

# Taste & Learn™

CSIRO's vegetable education program  
for Australian primary schools

Teacher resource manual

Unit 2: Year 3 – Year 4



## USE OF TASTE & LEARN™ MATERIALS

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# Contents

Objectives .....	ii
Lesson plan .....	1
Lesson 1: Discover vegetables through the senses.....	2
Lesson 2: Vegetables grow in different climates.....	9
Lesson 3: Preparing vegetables – a science experiment .....	13
Lesson 4: Perfectly imperfect vegetables .....	19
Lesson 5: MasterChef® in class: the salad.....	23
Appendix A: Unit 2 PowerPoint slides .....	28
Image credits .....	61

# Objectives

The specific objectives of Unit 2 are for students to:

- Increase knowledge and familiarity with less common vegetables.
- Increase knowledge about growing and preparing vegetables.
- Develop their awareness of cultural diversity in food and vegetable preferences.
- Build on their vocabulary concerning how food preparation affects vegetable sensory characteristics.
- Understand how appearance influences food choices.
- Become more open to try culturally diverse vegetables.

# Lesson plan

LESSON	TITLE	LESSON OUTLINE
1	<b>Discover vegetables through the senses</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• Enrich their knowledge of vegetables.</li> <li>• Develop their awareness of cultural diversity in vegetable preferences.</li> <li>• Taste and describe two vegetables, plain and with two different condiments, and become aware of individual preferences.</li> </ul> <p><b>Extension</b></p> <p>Students identify the vegetable in a dish from a particular country. Students complete Find a Word "I know my vegetables".</p>
2	<b>Vegetables grow in different climates</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• Grow their own micro herbs.</li> <li>• Develop their understanding of plant lifecycles, climates and seasons.</li> <li>• Taste and describe vegetables from two different climates.</li> <li>• Understand the difference between descriptive and evaluative words for describing vegetables.</li> </ul> <p><b>Extension</b></p> <p>Students imagine their own vegetable garden. Students explore the role of agricultural sciences through imagining their own vegetable hybrid.</p>
3	<b>Preparing vegetables – a science experiment</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• Understand what cooking techniques are used to prepare vegetables.</li> <li>• Investigate the relationship between cooking/preparation and the taste/texture of vegetables through a simple scientific experiment.</li> </ul> <p><b>Extension</b></p> <p>Students complete crossword "I know even more about vegetables". Students use Veggycation website to find out how to cook two non-preferred vegetables.</p>
4	<b>Perfectly imperfect vegetables</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• Understand how expectations and visual cues can affect our food choices and willingness to try different foods.</li> <li>• Become aware of food wastage and its relation to food appearance.</li> <li>• Write persuasive dot points to convince someone to try an imperfect vegetable.</li> </ul> <p><b>Extension</b></p> <p>Students can differentiate between poor quality and odd appearance.</p>
5	<b>MasterChef® in class: the salad</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>• Prepare a mixed salad that is appealing and nutritious.</li> <li>• Critically appraise the food they eat.</li> <li>• Enjoy eating a meal together.</li> </ul> <p><b>Extension</b></p> <p>Students compile and graph a class record on number and type of vegetables consumed.</p>

# 1 Lesson 1: Discover vegetables through the senses

## Lesson outline

### STUDENTS

- Enrich their knowledge of vegetables.
- Develop their awareness of cultural diversity in vegetable preferences.
- Taste and describe two vegetables, plain and with two different condiments, and become aware of individual preferences.

### EXTENSION

- Identify the vegetables in a dish from a particular country.
- Complete a Find a Word, student worksheet 1, 'I know my vegetables'.

## Materials

### FOR THE CLASS

- PowerPoint slides, lesson 1, slides 1–32.
- Two vegetables (three pieces for each student), see below.
- Two condiments in bowls.
- Knife, cutting board, containers with lids.
- Tongs for serving.
- Classroom record.

### FOR EACH GROUP/STUDENT

- A4 paper.
- Science journal.

### EXTENSION ACTIVITIES

- Student worksheet 1, 'I know my vegetables'.

## VEGETABLES

### Description

One common and one uncommon vegetable that can be eaten raw with different condiments (salt, mustard, soy sauce, mayonnaise, yogurt dressing etc.)

### Suggestions

Common: cucumber

Uncommon: soy bean pods/edamame frozen or from sushi restaurant

### Alternatives

Common: carrot, cauliflower, capsicum

Uncommon: snow peas, bean sprouts, Chinese cabbage, baby corn, broad beans



## Preparation



### PREPARATION OF VEGETABLES AND CONDIMENTS

- Source two vegetables that can be eaten raw with the fingers. One should be common for most students and the other one less common.
- If frozen soy bean pods are chosen, prepare as per packet instructions (microwave) and store. For fresh vegetables, wash/cut up/store the vegetables (see 5.2 How to safely prepare vegetables, Taste & Learn™, general information for teachers and schools, page 18). Prepare at least three pieces of the vegetable per student.
- Select two condiments that you think could be eaten with the vegetables you have chosen (e.g. dips, yogurt, mayonnaise, butter, soy sauce, cream cheese etc). Put an adequate amount of each condiment in a separate bowl or cup for students to pass around the class and use for dipping their vegetables.

### Teacher's background notes

- This lesson is about engaging students and seeking their prior knowledge on the key concepts in this unit – vegetables, the senses and cultural and individual diversity in food preferences. They will explore these concepts through a tasting experiment.
- Vegetables: we want to expose students to vegetables to increase their knowledge about them. We want them to become more familiar with vegetables and less reluctant to try them. This lesson is about broadening students' knowledge of vegetables by introducing and exposing them to less common vegetables, i.e. vegetables that we do not think they necessarily know or consume on a regular basis. Students will experience the variety of shapes, flavours and textures among vegetables and become more familiar with them as they recognize and name more vegetables. We want them to understand that it can be fun to eat veggies and overcome the dislikes of unfamiliar vegetables.
- For information on the definition used in this program, see 4.4 Vegetables, Taste & Learn™, general information for teachers and schools, page 12.
- The senses: we would like students to use their five senses when they consume a food product. The idea is that if they pay attention to the product features, they will learn to appreciate different foods and foods with more complex characteristics. For this, they need to be able to identify the tools to detect those sensations (i.e. their senses) and they need to be able to verbalize their sensations.
- When students eat a food, they need to try to take into account all their senses, including taste, smell, flavour and texture, to get the full experience and decide if they like it or not.
- Cultural and individual diversity in food preferences: some people are more sensitive to tastes than others and preferences are individual. Some people may like milk chocolate. Others do not and may prefer dark chocolate. People have different ways/habits to eat food products that can depend on their previous experience with the food and their cultural background.
- What can influence the foods you like is how often you consume the product. Sometimes people do not like a food the first time they try it, but then when they have tried it several times, they may start to like it. For some foods, people may like them when they are prepared differently. It is important to try at least a small amount. We would like students to realise that food preferences are individual and that preferences often depend on habits and cultural diversity.
- For background information on the five senses, and cultural and individual diversity in preferences, see Taste & Learn™, general information for teachers and schools', 4.1 The five senses (page 9) and 4.8 Everyone is different – the role of culture (page 14).



## Suggested activities / Lesson steps



### Suggested set up

Whole class/  
groups

### Additional resources

PowerPoint slides, lesson 1, slides 1 – 32.

A4 paper for group recording

Class record

### ENGAGE – VEGETABLES

- Write the word ‘vegetables’ on a page in the class record. Explain that the students are going to work as a class and in groups to brainstorm and share what they know about vegetables. As they work, guide the discussion to elicit what prior knowledge they have on the following topics:

- Understanding of vegetables.
- The five senses used when we eat and drink.
- Cultural diversity in food and vegetable preferences.

#### Prior knowledge on understanding of vegetables

- Form groups. Distribute A4 paper and ask the students to brainstorm the names of all the vegetables they can think of.
- Recall the groups to a class discussion. Ask a group to read their list of vegetables and ask other groups to contribute any additional vegetables they have recorded. List all these vegetables on the class record.
- Introduce PowerPoint slide 2. As you show each slide (3 to 20), acknowledge if the students have recorded that vegetable in their group, discuss the vegetable to ensure that each student recognises it and ask them to note the spelling. Add to the class record the names of any vegetables the students do not know/have not mentioned in the group brainstorms and discuss these in more detail. As you show the PowerPoint slides, ask who has eaten the vegetable and record the number beside the listed vegetable on the class record or use the prepared table on page 6. This record could help in discussing and, if necessary, making modifications to vegetable selections for other lessons.

#### Prior knowledge on the senses

- Discuss the senses we use when we taste vegetables – sight, smell, taste, feel and sound. Ask the students for words they can use to describe the tastes of vegetables and write the descriptive words in the word bank in the class record on a page reserved for recording descriptive words. Alternatively, use a flip chart. This list will expand throughout the program and students will be able to refer to it when they wish.

#### To guide discussion, use questions such as:

- How can we describe what vegetables taste like?
- What senses are used when we eat and drink?
- What is the difference between a word like “hard” and “delicious”? (Hard refers to HOW it tastes/feels, whereas delicious refers to WHAT they think of how it tastes/feels).

#### Cultural diversity in food and vegetable preferences

- Use PowerPoint slide 21–23. Discuss cauliflowers and cabbages (world map) as examples of how vegetables are consumed around the world.

#### Ask questions such as:

- Does everyone like the same thing?
- Would you be willing to try these dishes if you have never tried them before?
- Are you more likely to eat a food that you know already, or a food that you have never tried before? Why?
- Do you think vegetables taste different when they are prepared raw or cooked in different ways?





## EXPLORE – EATING AND EVALUATING VEGETABLES WITH CONDIMENTS

- Explain that the students will be encouraged to try two different vegetables plain and then with two condiments. Discuss what condiments are and introduce the ones that you have chosen to use.
- Ask the students to wash their hands and invite them to sit in a sharing circle/area where they can be served with the vegetables. Introduce the chosen vegetables. Show an example of the uncut and the prepared vegetable.
- Using tongs, serve one piece of the first vegetable to each student and invite them to eat it. Write the name of the vegetable in the class record and tally the number of students who like it, then tally those who do not. Record the numbers.
- Briefly revise what the five senses are. Discuss what the students did or did not like about the vegetable they tasted. Ask them to use words that describe what they perceived with their senses. Record these on the word bank in the class record or on the flip chart.
- Using a class or adult helper to follow you with the first bowl of condiment, serve a second piece of the first vegetable to the students. Encourage them to dip the piece of vegetable into the condiment and eat it.
- Similarly, serve the third piece of the first vegetable with the second condiment.
- Ask students to raise their hand if they like the vegetable with condiment one. Count and record the number of children. Repeat with regard to condiment two. Which one did they prefer? Why?
- Repeat steps with the second vegetable you have chosen.
- Conclude the lesson with a discussion about how food preferences vary from individual to individual using the class data collected.

### Suggested set up

Whole class/  
groups

### Additional resources

Class record

Two vegetables,  
Two condiments

### Additional resources

PowerPoint  
slides, lesson 1,  
slides 24-32

### Additional resources

Student  
worksheet 1,  
'I know my  
vegetables'

## EXTENSION ACTIVITIES

### Activity 1

Using the PowerPoint slides 24 – 32, conduct a class discussion to identify the vegetable in the corresponding dish and country of origin. Each slide begins with the vegetable dish. A click on the forward arrow reveals the vegetable used.

### Activity 2

Individual activity – student worksheet 1: Find a word, 'I know my vegetables'.

# Classroom record – vegetables consumed

**Class:** \_\_\_\_\_ **Number of students:** \_\_\_\_\_

Vegetable	Number of students who have consumed this vegetable (approximation also fine, e.g. ½ or ¾ of the students)
Asparagus	
Artichoke	
Broccolini	
Brussels sprouts	
Cabbage	
Celeriac	
Eggplant	
Kale	
Leek	
Okra	
Parsnip	
Radish	
Red cabbage	
Rocket	
Snow peas	
Turnip	
Witlof	
Zucchini	

## Student worksheet 1

# I know my vegetables

Identify the vegetables from the pictures below and find their names in the grid. Then, respond to the three hidden questions formed by the remaining letters.

Y	R	E	L	E	C	H	O	W	C	A	B	B	A	G	E
S	P	I	N	A	C	H	M	R	E	B	M	U	C	U	C
A	N	Y	V	O	D	A	C	O	V	A	T	E	C	G	E
A	S	P	A	R	A	G	U	S	T	O	A	B	A	B	L
E	T	B	C	O	R	N	H	S	M	O	C	R	U	A	N
Y	E	O	E	U	C	S	O	A	U	N	N	O	L	T	I
N	K	T	H	A	I	I	T	S	G	I	R	C	I	I	D
T	C	T	H	D	N	O	A	T	T	O	A	C	F	S	T
O	O	E	A	S	W	S	E	E	T	N	A	O	L	N	D
O	R	R	T	H	P	U	M	P	K	I	N	L	O	A	T
R	E	C	U	T	T	E	L	T	A	S	T	I	W	E	C
T	T	N	A	L	P	G	G	E	A	C	I	D	E	A	I
E	C	W	H	M	U	C	I	S	P	A	C	I	R	C	K
E	S	W	E	E	T	P	O	T	A	T	O	R	H	D	E
B	O	Y	O	U	L	I	K	E	T	H	O	E	M	O	E
I	N	I	H	C	C	U	Z	S	T	T	P	E	A	S	L



# Student worksheet 1 - Answer sheet

Y	R	E	L	E	C	H	O	W	C	A	B	B	A	G	E
S	P	I	N	A	C	H	M	R	E	B	M	U	C	U	C
A	N	Y	V	O	D	A	C	O	V	A	T	E	C	G	E
A	S	P	A	R	A	G	U	S	T	O	A	B	A	B	L
E	T	B	C	O	R	N	H	S	M	O	C	R	U	A	N
Y	E	O	E	U	C	S	O	A	U	N	N	O	L	T	I
N	K	T	H	A	I	I	T	S	G	I	R	C	I	I	D
T	C	T	H	D	N	O	A	T	T	O	A	C	F	S	T
O	O	E	A	S	W	S	E	E	T	N	A	O	L	N	D
O	R	R	T	H	P	U	M	P	K	I	N	L	O	A	T
R	E	C	U	T	T	E	L	T	A	S	T	I	W	E	C
T	T	N	A	L	P	G	G	E	A	C	I	D	E	A	I
E	C	W	H	M	U	C	I	S	P	A	C	I	R	C	K
E	S	W	E	E	T	P	O	T	A	T	O	R	H	D	E
B	O	Y	O	U	L	I	K	E	T	H	O	E	M	O	E
I	N	I	H	C	C	U	Z	S	T	T	P	E	A	S	L



### Three remaining questions:

How many vegetables can you count in this grid?

That taste sweet? *The answer is 6: carrot, peas, sweet potato, corn, pumpkin and beetroot.*

And that taste acidic? *The answer is 1: tomato.*

Which do you like the most? *This will depend on each student.*

# Lesson 2: Vegetables grow in different climates

## Lesson outline

### STUDENTS

- Grow their own micro herbs.
- Develop their understanding of plant life cycles, climates and seasons.
- Taste and describe vegetables from two different climates.
- Understand the difference between descriptive and evaluative words for describing vegetables.

### EXTENSION ACTIVITIES

- Imagine their own vegetable garden.
- Explore the role of agricultural sciences by imagining their own vegetable hybrid.

## Materials

### FOR THE CLASS

- PowerPoint slides, lesson 2, slides 33–45.
- Spray bottles (or jugs) of water.
- Two vegetables from different climates (one piece for each student) – see below.
- Knife, cutting board, containers with lids.
- Tongs for serving.
- Class record.

### FOR EACH GROUP/STUDENT

- Micro herb growing kit: seeds, potting mix, small containers for each group's seeds, containers for planting.
- Science journal.

## Vegetables

### Description

Two vegetables from two different climates e.g. tropical (Queensland) and cold (Tasmania).

### Suggestions

Tropical: sweet potato

Cool: English spinach

### Alternatives

Cool: Brussels sprouts, peas, sugar peas



## Preparation



### GROWING MICRO HERBS

- Micro herbs are fast growing herbs (not regular herbs) that can be harvested in two weeks. Micro herb seeds can be purchased at most large hardware stores.
- Purchase micro herb seeds and potting mix and collect small containers (e.g. take away food containers).
- Place some seeds into enough small containers to cater for the number of student groups.

- Place one of the containers for growing the micro herbs in the potting mix to use as a measuring scoop.
- Fill spray bottles for watering the herbs after sowing.

### PREPARATION OF THE VEGETABLES FOR THE TASTING

- Source two vegetables from two different climatic regions in Australia. Aim to choose at least one vegetable that is not so common in the diet of your students.
- Wash/cut up/store the vegetables (see 5.2 How to safely prepare vegetables, Taste & Learn™, general information for teachers and schools, page 18). Boil sweet potato if using. Prepare at least one piece of each vegetable per student.

### Teacher's background notes

- This lesson will provide opportunities for students to understand the lifecycle of a vegetable from the seed to the fully grown vegetable so they can appreciate that this is quite a long process that depends on many environmental factors. Students will examine what a plant needs to grow and the importance of climate and seasons.
- One objective is to familiarize students more with vegetables by focusing on how they are grown. Vegetables need specific climatic conditions and not every vegetable can be grown year round.
- A large variety of vegetables are available year round. The taste and texture of these vegetables is optimal when eaten in season.
- There are five climatic areas in Australia: tropical - hot humid; subtropical – hot and dry summer, warm winter; arid – hot and dry summer, cold winter; temperate and cool temperate. Climate is defined as the weather conditions prevailing in an area in general or over a long period. Which vegetables and what time of the year they can be planted for optimum conditions for growth is determined by the climatic areas.
- Students will learn a specific tasting procedure and understand the difference between descriptive words and evaluative words. During tasting, attention should be paid to a tasting procedure that takes all sensations into account. Over time, we hope this becomes a habit for students and they use it each time they encounter a new food. Students start by looking at the vegetable, then smelling it, tasting a bit, hear the chewing sound and feeling what they perceive in mouth. In doing so, they should start to learn to verbalize their sensations better, appreciate different foods for their different features and not decide whether they will eat it or not based on how it looks.
- For further information, see 4.2 Tasting methodology and 4.3. Verbalisation skills, Taste & Learn™, general information for teachers and schools, page 11 and 12. As an extension, students can learn about agronomy (the science of plant production) and the discoveries and developments that allow us to have access to fruit and vegetables all year round and to enjoy novel varieties of vegetables and fruits.

### Suggested activities / Lesson steps



#### EXPLORE – GROWING MICRO HERBS

- Display slide 34 and read the title, 'What does a plant need to grow'. Activate prior knowledge by pointing out that the pictured plant is growing and conduct a class discussion about what the plant needs to grow. Reveal the four 'needs' that will appear on the slide by pushing the 'Enter' or forward arrow key.
- Explain that a life cycle shows how a living thing develops and changes throughout its life. Ask the students what they know about life cycles of flowering plants and confirm their ideas using PowerPoint slide 35.





Micro herb growing kit



1st day



1st week



2nd week: ready to harvest

### Suggested set up

Groups

### Additional resources

PowerPoint slides, lesson 2, slides 33 – 36

Micro herb growing kit (herb seeds, containers, potting mix and spray bottle)

- Explain that the students are going to work in groups to plant micro herb seeds. Show students the location of the seeds, potting mix, containers and water bottles.

#### Explain that each group will send a representative to:

- Collect a container.
- $\frac{3}{4}$  fill the container with potting mix.
- Collect a container of seeds.

#### Using PowerPoint slide 36, explain that the group will:

- Label the container with group member's names.
- Sprinkle the seeds over the potting mix and push them lightly into the soil.
- Collect a water bottle and spray the potting mix until it is moist.
- Place their container in a designated classroom space that receives sunlight.
- Spray their plants with water each morning for the next two weeks.
- Form groups and set them to work. Direct the students to place the group's container in the designated area.



### Suggested set up

Class discussion

### Additional resources

PowerPoint slides, lesson 2, slides 37-41

## EXPLAIN – VEGETABLES OF DIFFERENT CLIMATES

- Initiate a discussion about climate by talking about the climatic area in which the students live – tropical, subtropical, arid, temperate or cool? Ask the students to explain what they understand climate to be and, using slide 37, conduct a discussion about different climates in Australia.
- Pose the question, 'Is climate important when you grow vegetables?' Ask the students to justify their responses.
- Using the internet site on PowerPoint slide 38, find out where sweet potatoes, English spinach and carrots can be grown in Australia. Use PowerPoint slides 39, 40 and 41 respectively to confirm what climate these vegetables require for optimum growth.
- Explain that the students are going to be given the opportunity to taste and evaluate vegetables from two different climates.

#### Advise the students that they will be required to use their five senses and introduce the formal protocol for tasting evaluation. In order:

- Look at the food to notice what your eyes perceive – size, shape, colour, surface texture etc.
- Smell the food to notice what your nose perceives – sweet, ripe, minty etc.
- Taste a small amount and notice what you perceive in your mouth – taste, flavour, temperature, texture, spiciness etc.
- Hear, listen to the sound when you bite.
- Mouth feel – mushy, hard etc.



### They will be asked to describe their taste experience using:

- Descriptive/objective terms (properties that are characteristic of a product and are the same for everybody – red, hard, smoky, sweet, sour etc).
- Evaluative/subjective terms (words that describe how they liked the food – delicious, nice, delectable, unpleasant, OK).
- Ask the students to wash their hands and sit in a sharing area such as a sharing circle.
- Using tongs, serve the students with one piece of each of the prepared vegetables. Direct the students to use the process for tasting evaluations.

### Ask the students to:

- Describe and compare the appearance of the two pieces of vegetable.
- Describe and compare the smell of the two pieces of vegetables.
- Put the first vegetable into their mouth and describe what they taste, hear and feel. Repeat with the second vegetable.
- Add the descriptive words for each of the modalities to the word bank in the class record. Ask the students to use descriptive (dry, green, uneven, grainy, acidic, smooth, sweet, stringy, hard, fresh) not judgmental terms ('yucky' or 'yummy').
- Congratulate the students because they have used the systematic tasting protocol that takes all their senses into account.

### Ask the students to:

- Name the vegetables they tasted.
- Compare how much they liked each of the two vegetables.
- Conclude the lesson with a discussion about whether or not we can taste which climate the vegetables are from (the answer is no).

#### Additional resources

Activity 1  
PowerPoint slides, lesson 2, slide 38

Activity 2  
PowerPoint slides, lesson 2, slides 42-45

## EXTENSION ACTIVITIES

### Activity 1 – Thinking about your own vegetable garden

Using the webpage noted on PowerPoint slide 38, ask the students to investigate what vegetables they can grow in the area where they live. If they were to set up a vegetable garden now (given their area and the season) what vegetables could they plant? Ask them to take into account taste and how they can eat/prepare the vegetable.

### Activity 2 – Become an agronomist

- Using PowerPoint slides 42 – 44, explain what agronomy is (slide 42) and how agronomists have:
  - Developed many ways to grow vegetables so that we can eat them any time of the year (slide 42)
  - Developed new varieties that are novel, tempting, and more appealing to consumers (slide 43)
  - Developed 'hybrid' vegetables, mixing two vegetables together to produce a product with a pleasant combination of tastes and textures (slide 44).
- Using PowerPoint slide 45, explain that the students will work in small groups to create their own hybrid vegetable. Review the three ideas on the slide and encourage other ideas for the creation a viable hybrid vegetable.
- Ask the groups to present their ideas for hybrid vegetables to the class.

# Lesson 3: Preparing vegetables – a science experiment

3

## Lesson outline

### STUDENTS

- Understand what cooking techniques are used to prepare vegetables.
- Investigate the relationship between cooking/preparation and the taste/texture of vegetables through a simple scientific experiment.

### EXTENSION ACTIVITY

- Complete a crossword, Student worksheet, 'I know even more about vegetables'.
- Use Veggycation website (© Hort Innovation) to find out how to cook two non-preferred vegetables.

## Materials

### FOR THE CLASS

- PowerPoint slides, lesson 3, slides 46–47.
- Two vegetables that can be cooked (two pieces for each student) – see below.
- One microwave.
- Two microwave safe containers.
- Knife, cutting board, containers with lids.
- Class record.

### FOR EACH GROUP/STUDENT

- Student worksheet 2, 'Tasting sheet' (two copies for each student).
- Science journal.

### EXTENSION ACTIVITIES

- Student worksheet 3, 'I know even more about vegetables'.
- Veggycation website (© Hort Innovation).

## VEGETABLES

### Description

Two vegetables that can be eaten in their raw form and microwaved. Alternatively, if cooking is not possible, use vegetables that can be cut differently or compare raw and canned.

### Suggestions

Cauliflower (raw and microwaved from frozen)  
Green beans (raw and microwaved from frozen)

### Alternatives

Brussels sprouts, broccoli, peas, carrot, kale  
Non-cooking: carrot (cubed and grated), green beans (raw and canned)



## Preparation



### PREPARATION OF THE VEGETABLES FOR THE TASTING

- Source two vegetables that can be eaten in their raw form and also microwaved. If not using the suggested vegetables, aim to choose at least one vegetable that is not so common in the diet of your students.
- For the vegetables that will be microwaved, it is easiest to prepare vegetables from frozen products as these are already cut and contain water. Ensure that cooking containers are microwave proof and that they are covered during cooking.

- Thaw, wash/cut up/store the vegetables (see 5.2 How to safely prepare vegetables, Taste & Learn™, general information for teachers and schools, page 18). Prepare at least one piece of each vegetable in each form per student.

## Teacher's background notes

- Students will learn about different ways of preparing vegetables. Out of habit, people usually eat the same vegetables because they know how to prepare them. They know what recipe to use and they know where to find/purchase the vegetables. However, if we ever want to try something different and discover new textures and flavours, there is a great variety of vegetables to eat. Some vegetables are best be consumed raw in a salad or in a sandwich – lettuce, radishes, cucumber, avocado, etc. Others (asparagus, celeriac, eggplant, etc) can best be consumed cooked and there are different cooking methods to choose from (e.g. boiling, steaming, roasting, blanching, frying etc.). Furthermore, some vegetables such as carrot, cauliflower, celery, onion, tomato, fennel, can be eaten either raw or cooked. It usually depends on a person's taste preferences but these are heavily determined by habits, traditions and cultural background.
- Through a class experiment, students will discover that the taste of a vegetable changes depending on preparation method or cooking time. There are different methods to cook vegetables and people choose a method based on the recipe they want to cook. The cooking method will change the vegetable's taste and texture so that it fits with the whole dish.
- This lesson is most informative if the microwave cooking occurs with students present. If a microwave is not available in the classroom, arrange for someone to microwave the vegetables and deliver them to the classroom just prior to lesson.

## Suggested activities / Lesson steps



### EXPLAIN – COOKING TECHNIQUES

- Conduct a discussion to explain how cooking techniques and the application of heat are used to prepare vegetables for eating.

#### Include in the discussion:

#### Suggested set up

Class discussion

#### Additional resources

PowerPoint slides, lesson 3, slides 46-47

- Can you consume all vegetables raw?
- Name vegetables that you can best consume raw and others that you can best consume cooked.
- What methods can you name to prepare /cook vegetables? Think of one versatile vegetable (potato, tomato, carrot) to explore more methods.
- Use PowerPoint slide 47 to discuss cooking techniques.
- What do you think happens when you apply heat to a vegetable? How does it affect the taste and the texture?
- Consider carrot, onion or cauliflower. You can eat them both raw and cooked. How many of you prefer it raw? How many of you prefer it cooked?
- What can influence your liking of a food? Do you think you can change your mind? How?
- Do you think habits, tradition and cultural background can have something to do with what you like? How?



## ELABORATE – A MINI EXPERIMENT

- Inform students that they will be given the opportunity to taste and evaluate two pieces of cauliflower – one raw and one cooked, then two pieces of green bean – one raw and one cooked.
- Invite the class to a room with a microwave. You may be able to move one into the classroom.
- Divide the class in groups and provide each student with two copies of student worksheet 2, 'Tasting sheet', one for displaying the cauliflower and one for displaying the beans.
- Prepare the first vegetable.
- Use the frozen version of cauliflower and cook covered in the microwave for three minutes. If using fresh vegetables, add a small amount of water first.
- Using tongs, distribute one piece of the raw and cooked vegetable to each student. Students should place the pieces of vegetables on the appropriate section of one of their worksheets.
- Taste and evaluate, using the process for a tasting evaluation in Lesson 2 – look, smell, taste, hear, feel.
  - When all students have the two pieces of vegetable on their sheet, they can do a tasting evaluation on each one of them. Ask the groups to discuss the appearance/smell/taste/texture of each piece and to record the descriptive terms they produce on their worksheets. They can also record changes that happen with the cooking process.
  - Ask students to draw a smiley face on their worksheet below the piece they preferred.
- As a class, review and record the group's descriptive terms in the word bank in the class record and discuss the changes that happened with the cooking process.
- Tally the preference results using the smiley face records on student worksheet 2, 'Tasting sheet', for the first vegetable, cauliflower (raw and cooked). Ask the students to raise their hands to indicate their preference and record the results in the class record.
- Repeat for second vegetable, beans (raw and cooked).
- Explain that the students are going to organise the data you recorded in the class record to create a bar graph in their science journal. Review the component parts of a graph and direct the students to make this graph.
- Conclude the lesson with a class reflection and the class results.

### Suggested set up

Class discussion

### Additional resources

Vegetables

Microwave

Student worksheet 2  
'Tasting sheet'  
– two per student

Class record

### Additional resources

Activity 1  
Student worksheet 3,  
'I know even more about vegetables'

Activity 2  
Veggycation website  
(© Hort Innovation)

## EXTENSION ACTIVITIES

### Activity 1

Individual activity: Student worksheet 3. Crossword 'I know even more about vegetables'.

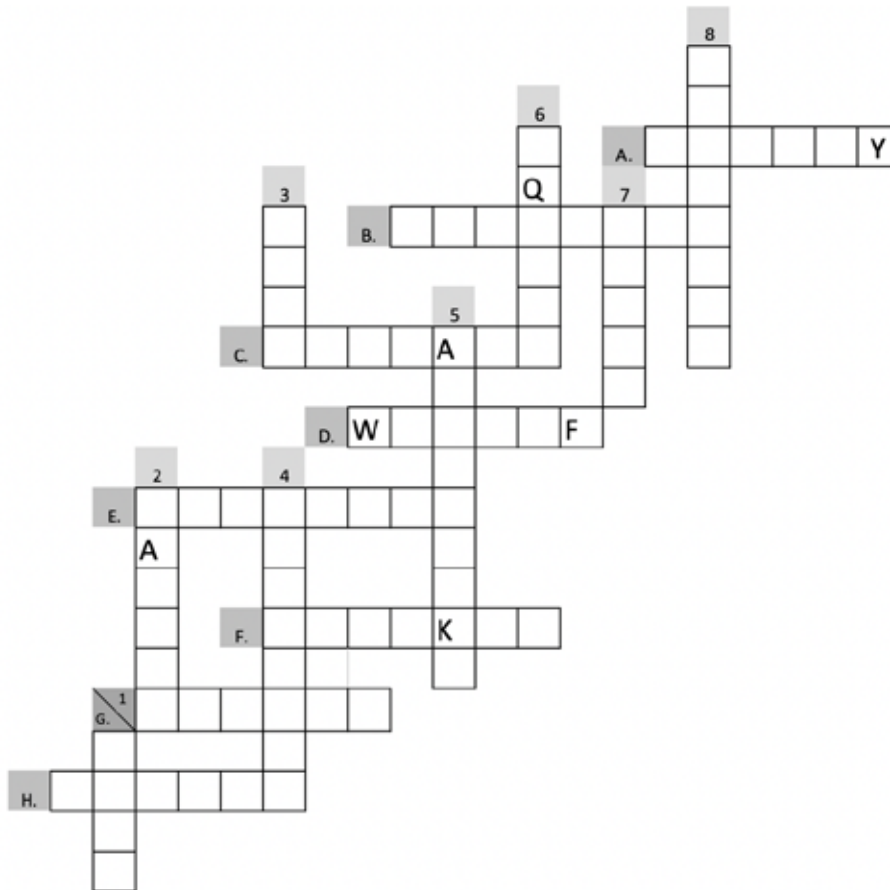
### Activity 2

Individual, group or homework activity: students use Veggycation website ([www.veggycation.com.au](http://www.veggycation.com.au)). Choose two vegetables that you currently do not like or are not your favourites. Use the website to find out how they can be cooked. Are there forms that you have not tried yet?



## Student worksheet 3

# I know even more about vegetables



### Horizontal

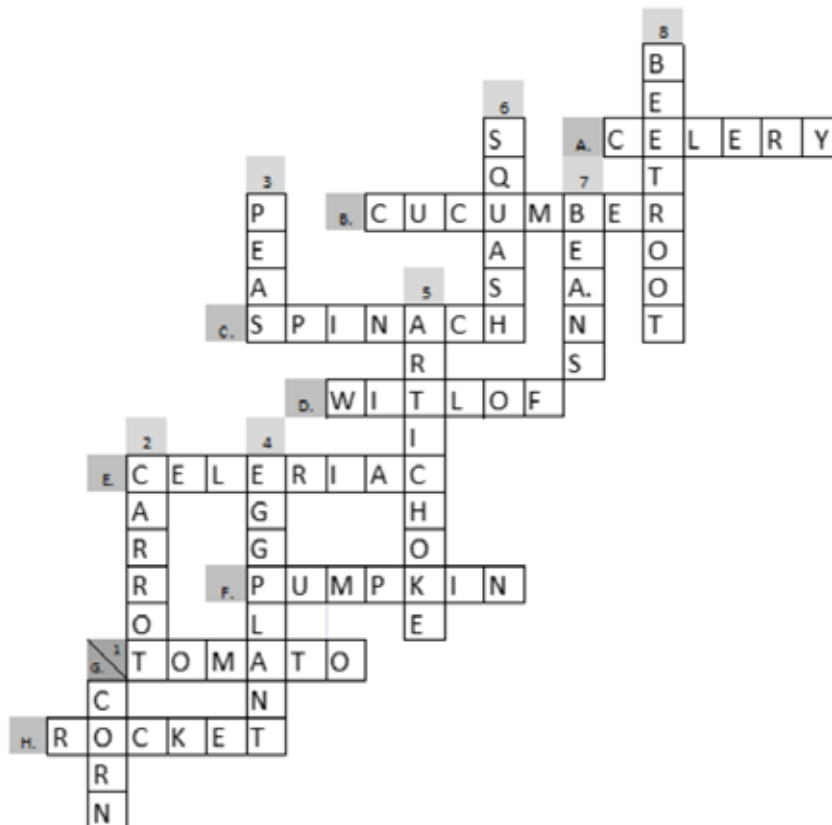
- A.** I am crunchy to eat. I have a slight green colour. People like to eat my stalk with dips, peanut butter or soy sauce.
- B.** Cool as a ...
- C.** I am Popeye the Sailor man's favourite food.
- D.** I grow underground in cold climates (Belgium for example). I am quite bitter. People eat my leaves cooked or in salads.
- E.** I am a variety of **A**, cultivated for my root.
- F.** I taste sweet. I always come around Halloween.
- G.** I am technically a fruit. I need plenty of sunshine to ripen. I taste sweet and sour and contain lots of juice. Most often I am red but I can also be orange, black or yellow.
- H.** I have green leaves and a peppery taste. I can't fly although my name suggest I can.

### Vertical

- 1.** I taste sweet. People like to eat me once I have popped.
- 2.** I can be sweet and orange at the same time.
- 3.** I am sweet. My brothers and I share a pod.
- 4.** I am technically a fruit. My skin is purple. I need to be cooked to be eaten. My parents are nothing like chickens although my name suggests it.
- 5.** We eat my petals and my heart. I have a friend in Israel.
- 6.** My name also refers to a fast-paced racket sport.
- 7.** They have spilled the ...
- 8.** I grow underground. My flesh is purple. I need to be cooked. In Australia, I am added to salads, sandwiches and even burgers.

## Student worksheet 3 - Answer sheet

# I know even more about vegetables



### Horizontal

- A.** I am crunchy to eat. I have a slight green colour. People like to eat my stalk with dips, peanut butter or soy sauce.
- B.** Cool as a ...
- C.** I am Popeye the Sailor man's favourite food.
- D.** I grow underground in cold climates (Belgium for example). I am quite bitter. People eat my leaves cooked or in salads.
- E.** I am a variety of **A**, cultivated for my root.
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### Vertical

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- 2.** I can be sweet and orange at the same time.
- 3.** I am sweet. My brothers and I share a pod.
- 4.** I am technically a fruit. My skin is purple. I need to be cooked to be eaten. My parents are nothing like chickens although my name suggests it.
- 5.** We eat my petals and my heart. I have a friend in Israel.
- 6.** My name also refers to a fast-paced racket sport.
- 7.** They have spilled the ...
- 8.** I grow underground. My flesh is purple. I need to be cooked. In Australia, I am added to salads, sandwiches and even burgers.



# Lesson 4: Perfectly imperfect vegetables

## Lesson outline

### STUDENTS

- Understand how expectations and visual cues can affect our food choices and willingness to try different foods.
- Become aware of food wastage and its relation to food appearance.
- Write persuasive dot points to convince someone to try an imperfect vegetable.

### EXTENSION ACTIVITIES

- Students can differentiate between poor quality and odd appearance.

## Materials

### FOR THE CLASS

- PowerPoint slides, lesson 4, slides 48–56.
- One vegetable that looks perfect and its imperfect looking version (show whole first, then one piece of each for each student for tasting).
- Knife, cutting board, containers with lids.
- YouTube/internet set up.
- Class record.

### FOR EACH GROUP/STUDENT

- Science journal.

## VEGETABLES

### Description

One vegetable that can be found in its perfect looking and imperfect looking version. Some larger supermarket chains have specific ranges with imperfect looking vegetables and fruits, you can also try sourcing the vegetables at the markets.

### Suggestions

Tomato

### Alternatives

Depending on seasonality, alternative imperfect vegetables can be found at retail outlets (carrot, capsicum, zucchini, avocado, eggplant). Any option available from a garden or a market.



## Preparation



- Source a vegetable that you can find both in its perfect and imperfect looking form. The vegetable should have an 'odd' shape but no quality defects, such as browning or rot. Taste the imperfect and perfect vegetables to ensure that they have similar taste and texture.
- As you will need to show the class the whole vegetable looking perfect and the whole vegetable looking imperfect, keep a whole vegetable of each type.

- You will also need one piece of each vegetable (perfect and imperfect) for students to taste. Wash/cut up/store the vegetables (see 5.2 How to safely prepare vegetables, Taste & Learn™, general information for teachers and schools, page 18). Prepare at least one piece of each vegetable per student. If you only have one imperfect vegetable, keep it whole and prepare it in class after showing it to the students.

## Teacher's background notes

- The objective of this lesson is to pay attention to the in-mouth properties (taste, flavour and texture) and the appearance characteristics of vegetables, and to know what each property does and does not tell us about the eating quality of vegetables.
- We want students to understand that appearance is an important attribute when choosing a vegetable as it gives some indication of how mature and safe it is to eat. Characteristics such as 'shape' are not related to taste. Students should be encouraged to eat vegetables, whatever their shape.
- When looking at a vegetable, colour, size and shape leave you clues as to what it is. We often form expectations about the taste based on previous experiences.
- When looking at a vegetable, you can usually tell if it is good or bad quality for eating. You can spot signs of spoilage (mould, dark marks, bruises, soft flesh) that tells you the vegetable should not be eaten. You can also see the maturity of some vegetables or fruits, e.g: wrinkles on an old apple and black marks on an overripe banana. This indicates that the product is mature enough to eat but not too mature. These characteristics are important to take into account so that we do not risk getting sick or eat a vegetable that does not taste good.
- However, there are certain characteristics that do not influence safety or taste such as the size and shape. Some vegetables have funny shapes, some are gigantic, and some are very small. It may slightly influence the taste but it usually does not.
- Students should be aware of food wastage. One reason for vegetable wastage is that consumers want perfect looking vegetables whereas, in reality, the imperfect ones do not necessarily taste different.
- Students' understanding of the Unit will be evaluated with an individual activity – the writing of a persuasive text consisting of three to four dot points to convince someone to try imperfect or misshapen vegetables.

## Suggested activities / Lesson steps



### Suggested set up

Class discussion

### ELABORATE – COMPARING PERFECT AND IMPERFECT VEGETABLES

- Introduce the lesson with PowerPoint slide 48, 'Perfectly imperfect vegetables'. Ask the students to give their interpretations of what the title could mean.
- Display PowerPoint Slide 49 and pose the question, 'Which of these vegetables would you eat and which would you not? Why?'
- Conduct a discussion about how appearance guides our expectations and how this can be helpful (e.g. avoiding moulds) or misleading (e.g. avoiding something simply because it looks different). Ensure that students understand the difference between misshapen/ugly in appearance and poor quality (e.g. browning, rot, mouldy, etc.).
- Display PowerPoint slide 50 and explain that the students will watch a video about the actions of one French supermarket chain. Ask the students to focus on what message the video aims to depict. Watch the video, "French supermarket celebrates the uglier side of fruit and veg" (2:30 min) at: <http://www.dailymail.co.uk/femail/food/article-2693000/Forget-ugli-fruit-meet-ugly-fruit-bowl-French-supermarket-introduces-lumpy-misshapen-fruit-vegetables-sold-30-discount-combat-food-waste.html>. You will need to scroll down the article to find the video.
- Conduct a discussion about what messages the video aims to depict.

### Additional resources

PowerPoint slides, lesson 4, slides 48-50

Video (the uglier side of fruit and veg)

One vegetable type (perfect and imperfect form)

### You might include in the discussion:

- The health promotion to eat five fruits and vegetables each day.
  - That a huge amount of food is thrown away because the appearance is not 'perfect'.
  - That the imperfect products are usually as good as perfect product, but cheaper.
  - That we need to increase awareness about food waste.
  - That a campaign can get people talking about the problem and solutions.
  - That a 'Glorious fight against food waste' can work!
- Present to the class the 'imperfect, perfect' vegetable pair that you have selected.

### Ask them to:

- Describe the appearance of both vegetables.
  - Say what they expect the vegetables will taste like (write the descriptors in the class record).
  - Express an opinion about whether they are willing to try each vegetable.
- Direct the students to wash their hands and come to a sharing area, such as a sharing circle, to taste and compare the two vegetable pieces. Using tongs, serve a piece of each vegetable to the students and guide them to use the formal protocol for tasting evaluation – look, smell, taste, hear, feel.

### Ask them to:

- Describe and compare the appearance of the two pieces of vegetable.
  - Describe and compare the smell of the two pieces of vegetables.
  - Put the first vegetable piece into their mouth and describe what they feel and taste.
  - Put the second vegetable piece into their mouth and describe what they feel and taste.
  - Compare the two vegetables on taste and texture
- Ask the students to look at their comparisons of the two vegetables and consider whether their experience was a surprise to them or not. Record the descriptors they use in the class record.
  - Conclude the activity with a request for comments on whether a campaign to promote imperfect fruit and vegetables is a credible way to fight food waste.



### Suggested set up

Class discussion, individual work

### Additional resources

PowerPoint slides, lesson 4, slide 51

## EVALUATE – PERSUASIVE TEXT – EAT WEIRD FRUITS AND VEGETABLES!

- Explain that the students are going to support a campaign to promote imperfect fruits and vegetables. They will write a persuasive text, in dot point form, with the primary purpose of putting forward a point of view to persuade readers that imperfect fruit and vegetables are as good as their 'perfect' counterparts. Remind them that the primary purpose of a persuasive text is to put forward a point of view and persuade a reader to accept that view.
- Display PowerPoint slide 51, 'Write a persuasive dot point text to champion one 'ugly' vegetable'. Conduct a discussion focussing the students on the intent of the persuasive dot point text – to convince readers to try the chosen imperfect vegetable. Discuss the persuasive text format and ask the students to brainstorm ideas for you to record in the class record. Aim for something similar to the following:
  - An initial statement putting forward a point of view (a clear, initial statement that imperfect vegetables are as valuable as perfect ones)
  - Supporting dot point arguments and ideas:
    - People are encouraged to eat five fruit and vegetables per day for health and enjoyment reasons.

# 4

- It is ethically illogical that a vast amount of good food is needlessly thrown away and wasted.
  - Imperfect fruit and vegetables are just as good, but cheaper than perfect ones.
  - Appearance is deceptive – the imperfect vegetables are just as delicious as the perfect ones, the imperfect are just as nutritious as the perfect.
  - It is environmentally damaging to transport perfect vegetables over vast distances when they are out of season in some areas.
  - As people's preferences can change through trying a little, eating what is seasonally available, perfect or not, is logical.
  - Imperfect vegetables respond to different culinary practices as well as the perfect.
  - A conclusion restating the initial statement.
- Ask the students to use their science journal to write a three to four dot point persuasive text using the format and ideas recorded in the Class record and any others they wish to add.
  - Conduct a concluding discussion with students sharing their persuasive dot point texts.

## Additional resources

PowerPoint slides, lesson 4, slides 52-56

## EXTENSION ACTIVITY

### Activity 1 – Whole class activity, recognising quality:

Using PowerPoint slides, 52 – 56, ask the students to sort which vegetable/fruit are:

- Poor quality, and they should not eat.
- Good quality, but odd shape, and they are perfectly fine to eat.

# Lesson 5: MasterChef® in class: the salad

## Lesson outline

### STUDENTS

- Prepare a mixed salad that is appealing and nutritious.
- Critically appraise the food they eat.
- Enjoy eating a meal together.

### EXTENSION ACTIVITY

- Compile and graph a class record on the number and type of vegetables consumed.

## Materials

### FOR THE CLASS

- PowerPoint slides, lesson 5, slides 57–64.
- A salad bar with around five salad vegetables, two sources of protein, two salad dressings, some condiments, some herbs and bread.
- Tongs, bowls and paper towel for the presentation of salad items.
- Class record with sub headings.

### FOR EACH GROUP/STUDENT

- One paper plate.
- One spoon or fork.
- Micro herbs (from lesson 2).
- Clean scissors.

### EXTENSION ACTIVITIES

- PowerPoint slides, lesson 5, slide 65.
- Australian Nutritional Guidelines website.

5

## VEGETABLES AND OTHER INGREDIENTS

### Description vegetables

Five different vegetables that can be consumed in a salad. Choose vegetables that together have variety in colours, shapes/forms, flavours and textures

### Suggestions

Beetroot (canned or pre-packaged)  
Corn (canned)  
Red capsicum (sliced)  
Baby spinach  
Rocket

### Alternatives

Lettuce, carrot (grated), cucumber, tomato, mushroom, radish, cabbage, fennel, asparagus, red cabbage, avocado, celery.



### Description other ingredients

Two sources of protein: tuna (canned), cheese (cubed), ham (cubed), chicken pieces (from roasted or poached)  
Two different dressings: mix of two different oils (olive, canola, grape seed, macadamia, avocado etc.) with two different vinegars (red wine, white wine, apple cider, balsamic, lemon juice)  
Micro herbs (planted in lesson 2)  
Various condiments: e.g. herbs (parsley, basil, coriander etc), seeds, olives, capers, spices, mustard  
Bread: wholegrain

## Preparation



This lesson is hands-on. You may like to ask for help from a parent or teachers' assistant.

We suggest conducting this lesson just before lunch so that the prepared mixed salad can be eaten as a shared meal at lunch time. The session will aim to provide children with a balanced meal with vegetables, proteins and bread. Advise parents that they do not need to provide lunch on that day.

### SALAD BAR PREPARATION

- Decide where to hold the lunch, whether in the classroom or different eating space. There needs to be enough space for the students to move around to prepare the salad and to accommodate a large table for the salad bar buffet. If a sit down meal is decided upon, enough tables and chairs will be needed for the students.
- Wash/cut up/store a selection of five salad vegetables in individual containers (see 5.2 How to safely prepare vegetables, Taste & Learn™, general information for teachers and schools, page 18).
- As the idea is to offer a wide variety of colours, shapes, tastes and textures, students will each choose two to three vegetables for their salad. This will ensure that they do not all end up with the same salads.
- Choose two sources of protein that are easy to prepare and that go well in a salad (e.g. canned tuna, dices of ham, egg or pieces of cheese). Prepare and store these in individual lidded containers. Store in the refrigerator until required for use.
- Prepare two different dressings in serving bowls. Label these, then cover and store in the refrigerator until required for use. You may use any suitable oils, vinegars or condiments available. For example, to make two different dressings, you can change the oil (olive, canola, grape seed, macadamia, avocado oil etc.) or the vinegar (red wine, white wine, apple cider, balsamic, lemon juice). Again, the idea is to expose the students to different flavours.
- Prepare some other additions such as seeds, olives, capers, spices and mustard. The aim is to provide students with an opportunity to try different things and create different, appetizing salad ideas.
- The students will harvest their micro herbs from lesson 2 and add these to the salad bar.
- Cater for at least one slice of bread per student.
- When the class is ready to prepare the salads, remove the foods from the refrigerator and present as a salad bar on easily accessible tables.
- Prepare the class record with relevant judging sub headings such as, 'look, smell, taste/ flavour, sound, feel'.

5

### Teacher's background notes

- This lesson will provide teachers with information to assess student achievement of the specific objectives for this Unit. Teachers may collect evidence of increased:
  - Knowledge and familiarity with less common vegetables.
  - Knowledge about growing and preparing vegetables.
  - Awareness of cultural diversity in food and vegetable preferences.
  - Knowledge concerning how food preparation affects vegetable sensory characteristics.
  - Understand of how appearance influences food choices.
  - Inclination to try culturally diverse vegetables.

- One purpose of this lesson is to give students the opportunity to create and share a meal with their classmates and understand that a meal can be a time of enjoyment and conviviality where you can share food with others.
- Students will be given the opportunity to experience different ways to eat vegetables (in salads), to prepare a nutritious salad by combining foods in the way they think will look and taste great, to critically appraise the appearance, smell and texture of the foods they are going to eat and to pay attention to appearance, taste and texture of foods when eating. They will have an opportunity to reinforce their individual preferences.
- Ideally, student will realise that:
  - Creating and eating a salad is fun once one starts mixing colours, flavours and shapes.
  - They can add a variety of foods of their own choice.
  - Usually, if they try to make an attractive salad by mixing colours and shapes, then it looks appetizing and the experience in-mouth is great.



## Suggested activities / Lesson steps

### EVALUATE – PREPARE TO BE MASTERCHEFS®

- Ask for a show of hands of the students who are familiar with the show, ‘MasterChef®’. Conduct a discussion about what judges do and the judging criteria that they, as chefs, could use to determine if a dish is tasty or not. Ask them to recall the formal protocol they have used for a tasting evaluation in Lessons 2, 3 and 4, reminding them that it involves their senses.
- Re-form the students into the micro herb planting groups from lesson 2 (as they will be harvesting their herbs in this lesson). Set them the task of recording some judging criteria that they can use to determine if a dish is tasty or not.
- Recall the groups and draw their attention to the subheadings you have written in the class record – judging criteria; – look, smell, taste, sound, feel. Ask each group to share some of the criteria they have written and record their ideas under the relevant sub headings.

#### Guide the discussion to produce judging criteria similar to the formal protocol for tasting evaluation:

- Look at the food to notice what your eyes perceive – size, shape, colour, surface texture etc.
- Smell the food to notice what you nose perceives – sweet, ripe, minty etc.
- Taste a small amount and notice what you perceive in your mouth – taste, flavour, temperature, texture, spiciness etc.
- Hear, listen to the sound when you bite.
- Mouth feel – mushy, hard etc.

- Using PowerPoint slide 58, pose the question, ‘Can you name dishes/recipes where vegetables are the main ingredient? Reveal the four categories, dips, soups, mashes and salads.
- Explain that salad type dishes have been made since the times of the ancient Romans and Greeks. Using PowerPoint slide 59 to stimulate discussion, ask the students to describe their favourite salad. Include in the discussion elements such as the less common vegetables, how the appearance influences our choice of favourites, differing sensory characteristics resulting from different preparation methods and the cultural diversity in salads – e.g. Greek salad (Greece), coleslaw (United States of America), Caesar salad (Italy), feta salad (Greece), Chef salad and Waldorf salad (United States of America), antipasto (Italy), Gado gado (Indonesia), Kosambari (India), Mesclun salad and Nicoise salad (France), and many variants of bean, rice, macaroni, potato, chicken, ham and egg salads.

#### Suggested set up

Class discussion

#### Additional resources

PowerPoint slides, lesson 5, slides, 57 - 59

Class journal





### Suggested set up

Groups

### Additional resources

PowerPoint slides, lesson 5, slides 60-64

Salad bar items

Scissors

5

## CREATE YOUR OWN SALAD

- Explain to the students that they are going to create their own salads. Then they are going to act as chefs to evaluate the salads made by themselves and others.
- Pose the question, 'Which types of things can we use to make a salad?' Using PowerPoint slides 60 and 61 to discuss these – various vegetables, dressings, proteins, grain and legume products and micro herbs.
- Use PowerPoint slide 62 to discuss micro herbs. Ask the students to name as many herbs as they can think of, e.g. basil, chives, lemon grass, thyme, parsley, sage, dill, coriander... and comment on the less common herbs they name, such as borage and sorrel.
- Ask the students to re-form the micro herb groups from Lesson 2, wash their hands and a pair of scissors, collect their micro herbs and harvest a taste of each herb with the clean scissors. Discuss the tastes. Do they taste like the fully-grown version? Is the taste stronger? Weaker? Ask the groups to fully harvest their micro herbs with the scissors and add them to the relevant bowls (herb types) on the salad bar.
- Explain that the salad bar has vegetables, dressings, the micro herbs, sources of protein, bread and some additional items such as seeds, olives, capers, spices and mustard. Display PowerPoint slide 63, 'How to prepare vegetables for a salad? – Safety rules' and address the safety rules of vegetable preparation. Use PowerPoint slide 64 to discuss ways vegetables can be cut for salads.
- Remind the students that their salad will be judged using the judging criteria recorded in the Class record, so they need to consider using a variety of colours, shapes, tastes and textures.
- Ask the students to queue at the salad bar and create a salad to eat. Explain that their salad should contain 2/3 vegetables, one source of protein, some dressing, one or two herbs and one or two additional items such as seeds, olives, capers, spices and mustard. Ask students to pay attention to the foods they choose and how it looks in the bowl. Does it look appetizing? Do they think they will enjoy the taste?
- Invite students to take a piece of bread to eat with their salad as this will add to the eating of a balanced meal.
- Optional. Take a photo of each salad to create an exhibition/contest for the most appealing salad.



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MEAL TIME

### Suggested set up

Class

discussion

## BE A MASTERCHEF® JUDGE!

- Invite approximately three to four students to volunteer to present their salad for evaluation by their classmates (as in MasterChef®).
- Re-form the micro herb groups from Lesson 2 and ask the groups of students to act as MasterChef® judges using the judging criteria recorded in the Class Record. No double dipping of forks. Ask them to record what they like and do not like about each salad.
- Ask the groups to nominate their chosen winning salad and justify their choice with reference to the judging criteria, 'look, smell, taste/flavour, sound, feel'.
- Once evaluations are completed, everyone in the class can start eating and enjoying their salad meal together. Volunteers can make another salad to eat.
- Congratulate all the students on their salad creations, explicitly referring to the protocol of tasting, when you note what you thought was well done.

**Additional resources**

Activity 1  
PowerPoint slides, lesson 5, slide 65

**Additional resources**

Activity 2  
Australian Nutrition Guidelines website

**EXTENSION ACTIVITIES – RECOMMENDED NUMBER OF SERVES**

**Activity 1**

Display PowerPoint slide 65, 'How big should my salad be?' and discuss portion sizes relevant to lunch and dinner times. Ask the students to create a table to record the type and quantity of vegetables (number of portions) they have eaten in the past three days.

**Activity 2**

Open the website, (<https://www.eatforhealth.gov.au/food-essentials/how-much-do-we-need-each-day/recommended-number-serves-children-adolescents-and>) that displays Australian nutritional guidelines. Discuss the information.

**Activity 3**

Ask the students to convert their table data to a graph and compare their intake to the Australian nutritional guidelines.

# Appendix A: Unit 2 PowerPoint slides



Slide 1

# **Lesson 1:**

## **Discover vegetables through the senses**

Slide 2

**Artichoke**



Slide 3

## Asparagus



Slide 4

## Broccolini



Slide 5

**Brussels sprouts**



Slide 6

**Cabbage**



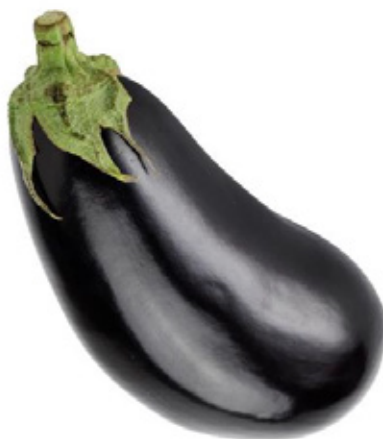
Slide 7

## Celeriac



Slide 8

## Eggplant



Slide 9

## Kale



Slide 10

## Leek



Slide 11



## Okra



Slide 12

## Parsnip



Slide 13

# Radish



Slide 14

# Red cabbage



Slide 15

## Rocket



Slide 16

## Snow peas



Slide 17

## Turnip or Swede



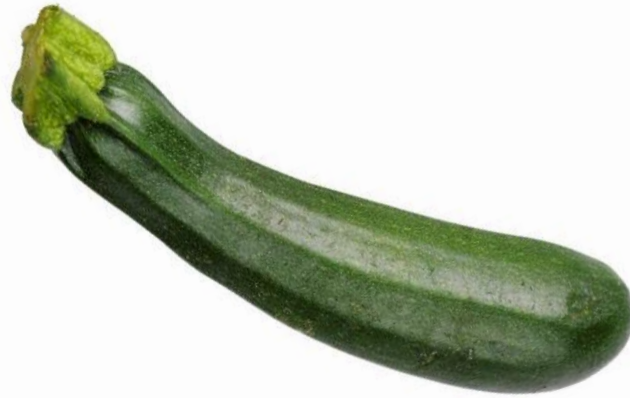
Slide 18

## Witlof



Slide 19

## Zucchini



Slide 20

**Do you know how people eat  
vegetables around the world?**

Slide 21

# Cauliflower



Cauliflower gratin with white sauce and cheese on top.



Pickled cauliflower



Cauliflower cream soup



Cauliflower massala with green peas, spices and herbs.

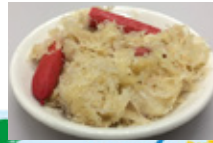


Slide 22

# Cabbage



Sauerkraut: fermented cabbage with sausages and potatoes.



Kimchi: fermented cabbage with chillies



Coleslaw: cabbage and carrot salad with creamy dressing.



Okonomiyaki: egg omelette with cabbage



Slide 23

## Extension activity

Match the vegetable with the recipe and country of origin

Slide 24

### Raita



- Is a dip from **India**

- What is the vegetable used in this dish?



Cucumber

Slide 25



## Kimchi



- Is a dish from **Korea**
- What is the vegetable used in this dish?



Slide 26

## Tzatziki



- Is a dip from **Greece**
- What is the vegetable used in this dish?



**Cucumber**

Slide 27

## Bruschetta



- Is an appetizer from **Italy**
- What is the vegetable used in this dish?



**Tomatoes**

Slide 28

## Borscht



- Is a soup from **Russia**
- What is the vegetable used in this dish?



**Beetroot**

Slide 29

## Gozleme



- Is a dish from **Turkey**
- What is the vegetable used in this dish?



**Spinach**

Slide 30

## Guacamole



- Is a dip from **Mexico**
- What is the vegetable used in this dish?



**Avocado**

Slide 31

## Massaman curry



- Is a dish from **Thailand**
- What is the vegetable used in this dish?



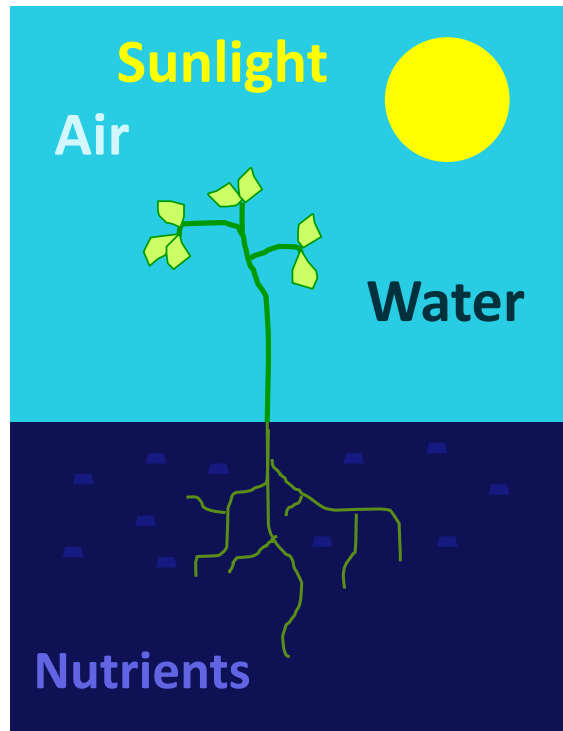
Sweet potato

Slide 32

## Lesson 2: Vegetables grow in different climates

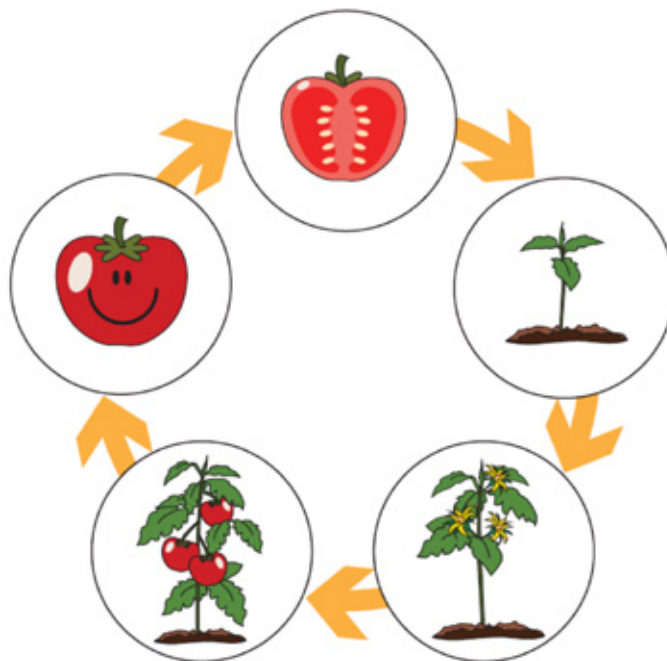
Slide 33

## What does a plant need to grow ?



Slide 34

## The example of the tomato life cycle



Slide 35

## Growing your mini herbs



Starter pack



Sprinkle the seeds and push them lightly into the soil



Spray water and regularly repeat



After 1 week



After 2 weeks = ready for harvest

Slide 36

## Let's see the Australian climates



Slide 37



**Browse through the different climates.**

**To find out what you can plant in each area at different times of the year, click [here](#).**

Slide 38

**Did you find where you can grow  
Sweet potato?**



**Sweet potato needs  
a hot climate!**

Slide 39



**Did you find where you can grow  
English spinach?**



**English spinach needs  
a cooler climate!**

Slide 40

**Did you find where you can grow  
Carrot?**



**Carrots are grown in different  
climates depending on the season**

Slide 41

# There is a science called Agronomy It is the science of growing plants

'Agronomists' have developed many ways to grow vegetables so that we can eat them any time of the year.

Greenhouses to maximize sunlight.



Irrigation systems to bring water to the plants.



Fertilizers to improve the soil quality



Slide 42

## A science for the consumer

'Agronomists' are quite inventive and have created novel products to avoid preparation time and storage problems.

They have created:

Mini versions of vegetables



Single clove garlic



Mini, no pip avocados



Easy to store and prepare square watermelons



Slide 43

## Hybrids

They also tried to produce 'hybrids', mixing two vegetables that together could give a nice combination of tastes and/or textures.



**Brocolini**  
Gai Lan x Broccoli



**Broccoflower**  
Broccoli x Cauliflower



**Rabbage**  
Radish x Cabbage

Slide 44

## Be an Agronomist

**Your group's task - to invent your own hybrid of two vegetables**

**Here are some ideas:**

Hybrids of two vegetables that you think the taste will go well together

- Vegetable 1 because you like the *taste*, vegetable 2 because you like the *texture*
- Vegetable 1 because you like the *taste*, vegetable 2 because you like the *shape*.
- Vegetable 1 because you like the *texture*, vegetable 2 because you like the *colour*.







**Describe it, draw it and give it a name!**

Slide 45

# Lesson 3: Preparing vegetables – a science experiment

Slide 46

## Vegetable cooking and preparation techniques

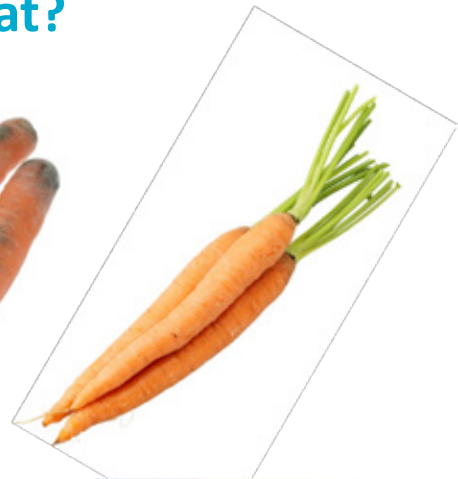
	Method	Principle – how it works	Advantages/ Disadvantage	Examples of vegetables it can be applied to
	Steaming	Uses the water vapour to cook the vegetables	Short cooking time, retention of nutrients and colour	Most vegetables except cucumber, capsicum, okra, tomato...
	Stir-frying	Uses high contact heat through a pan or wok with a small quantity of oil to cook the vegetables	Short cooking time, retention of bright colours, nutrients and crunch	Most vegetables in particular broccoli, cauliflower, Asian vegetables ...
	Oven-baking	Uses hot air and a small quantity of oil to cook vegetables	Tenderise vegetables while making available energy (starchy vegetables). Caramelisation	Root vegetables, sweet potatoes, pumpkin...
	Boiling	Uses a large amount of boiling water to cook vegetables	Loss of nutrients and texture	Carrots, swedes, corn, sweet potato
	Microwaving	Uses microwaves to heat the water inside the vegetables	Not much evidence on the benefits of using microwave on vegetables	Carrots, cauliflower, celeriac, fennel, kale, leek, peas, parsnip pumpkin, swede, corn, sweet potato...
	BBQing	Uses direct heat from fire/coal to cook vegetables	Maintain crunchiness. Gives a smoky flavour	Asparagus, capsicum, cauliflower, eggplant, tomato...

Slide 47

# Lesson 4: Perfectly imperfect vegetables

Slide 48

Which of those would you eat?



Slide 49



EAT  
FIVE  
A DAY

# WEIRD FRUITS & VEGETABLES

Intermarché's  
ugly and  
bumpy  
vegetables  
to grow a fight  
against  
food waste



INGLORIOUS  
fruits&vegetables

by Intermarché

Source: Intermarché

Poster (1 of 7) from  
Intermarché, the third  
largest supermarket  
chain in France

Intermarché launched a  
campaign called:  
'Inglorious Fruits and Vegetables'

Slide 50

Write a persuasive dot point text to  
champion an 'ugly' vegetable.

## THE UGLY CARROT

BY  
A  
BOUR  
WHO  
CARETS



INGLORIOUS  
fruits&vegetables

Intermarché

## THE DISFIGURED EGGPLANT

SO  
CHEAP  
IT  
COULD  
BE  
EVEN  
MORE  
DISFIGURED.



INGLORIOUS  
fruits&vegetables

Intermarché

## A GROTESQUE APPLE

A  
DAY  
TURNS  
THE  
DOCTOR  
AWAY  
AT  
WELL.



INGLORIOUS  
fruits&vegetables

Intermarché

## THE FAILED LEMON

FROM  
POLYMER  
OR  
LEMON.



INGLORIOUS  
fruits&vegetables

Intermarché

## A HIDEOUS ORANGE

MAKES  
MUCH  
BETTER  
JUICE.



INGLORIOUS  
fruits&vegetables

Intermarché

## THE RIDICULOUS POTATO

ELECTRO  
MAGIC  
WILL  
IMPROVE  
POCAHO  
POT.



INGLORIOUS  
fruits&vegetables

Intermarché

Source: Intermarché

Slide 51

## Which ones could you safely eat?



Slide 52

## Which ones could you safely eat?



Slide 53



Which one could you safely eat?



Slide 54

Which ones could you safely eat?



Slide 55

**Which ones could you safely eat?**



Slide 56

## **Lesson 5: Masterchef in class: The salad**

Slide 57

## In what recipes are vegetables the main ingredient?



Slide 58

## Can you describe your favourite salad?



Slide 59

## What are the elements that compose a salad?

### Vegetables



### Dressing



You can also add pasta, rice, legumes, ham, cheese, tuna, eggs...

Slide 60

## What vegetables can you put in a salad?



Slide 61



## Micro herbs

Herbs are a fun and excellent way to enhance the appearance, taste, texture and nutritional value of a salad



Micro herbs 2 weeks after planting: Ready to harvest

Slide 62

## How to prepare vegetables for a salad? Safety rules



Start by **washing your hands**



**Remove** any bruised, skin, **damaged** or **non-edible parts**.  
**Wash the vegetables** under running tap water to remove any traces of soil.



**Use** a clean and dedicated **cutting board** to place the vegetables on. **Use appropriate knives**. Be careful and do not injure yourself. Then, **cut them up** in the shape that you want.



**Assemble** the salad in a bowl.  
Keep covered in the fridge until use.

Slide 63

## How to cut up vegetables for a salad

Here are some examples...

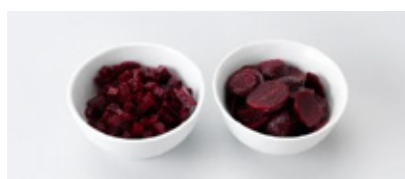
*Carrots* can be shredded, sliced or in julienne.



*Cucumber* can be sliced or diced



*Beetroot* can be sliced, served whole, diced or shredded.



But... There are many possibilities to cut up each vegetable - the texture will vary depending on what you choose. You can even be creative and cut them in any shape that you like...

Slide 64

## How big should my salad be?

If you only eat a small portion to accompany your meal at lunch:

→ 1 portion of vegetables

Fresh vegetables (leafy)



=

One cup (one portion)



If you eat it as a whole meal for dinner:

→ 2-3 portions of vegetables

Cooked, frozen, canned vegetables or other fresh vegetables



=

Half a cup (one portion)



Vegetable juice



=

Half a cup (one portion)



Slide 65

# Image credits

Screencraft – cover image

Copperplate Design – page 45 (image on slide 35) page 60 (image on slide 65)

Rob Palmer – pages 7-8 (all vegetable images), 29-38 (all vegetable images), 39-44 (all vegetable images), page 47-48 (all vegetable images), 49 (garlic image), 50 (broccolini image), 52 and 54 (image of tomato, carrot and ‘imperfect’ carrot), 55 (sweet potato image), 56 (image on corn in husk), 58 (images of salad add-ons on slide 60), 59 (images on slide 63), 60 (images on slide 64)

Maeva Broch – page 11, 39 (cauliflower cream soup, cauliflower gratin, pickled cauliflower, coleslaw, sauerkraut, kimchi), 42 (bruschetta), 43 (gozleme), 46 (micro herbs), 49 (baby cucumbers), 55 (purple cauliflower), 56 (spoiled corn), 58 (rainbow of vegetables), 59 (micro herbs)

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