

CLASSROOM ACTIVITIES

STAGE 3 LESSON one



Learning Outcomes

- **MA3-AR-01** selects and applies appropriate strategies to solve addition and subtraction problems
- **ST3-4LW-S** Describes observable features of living things and their environments
- **ST3-5LW-T** explains how food and fibre are produced sustainably in managed environments for health and nutrition
- **EN3-RECOM-01** fluently reads and comprehends texts for wide purposes, analysing text structures and language, and by monitoring comprehension



Resources and Preparation

Resources

Video (V)

- Video 9 – [How do plants grow for kids](#)
- Video 15 – [15 Modern Farming technologies](#) (start at 1:58)

Worksheets (WS) and PowerPoints (PTT)

- Worksheet 13 - Fruit & Veg technologies
- Teacher Information Document (TID)

Materials

- Laptops/computers/tablets with internet
- Classroom poster

Preparation

Prior to lesson:

- Print 1 page per student from WS13

The science behind growing fruit & vegies

Students learn about the basics of growing fruits and vegetables. They investigate modern solutions to common agricultural problems such as pests, space, quantities, climate change, biodiversity loss and water shortage. They compare current solutions, to solutions of the future.

Introduction (10 mins)

Watch V9 with the students to learn about how plants grow. Discuss some (new) concepts (e.g. photosynthesis) with the students and ask them to think about what growing fruit and vegetables looks like on a large scale. What kind of problems do they think they would run into?

Activity (45 mins)

1. Explain the classroom poster to the students, choose which fruit/vegetable the class will use for the Classroom Poster and complete Week 1.
2. Divide the students in groups and give each student in the group a common agricultural problem from WS13.
3. Together, they will go through the questions on the WS13 page, discuss among each other and research the answers about current and future solutions.
4. Watch V15 with the class, to explore some solutions of the future.

Conclusion (10 mins)

Ask each group to share with the class to explain the agricultural problem they explored, what is currently done about it and what could possibly be the 'solution of the future'.

Assessment

- For:** Students identify and think critically about agricultural problems and possible solutions
- As:** Students explore possible solutions by themselves
- Of:** Students correctly summarise the problem and solutions on the worksheet

Differentiation

- Extend:** Before looking up the solutions of the future, have the students design their own solution.
- Simplify:** Explore the problems and solutions as a whole class

School/Home Link

At home students can explore their fruits and vegetables and explore with their parents/carers what kind of technologies were used to grow it.

Duration | 65 minutes



Technologies and growing fruit & veg

Problem 1: Pests

Effective pest control for farms and agricultural premises is essential. Pest species are cause for major concern, not only due to the potential loss of revenue due to crop damage but, if left untreated, they can also cause significant damage to machinery, equipment and property as well. Pest species can include insects, birds and rodents.

You can start your research here: <https://www.csiro.au/en/news/all/articles/2021/may/durable-agripest-solutions>

Explain the problems pests cause to farms and crops:

What are the current solutions to pests? Are there any major disadvantages?

What are the 'solutions of the future' for solving the problem of pests?

Technologies and growing fruit & veg

Problem 2: Irrigation

Irrigation is known to help improve agricultural production. It allows farmers to grow crops in areas with less rainfall than required and to supplement with water in times of drought. However, due to climate change and the following increase in number and duration of droughts, irrigation has become a major concern in agricultural crop production.

You can start your research here: <https://education.nationalgeographic.org/resource/irrigation/>

Explain the problems droughts/lack of irrigation cause to farms and crops:

What are the current solutions to irrigation issues? Are there any major disadvantages?

What are the 'solutions of the future' for solving the problem of irrigation?

Technologies and growing fruit & veg

Problem 3: Lack of agricultural space

One of the major farmers problems has to be the loss of agricultural land, as when more land is lost, it becomes increasingly difficult to produce the right volume of food required to feed the entire population.

You can start your research here: <https://www.theguardian.com/news/2019/jan/28/can-we-ditch-intensive-farming-and-still-feed-the-world>

Explain why there is a lack of agricultural space and what the consequences are.

What are the current solutions to lack of space? Are there any major disadvantages?

What are the 'solutions of the future' for solving the problem of agricultural space?

Technologies and growing fruit & veg

Problem 4: Climate change

Climate change can disrupt food availability, reduce access to food, and affect food quality. For example, projected increases in temperatures, changes in precipitation patterns, changes in extreme weather events, and reductions in water availability may all result in reduced agricultural productivity.

You can start your research here: <https://www.wri.org/insights/4-ways-farmers-can-adapt-climate-change-and-generate-income>

Explain what effects climate change has on agriculture

What is one current solution to a agricultural problem cause by climate change?? Are there any major disadvantages to this solution?

What are the 'solutions of the future' for solving an agricultural problem caused by climate change?

Technologies and growing fruit & veg

Problem 5: Loss of biodiversity

Our global food system is the primary cause of biodiversity loss, with agriculture alone being the identified threat to 24,000 of the 28,000 (86%) species at risk of extinction. As agriculture fields cover about one third of the habitable land, that doesn't leave much space for species that need other plants and trees to survive.

You can start your research here: <https://foodprint.org/issues/biodiversity-and-agriculture/>

Explain what effects agriculture has on biodiversity and why this is a problem.

What is one current solution to biodiversity loss due to agriculture? Are there any major disadvantages to this solution?

What are the 'solutions of the future' for solving biodiversity loss caused by agriculture?

CLASSROOM ACTIVITIES

STAGE 3 LESSON TWO



Learning Outcomes

- **ST2-3DP-T** - defines problems, describes and follows algorithms to develop solutions
- **MA2-AR-01** selects and uses mental and written strategies for addition and subtraction involving 2- and 3-digit numbers
- **MA2-MR-02** completes number sentences involving multiplication and division by finding missing values
- **MA2-GM-01** uses grid maps and directional language to locate positions and follow routes



Resources and Preparation

Resources

Worksheets (WS) and PowerPoints (PTT)

- Worksheet 14 - Banana supply chain
- Teacher Information Document (TID)
- PowerPoint 2 - From farm to fork

Materials

- Computers/laptops/tablets with an internet connection
- Classroom poster
- [Flowchart documents](#)

Preparation

Prior to lesson

- Print 1x WS14 per student

The farm to fork process

Students learn about the journey of fruits and vegetables as they travel from 'farm to fork'. They investigate the process of harvesting, transporting and storage of different fruits and vegetables. They learn about supply chains and they create their own banana supply chain flowchart.

Introduction (10 mins)

Review the previous lesson and query the students about how they think their fruits and vegetables made it from 'the farm to their fork'. Use PPT2 (slides 1-9) to introduce students to the concepts of 'supply chains' and 'food safety'.

Activity (45 mins)

1. In pairs, students discuss what the 'farm to fork' process might be for the fruit/vegetable chosen for the poster. Do they think all the harvested produce makes it to 'their fork' (i.e. the shops/canteen/restaurants)? Which ones make it and which ones don't? What happens to those that don't? They can research online and complete week 2 on the classroom poster.
2. Use PPT2 (slides 10-11) to explain to the students what a flowchart is, and what it is used for. Explain how they will make their own flowchart for bananas. If looking for more challenging work, go over slides 13-15 as well and have students use the different shapes in their flow chart in step 3.
3. Using an [online flowchart builder](#) and WS14, students create a flowchart for the supply chain of bananas. If needed, a pre-made file can be used to make it easier. You can find all needed documents [here](#). Use the TID to show students how to work in the online flowchart builder.

Conclusion (10 mins)

Every flowchart might look different at the end, but they will (should) still all be correct. Students can show their flowchart to the class and explain how to read it. Use slide 12 of PPT2 to start a class discussion.

Assessment

- For:** Students understood new concepts such as 'supply chain' 'flowchart' and 'food safety'
- As:** Students use an example and information sheet to correctly make or finish a banana flowchart
- Of:** Students successfully complete the flowchart

Differentiation

- Extend:** Students can have further discussions about the supply chain and its impact on the environment. Consider questions such as: why would a shorter supply chain be better for the environment?
- Simplify:** If needed, an already pre-made file (see TID) can be used, where students need to complete the order and numbers.

School/Home Link

At home the students can check where the food in their house has come from check how far and how it 'travelled to their fork'.

Duration | 65 minutes

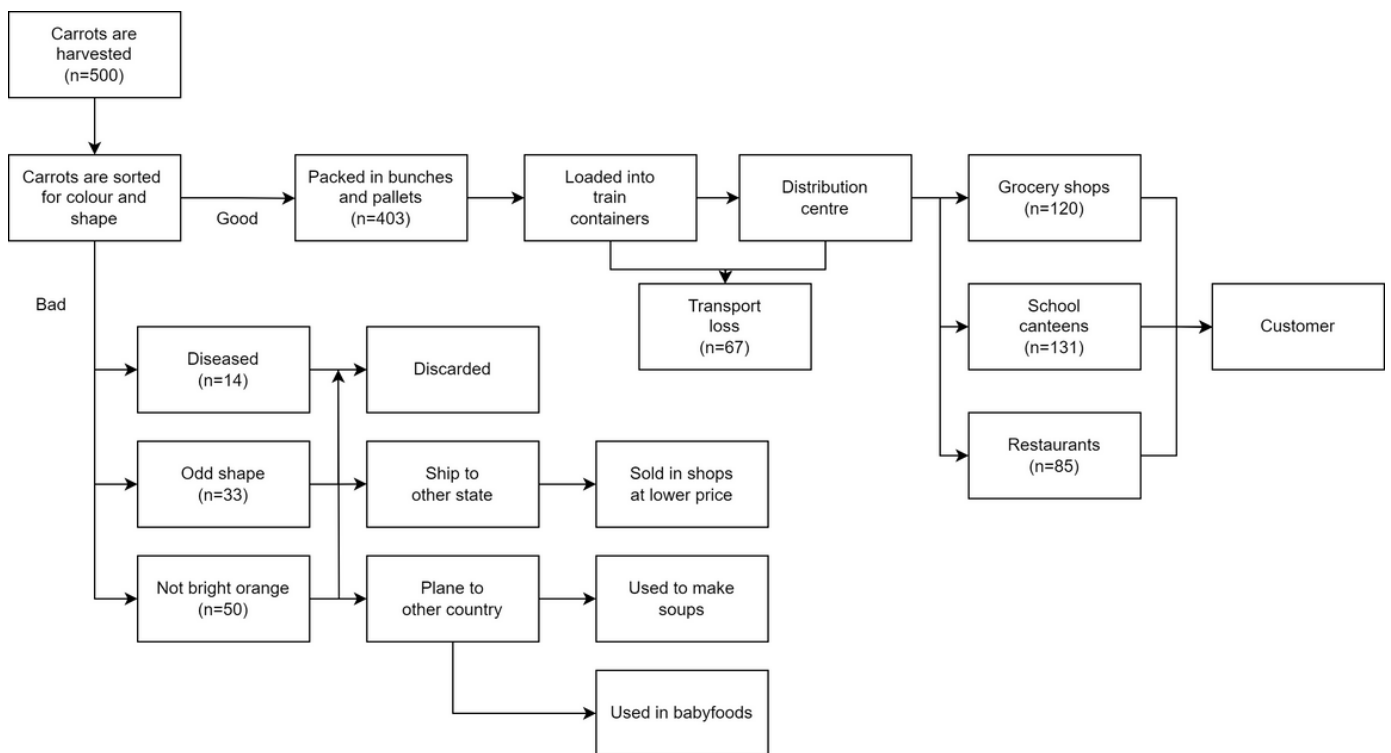


Banana flowchart

In this lesson you will make a flowchart for the transport of bananas going from 'farm to fork'. A flowchart shows you, in one picture, the process of this. It shows for example:

- harvesting the fruit or vegetable: when/how/where
- decisions made about the fruit or vegetable (for example: where will it be shipped to? Is it good enough to go to the grocery store?)
- how it will be processed and packaged
- how it will be transported (different for each destination)
- what the different destinations are

This is an example of a flowchart for carrots:



You can make a flowchart on the website draw.io

In the left hand menu, click on the square. If you click in the square you can write. If you hover your cursor over the sides of the square, you'll see a green circle. Click, hold down and drag: you'll see an arrow coming from the square. You can connect the arrow by holding it near another square and releasing when you see the green circle on the other square.

The following decisions and steps should be in the flowchart:

Follow the number of bananas as well and write the numbers in the flowchart. The numbers in the steps below are written as $n=...$. So if there are 40 bananas in that step, it will be written as $n=40$. If you have to calculate the number, it says ' $n=?$ '

The bananas are harvested. A total of $n=1000$ bananas are harvested.

The bananas are inspected and sorted three ways: 1) signs of disease, 2) yellow colour and 3) green colour. Those with signs of disease are thrown out ($n=95$). Those that are green are treated with a gas to ripen it a bit further ($n=420$). Once ripe, they can go to next step. The yellow ones are already ripe and will go to the next step ($n=?$).

Next, the bananas are sorted for size and shape. There are two options:

- 1) bananas are good size and shape, or
- 2) bananas are not a good size and shape.

The good bananas will go onto the next step ($n=?$).

The bad bananas ($n=?$) follow the steps below:

The bad bananas go one of 4 ways:

- 1) 45 will be transported by truck to a local facility that makes baby food
- 2) 86 bananas will be transported by train to another state to be dried and made into banana chips
- 3) 34 bananas will be transported by ship to a factory abroad that uses bananas and banana peels to make hydrating body creams
- 4) 88 bananas will be transported by a plane to shops across the country that will sell oddly shaped bananas. Before they are transported, a sticker will be placed

The good bananas go on to receive a sticker and are packaged up in bunches and pallets.

The bananas are loaded into the containers, and the containers onto a ship. Unfortunately, there was a storm at sea and one of the containers dropped into the ocean. 62 bananas were lost.

More steps on the next page -->

The ship brings the bananas to a distribution center. There, the banana orders are fulfilled:

- 1) 30% of the bananas left are going to a grocery shop (n=?)
- 2) 20% of the bananas left are going to restaurants (n=?)
- 3) The rest of the bananas go to school canteens (n=?)

The flowchart ends with the customers buying the bananas.

Answer the following questions:

How many total bananas have been sold?

How many total bananas had to be thrown out or were lost?

A banana in the shop cost \$0.85, in the canteen \$0.55 and in a restaurant \$0.75.

How much money was made?

If 35% of the customers at the end of the flowchart throw out their banana without eating it, how many people is that?

If there is time, add to following to your flowchart:

- Some bananas are also sold straight from the farm on a farmer's market
- Some bananas which are not the right colour or shape will also be discarded
- There is some loss of bananas during the transport from the distribution centre to the shops, canteens and restaurants. On top of that, those sellers (plus also the consumers) waste some bananas (they turn brown or get thrown out)
- The process of growing the bananas can also be added to the flowchart:
 - The growth and quality of the banana is monitored
 - Banana plants are watered and kept safe from pests
 - While growing several sample tests are done
 - When bananas are grown a certain size, they are cut from trees
 - Bananas are cut into bunches of 5-6 bananas
 - They are washed and inspected

CLASSROOM ACTIVITIES

STAGE 3 LESSON THREE



Learning Outcomes

- **EN2-HANDW-02** uses digital technologies to create texts
- **EN2-RECOM-01** reads and comprehends texts for wide purposes using knowledge of text structures and language, and by monitoring comprehension



Resources and Preparation

Resources

Video (V)

- Video 10 - [How the digestive system works](#)
- Video 11 - [Journey inside your body to see how digestion works](#)

Worksheets (WS) and PowerPoints (PTT)

- Worksheet 11 - Brochure topics
- Powerpoint 1 - What happens in the body?
- Teacher Information Document (TID)

Materials

- Classroom Poster
- Laptops/computers with internet
- Access to Canva, Powerpoint or Google slides

Preparation

Prior to lesson

- Print out 1 page (topic) per student from WS11

What happens in the body?

This lesson will explore the journey of fruit and vegetables from ingestion to absorption. Students will learn how these foods are broken down and digested, and how vitamins are then absorbed and used by the body to stay healthy. Students create a (digital) brochure about a related topic.

Introduction (10 mins)

Explain to the students that, after exploring the journey of fruit/veg from seed to plant, and then from farm to fork, now they will explore the journey it takes when we eat it and what our body does with it. Brainstorm with the students about what they already know about this. Can they identify any body parts involved in the digestive system? And do they know what the body takes from the fruit/vegetables? (i.e. vitamins and energy).

Activity (80 mins, spread over multiple days if needed)

1. For more information on the digestive system, the class can watch a fun video about it (V10). Or for a more in-depth informative video, you can watch V11. Complete Week 3 on the classroom poster. Use PPT1 if needed.
2. Explain to the students that they will now be divided into groups and make a 1-page brochure. If needed, explain to the students what a brochure is and show how to make one. See an example in the TID.
3. Assign each group one of the 5 topics from WS11 and provide the matching information page to the groups.
5. On the topic page from WS11, the students will find information about their topic and leading questions they will need to find information on. They can use PowerPoint, Canva, Google Slides or even Word and find images on the internet. Alternatively, the brochure can be made on paper/ as a poster.

Conclusion (15 mins)

The brochures can be hung up on the classroom wall and each group of students can tell the class which topic they researched and what their main points were. The other students can ask the group questions about the topic.

Assessment

- For:** Students understand the concepts of digestion, energy and vitamins
- As:** Students make a visually appealing brochure with correct information
- Of:** Students were able to relay information about their topic in a brochure

Differentiation

- Extend:** Students can make an [online quiz](#) about their topic and quiz other students or even the wider school community
- Simplify:** Use PPT1 for a low-level look at digestion, and/or play the fun game from Stage 1 lesson 3.

School/Home Link

Hang the brochures near the canteen, or include the brochures in a 'science fair' and invite the school community.

Duration | 105 minutes

Topic 1: Vitamins

What are vitamins?

Vitamins and minerals are substances that are found in foods we eat. Your body needs them to work properly, so you grow and stay healthy.

Only two vitamins are made in the human body. For the other vitamins, that's where food comes in. Your body is able to get the vitamins it needs from the foods you eat because different foods contain different vitamins. The key is to eat different foods to get a variety of vitamins.

Scientists have identified 13 vitamins: A, eight B vitamins, C, D, E, and K. These vitamins can be come from a healthy diet filled with a variety of foods, including plenty of fruits and vegetables. The digestive system extracts the vitamins and minerals in the digested food, absorbing it into the bloodstream. These nutrients are delivered to the cells, which then absorb the ones they need.

The human body makes vitamins D and K on its own. The body makes vitamin D when the skin is exposed to sunlight. Bacteria in the intestines make vitamin K. Certain vitamins (the B vitamins and vitamin C) dissolve in water. The body stores a small amount of these vitamins but gets rid of most of those it does not use. Other vitamins (A, D, E, and K) do not dissolve in water. The vitamins that the body does not use right away are stored in the body's fat and liver. Getting too much of these vitamins can be dangerous over time.

Each vitamin has a special role to play. For example:

- Vitamin D in milk helps your bones.
- Vitamin A in carrots helps you see at night.
- Vitamin C in oranges helps your body heal if you get a cut.
- B vitamins in whole grains help your body make energy from food.

To research:

- How can we make sure to get enough vitamins?
- Are canned or frozen fruit and vegetables also a good source of vitamins?
- What type/group of foods have very little vitamins?
- What happens if we don't get enough vitamins?

Topic 2: Energy

What is energy from food?

Fruits and vegetables provide energy to your body. When you eat them, they are digested and your body makes energy out of them. The energy allows us to do many activities such as walking, sitting, speaking, playing, etc. Children also need energy to grow! But if an adult breaks their leg, they will also need energy to heal their bone. Or if you get sick, you use energy to fight the virus in your body! That's why you get so tired when you're sick: all the energy is used for making you better.

We can measure the amount of energy you get from your food! The unit of measure is kilojoules, or kj, or calories. You might have seen this on packages of food.

Energy comes from substances present in the food, called macronutrients. You get energy from carbohydrates, protein or fat. Each of these provide your body with different levels of energy.

So not every food gives you the same amount of energy!

This is the energy you get per macronutrient:

- Carbohydrates: 1 gram of carbohydrates gives you 17 kj
- Protein: 1 gram of protein gives you 17 kj
- Fat: 1 gram of fat gives you 38 kj

Foods are not 100% just one of the macronutrients above. They are often combinations and contain many more important nutrients that are also important to eat. Fruits and vegetables have carbohydrates, but they also have a lot of other things that help you grow and stay healthy. For example water, fibre, and vitamins. This makes fruits and vegetables an excellent and healthy source for energy!

To research:

- What type/group of foods give us the most energy? Why is it not good to only eat those type of foods?
- What fruit or vegetable will give you the most energy?
- How much energy should a child your age get from your food every day?
- How does it make you feel when you don't get enough energy from food?

Topic 3: Fibre

What is fibre?

Fibre is a type of carbohydrate found in plants that our digestive tract doesn't break down or absorb like other carbohydrates. It might sound like fibre doesn't play a huge role in your health, but it actually does.

There are two different types of fibre, soluble and insoluble. Both types are found in a variety of different plant foods, and each has its unique health benefits.

Soluble fibre dissolves in water and forms a gel-like substance that can help slow digestion. Soluble fibre is found in foods like oatmeal, nuts, beans, lentils, seeds, and some fruits and vegetables, like apples, blueberries, and brussels sprouts.

Insoluble fibre cannot dissolve in water. Instead, it helps give your stool some form that keeps our digestive system regular. Insoluble fibre is found in foods like wheat, whole-wheat bread, whole-grain products, brown rice, legumes (beans), and vegetables like carrots, cucumbers, and tomatoes.

Because insoluble fibre creates some form in our stools, it helps food move more easily through our digestive tract. This keeps our bowels regular and comfortable!

In addition to the specific benefits above, fibre can help:

- lower inflammation which can prevent disease in our gut (or digestive system)
- slow digestion which helps you not get hungry very quickly after eating
- help keep a healthy weight
- reduce the risk for certain types of cancers, heart disease, and obesity
- increase and improve healthy gut bacteria

To research:

- What type/group of foods give us the most fibre?
- What fruit or vegetable will give you the most fibre?
- How much fibre should a child your age get from your food every day?
- How does it make you feel when you don't get enough fibre from food?

Topic 4: Vitamin C

What is vitamin C?

Vitamin C, also known as ascorbic acid, is a vitamin. It is found in fruits and vegetables. It is one of the water-soluble vitamins.

Without enough vitamin C, a person can get a sickness called scurvy. Lack of vitamin C was a serious health problem on long ocean trips where supplies of fresh fruit were quickly used up. Many people died from scurvy on such trips. Vitamin C was first discovered in 1928. In 1932, it was proved to stop the sickness called scurvy. The fact that fruit was a cure for scurvy was known long before vitamins were known to exist, but it took a little while longer to understand it was vitamin C and how it works in the body.

Most animals make their own vitamin C. Some mammals, like monkeys and humans, cannot. Bats, capybaras and bats also cannot make vitamin C in their body. That means we have to make sure we get vitamin C from our food!

Vitamin C is important for keeping body tissues, such as gums, bones, and blood vessels in good shape. Vitamin C is important in wound healing: it helps you to heal any cut, scrapes and wounds. It also helps the body absorb iron from food. Iron is also important because that helps get oxygen to your cells!

Vitamin C may also help your body fight off infections. If you get a cold, for instance, vitamin C can help shorten the amount of time you are sick.

To research:

- What vegetables will give you the most vitamin C?
- What fruits will give you the most vitamin C?
- How much vitamin C should a child your age get from your food every day?
(can you find how many strawberries you would need to eat in a day to reach that level?)
- What happens if you don't get enough vitamin C from food?

Topic 5: Vitamin B

What is vitamin B?

There's more than one B vitamin. Here's the list: B1, B2, B6, B12, niacin, folic acid, biotin, and pantothenic acid. Whew – that's quite a group!

The B vitamins are important in metabolic (say: meh-tuh-BAH-lik) activity – this means that they help get energy from the food you eat and set it free when your body needs it. So the next time you're running to third base, thank those B vitamins.

This group of vitamins also helps make red blood cells, which carry oxygen throughout your body. Every part of your body needs oxygen to work properly, so these B vitamins have a really important job.

Vitamins B are water-soluble, meaning you can't really have too much in your body (because if there is too much, it will just come out with your pee!). If you don't have enough though, you'll get into trouble. A vitamin B deficiency can make you really tired, unable to sleep, get tingling in your hands and feet, and you might even get some problems with your heart. But don't worry; eating a balanced diet with fruits and vegetables is enough to get enough vitamins!

To research:

- What vegetables will give you the most vitamin B?
- What fruits will give you the most vitamin B?
- How much vitamin B should a child your age get from your food every day?
(can you find how much spinach you would need to eat in a day to reach that level?)
- What happens if you don't get enough vitamin B from food?

CLASSROOM ACTIVITIES

STAGE 3 LESSON FOUR



Learning Outcomes

- **MA3-DATA-01** constructs graphs using many-to-one scales
- **ST3-1WS-S** plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions
- **ST3-2DP-T** plans and uses materials, tools, and equipment to develop solutions for a need or opportunity
- **EN3-1A** communicates effectively for a variety of audiences and purposes using increasingly challenging topics, ideas,



Resources and Preparation

Resources

Video (V)

- Video 12 - [Scientific Method for Kids](#) (start at 0:48)
- Video 13 - [The scientific method](#)
- Video 14 - [What are the steps of the scientific method?](#)

Worksheets (WS) and PowerPoints (PTT)

- Worksheet 15 - Fruit & Veg experiments
- PowerPoint 3 - Experiments
- Teacher Information Document (TID)

Materials

- See TID for specific material lists per experiment
- Classroom poster

Preparation

Prior to lesson

- See TID for specific preparation instructions per experiment

Fruit & Vegie experiments

Students will learn about the scientific method through doing their own experiment and learn about capillary action, ripening/rotting processes, or the effect of packaging. Students can present their findings to the class, school or even the community.

Introduction (15 mins)

Explain to the students that you will be doing a science experiment with fruit/vegetables. Ask the students if anyone can identify what a science experiment is. Follow up with questions such as: 'are there any specific rules when doing an experiment'? To learn about the scientific method, the class can watch V12. (Or watch V13 for a more in-depth explanation.) Need an example to show the students? Watch V14.

Activity (60+ mins, across multiple days)

1. Divide the class into groups of 3-4. Choose one, or multiple experiments from the Week 4 TID section for the students to work on.
2. Students can use the experiment description in the TID, or use their computers to research and design the experiment themselves. They will use WS15 to guide them through their research steps.
3. Over the time required for the experiment, students continue collecting data and making notes on WS15. After the last measurement, they write their findings and conclusions.
4. When finished, the groups of students share their findings to the class. Fill out Week 4 on the classroom poster using the notes and findings from one of the experiments.
5. As an option, students can create posters or PowerPoint/Google slides about their experiment and present to the class/school/community (perfect to combine this with an organised School Science Fair).

Conclusion (15 mins)

Ask the students to present their experiment findings/results to the class and answer the following questions: What data did they collect and what were their findings? Was it what they expected? Why/why not? Can they explain why they found what they did? And what does it mean? Can they think of any follow-up experiments?

Assessment

- For:** Students understand how to do their experiment and can independently design an experiment
- As:** Student successfully complete their experiment
- Of:** Students collected data, made predictions and formed conclusions about their experiment

Differentiation

- Extend:** Students can independently create posters or presentations about their experiment.
- Simplify:** Use the WS12 from Stage 2 lesson 4 to give the students more guidance, or have the whole class do one experiment together.

School/Home Link

Invite the whole school community to a science fair, where the students can present their experiment

Duration | 85+ minutes

Fruit & vegetable science experiment

When food scientists do a science experiment, they follow the *scientific method*.

These are the scientific method steps:

1. Think of your question: what do you want to know?
2. Write down what you think will happen
3. Make a plan for your experiment, gather everything you need and start your experiment
4. Carefully gather your data: write down your measurements and observations
5. When finished, you can write your findings and make graphs and tables. Look at your data and observations and see if you can answer your question from step 1.
6. Look at what you thought would happen in step 2: did that happen? Or was it different?
7. Share and discuss your findings

Follow the steps below to do your own experiment!

Step 1

Think of a fruit or vegetable science question to answer in your experiment. Write it down below.

Step 2

Write down what you think will happen. What do you *expect* the answer to step 1 will be?

Step 3

Make a plan for your experiment: answer the questions below:

- **Write in detail HOW you will do your experiment:**

(How are you going to answer the question in step 1?)

- **What exactly will you measure?**

(Think about your units of measurement. For example: if you are measuring 'level of mould', how will you measure that? You could for example rate the level of mould from 0 to 10, with 0 being no mold and 10 being ALL mould. But as long as you keep it the same every measurement, you can think of your own unit of measurement. You can measure multiple things!)

- **How many times will you do measurements?**

(Your experiment might take a few days, so you can do multiple measurements.)

- **What materials will you need for your experiment?**

(Write anything down you will need)

Step 4

Make a table to note down your observations and measurements.

Step 5

Use your observations from step 4 and write your findings below. Answer the questions below and make graphs on the next page

- **What were the differences in measurements at the start and at the end of your experiment? Make a summary table**

(It is best to see the results of your experiment clearly by writing the measurements at the start and the finish. you can then also calculate and write down the difference)

- **If you compared two conditions, was there a difference between those measurements?**

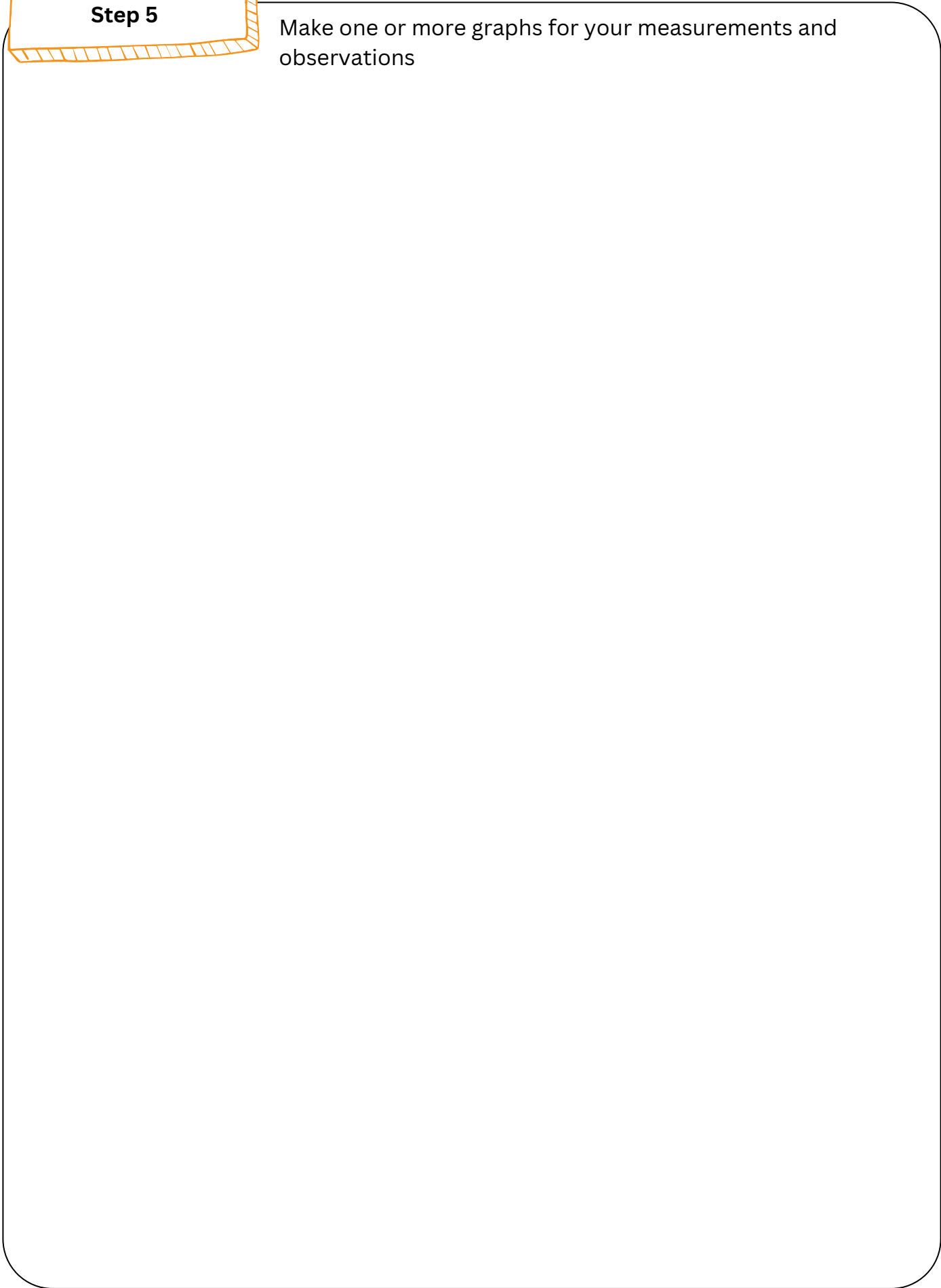
(For example, if you compared the mold formation between an apple in a container versus one out in the open; was there a difference between the measurements above?)

- **If you did multiple measurements, did the numbers increase the same between each of the measurements?**

(for example, did the apples go mouldy at the same rate between the measurements? Or did it for example go slower in the beginning and faster at the end?)

Step 5

Make one or more graphs for your measurements and observations



Step 5

- In a few sentences, what were your findings?

- **What does that mean?**

(Now that you know the results, what will you do with that information?)

Step 6

- **Were your findings the same as your prediction in step 2? If not, what was different?**

- **Can you think of any follow up experiments? Is there anything else you'd like to know?**

Step 7

When we do experiments and learn something new, it's important to tell others about it. So tell your teachers, classmates, parents and friends about your findings!