Linseed
Cottonseed

Grains are commonly referred to as 'cereals' or 'cereal grains' and are the edible seeds of certain grasses belonging to the Poaceae family. Wheat, oats and rice are the grains most consumed in Australia ([GLNC](#)).

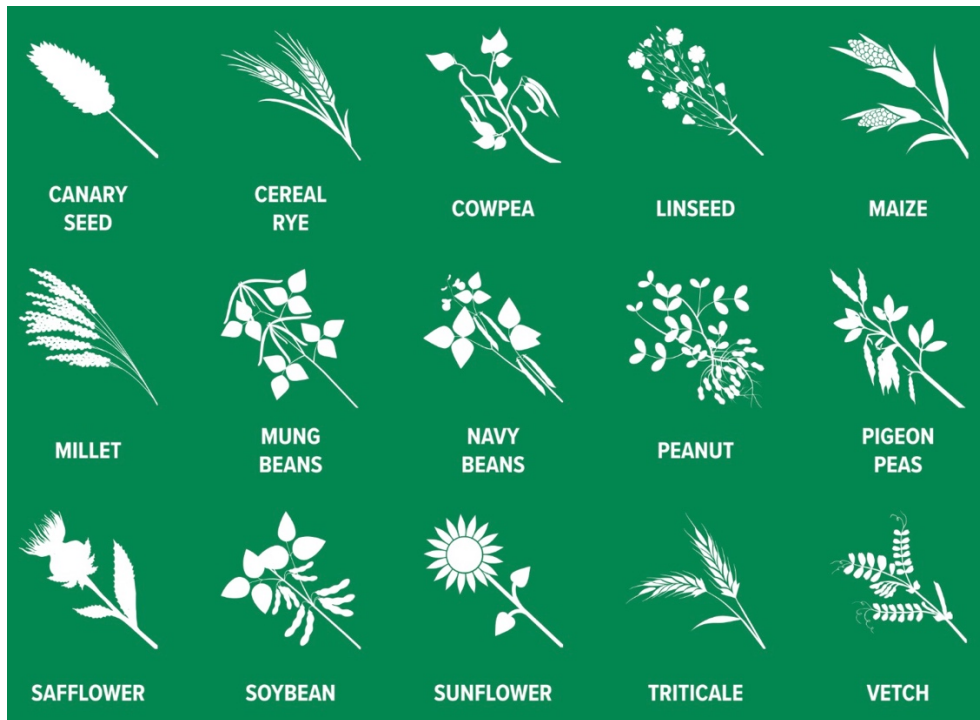
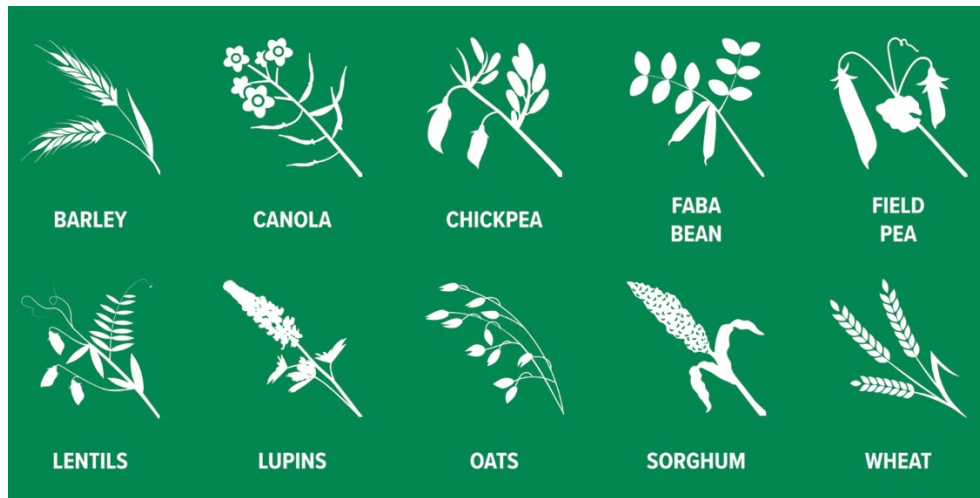
Oilseed crops are grains grown so that we can extract the oil which is contained in their seeds. The seeds are crushed to release the oils. The leftover canola meal is used as stock feed for animals.

Pulses - In Australia, grain legumes are generally referred to as 'pulses'. The term 'pulse' is derived from the Latin pulse meaning 'seed or grain can be made into a thick soup or pottage' ([Pulses Australia](#)).





Do You Recognise any of the Silhouettes Below? Circle any that you do.



Oilseeds in Australia

The amount of oil in different oilseed varieties differs from 20% for soybean, to 40% in sunflowers, to 45% in canola. The major Australian oilseed crops are canola, soybean, sunflower, and cottonseed. There is a high demand for Australian oilseeds and the products that we make from them. We produce around three million tonnes of oilseeds annually. Canola and cottonseed – Australia's major oilseed crops – account for over 90% of oilseed grown.

We export over one million tonnes of canola seed (15-20% of the world's canola trade) to international markets each year. We also export cottonseed along with other oils. Moreover, Australia is becoming well known as a supplier of high-quality edible oilseeds like sunflower seeds.

Our oilseed industry supplies the seed and oils for many things we use daily, including:

- Cooking oil e.g., canola and sunflower oil
- Spreads and shortening e.g., chocolate spreads
- Packaged foods e.g., chocolate or chips
- Meal (food) for dairy, poultry and other livestock e.g., canola meal
- Cosmetics e.g., lipsticks

While you may not have heard of canola before, you will have heard of sunflowers! Those bright yellow faces follow the sun across the sky every day. But did you know they are also an oilseed, and not just food for your pet parrot?

Netquestion 1 - Canola

Use this website to answer these questions: [LINK 1](#)

1. List four products that contain oil from oilseeds.
2. Canola is Australia's third largest crop after what other crops?
3. How many million tonnes of canola seed is exported yearly?
4. Can canola oil be used in biodiesel?
5. How much fats and oils do Australians use each year?

So how do we grow oilseeds? Watch the video below to learn more about canola.

[Canola: From Planting To Harvest](#)



Netquestion 2 - Sunflowers

Sunflowers are one of our most recognised of oilseeds, and paddocks of flowering plants draw people from all around to shoot selfies next to their bright yellow glow. But what are all those flowers going to be used for?

Let's learn more about sunflowers. [Using this website](#), find the answers to the following questions.

1. Approximately how many tonnes of sunflower oil do Australians use each year?
2. Where are sunflowers most commonly grown in Australia?
3. Where do we import sunflower oil from?
4. Do sunflowers prefer areas that get rain during summer or places where summer is drier?

Watch the video below and take notes on the process of making oil.

[How It's Made: Vegetable Oil](#)

5. List & illustrate the stages of cold pressed oil from seed to bottle.

NOTE: Add your completed answers / research to your learning portfolio/journal.





Popular Grains

In Australia, about 22 million hectares of grains are planted each year. There are many foods we eat on a daily basis that have been made from grains, including bread, pasta and breakfast cereals. Snacks such as muesli bars, baked goods, crackers and popcorn are also grain based foods. We grow wheat, barley, oats, sorghum, maize, triticale, millet, rye, canary seed, and rice.

Our most popularly grown grain is wheat. Australia produces about 24 million tonnes of wheat per year (ABARES 2016). Around 80% of the wheat grown in Australia is exported to over 50 countries. The remaining 20% is used by Australians to make flour, breads, noodles, biscuits, cakes, and pasta. It can also be used to feed livestock (farm animals).

In this activity, you're going to make a poster about grains. You'll need access to a computer & the internet to find the answers you need. You may complete the activity on a sheet of paper or on your computer.





Start your research here: [LINK 1](#) / [LINK 2](#)

Netquestion 3 - Grains

1. Draw a four column by twenty-one row table (See example layout below).
2. Label your columns: Name, Seed Photo, Uses of Grain, Photo of Plant Growing.
3. Identify 10 grains grown in Australia. Add them to your poster.
 - In the "Uses of Grain" column, list some products that the seed is used to make.
4. Save your table, or, if you've made a poster, photograph it to include in your learning portfolio/journey.

Example Table

Name	Seed Photo	Uses of Grain	Photo (Growing)
Wheat		Flour, play-doh, liquorice, beer, glue	

NOTE: Add your completed answers / research to your learning portfolio/journal.

What Are Pulses?

No, we're not referring to feeling your heartbeat.

According to Pulse Australia, *"In Australia grain legumes are generally referred to as 'pulses'. The term 'pulse' is derived from the Latin pulse meaning 'seed or grain which can be made into a thick soup or pottage'"*.

While both soybean and peanut are leguminous plants. They are not regarded as pulses as they are traditionally seen to be oilseed crops." Pulses grow inside of pods and come in a range of shapes, sizes, and colours.



Watch this video: [What Are Pulses?](#)

Netquestion 4 - Pulses

1. Using the PDF below, answer the following questions:

[APB Pulses-Food-uses.pdf](#)

- Name five different pulses.
- List three ways you can eat lentils.
- What is falafel made from?
- What pulse is used to make Miso?

2. Using this link, find the answers to these questions about [mungbeans](#).

- What are the two main types of mung beans grown in Australia?
- What is the best temperature for growing them?
- On average, how many tonnes of mungbeans does Australia export overseas?
- How much do 100 Green Diamond mungbean seeds weigh?

Bonus Question: What is Bánh đậu xanh?

3. Let's learn more about chickpeas. [Start here](#):

- Where does the word "chickpea" come from?
- How high does the average chickpea plant grow?
- What is "hummus" and how is it made?
- Name four dishes from four different countries that are made with chickpeas.

NOTE: Add your completed answers / research to your learning portfolio/journal.



How Much Do We Grow?

Grains, oilseeds and pulses are grown all around the world, but what do you know about growing these crops in Australia?

Using the Internet to do your research, you are going to research and graph how much we grow.

Netquestion 5

1. Draw a graph using the data in the table below which shows the kilotonnes of these grains, oilseeds or pulses grown in Australia during the following seasons - 2017/18, 2018/19, 2019/20.

	Unit	2017-18	2018-19	2019-20
Wheat	kt	20941	17598	15165
Barley	kt	9254	8819	9001
Canola	kt	3893	2366	2329
Chickpeas	kt	998	205	281

NOTE: Add your completed answers / research to your learning portfolio/journal.



Checklist of Activities

This online course has several individual activities or tasks that you MUST complete and submit to your teacher. Here is a list of tasks to tick off against your portfolio to ensure you've included everything:

About Soils Activities

- What Are Grains, Oilseeds and Pulses?
- Oilseeds in Australia
- Popular Grains
- What Are Pulses?
- How Much Do We Grow?

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