



CHAPTER 10

Flavoursome: Fats and food flavourings

ACCESS PRIOR KNOWLEDGE

- 1 Explain the difference between 'good' fats and 'bad' fats.
- 2 Develop a list of reasons why extra virgin olive oil is better for you.
- 3 Draw a flow chart to show how to make your own butter in your school Home Economics room.
- 4 Is it possible for coriander to be both a herb and a spice? Explain your answer.
- 5 Discuss why sugar and salt are found in so many different food products.

10.1 Starting with fats and oils

The word 'fat' is used commonly to describe both fats and oils, but in fact the correct term for this group is

lipids Substances that are insoluble in water, such as fat and oil.

fats Compounds, usually derived from an animal source, that are solid at room temperature and liquid when heated – for example, butter.

oils Compounds, often derived from a plant source – for example, nuts and seeds – that are liquid at room temperature.

lipids because there are distinct differences between fats and oils. **Fats** are solid at room temperature and usually come from animal sources, whereas **oils** are usually liquid at room temperature and often come from plant sources (seeds and nuts). Lipids play a very important role in food as they contribute to flavour, texture and aroma. For example, the smooth creamy texture chocolate creates

as it melts in your mouth is due to its lipid content.



Fats and oils provide a wonderful mouthfeel and flavour to food items. Imagine eating toast without butter!

History of fats and oils

People have been using the fat from animals in their food preparation and cooking since early hunting and gathering days, about 12 000 years ago. During this period in history, the men would hunt to kill wild animals while the women would gather nuts, fruits and grains for their staple food supply.

butter A dairy product that is produced by churning milk or cream until the fat solidifies and forms a spread.

Butter was discovered by accident. Milk was carried by travellers and was accidentally churned in its container during transport. As a result of the milk being sloshed around, the first butter was produced. The first

margarine was developed by a French chemist in 1869, as there was a butter shortage and the French wanted a product they could give to their soldiers. Today, margarines are generally made from vegetable oils and are designed to be lower in cholesterol, soft and easy to spread straight from the fridge.

Butter was mostly a northern European food. Olive oil was more popular in Mediterranean countries like



Figure 10.1 Oils are liquid at room temperature.



Figure 10.2 Fats are solid at room temperature.

Greece and Italy. It is believed the cultivation of the olive began about 6000 years ago in the Mediterranean region. Olive oil became Greece's major export as far back as 3000 BCE.



The ancient Irish and the Vikings used to

flavour butter with garlic and other herbs, and bury barrels of it in the peat bogs. It would be left there for at least a year and sometimes they would plant a tree over the spot to help them remember where it was.



Figure 10.3 Butter separating from cream in a butter churn.

10.1 ACTIVITY

Make your own butter

Have you ever made your own butter? It is very simple – why not give it a try? Follow these steps and take pictures of each step as you go.

- 1 Pour 600 ml of unthickened cream into a bowl.
- 2 Beat with electric beaters. After some time, you will start to see the cream separate into butter and buttermilk. The butter will cling to the beaters.
- 3 You now need to ‘pat’ the butter together into a ball. Make sure all the buttermilk (the liquid from this process) has been carefully squeezed out or your butter will spoil more quickly.
- 4 You may like to add some salt to taste.
- 5 Complete a taste test, comparing your butter with a commercial variety and also with margarine.
- 6 Copy and complete the table below.

Describe the ...	Homemade butter	Commercial butter	Margarine
Appearance			
Aroma			
Taste			
Texture			

- a Identify which product you preferred. Explain why.
- b Calculate how much it would cost to produce your homemade butter. Use the Coles Online website to help you work out the cost of the cream.
- c Compare your answer with the cost of the commercial butter and margarine.
- d Suggest which product represents the best value for money.
- e Discuss which product is your preferred option and explain why, with reference to both cost and sensory properties.
- f Annotate your pictures to create a digital image recipe flow chart.





Figure 10.4 Most of us have only ever tasted commercially produced butter.



Have you ever eaten bad fish and chips or been to a fish and chip shop that stinks of old fat? This is rancidity, which is when fats and oils react with oxygen to become rancid or go off, producing an unpleasant odour and flavour.



The word 'butter' originates from the Greek word 'cow cheese'.

CREATE A SOLUTION

After making butter, you are also left with homemade buttermilk. Your family is trying to live more sustainably, so rather than throw away your buttermilk, find a way to use it.

- 1 Conduct a sensory analysis of the buttermilk to investigate its sensory and physical properties.
- 2 Generate ideas for how you could preserve your buttermilk to use in the future, reducing waste of this food item.
- 3 Generate some recipe ideas that will ensure you are able to provide a solution to the brief.
- 4 Evaluate your product to determine whether you have created a successful design solution.
- 5 Suggest why buttermilk is used in many baked products.
- 6 Reflect on the project-management processes that you have employed throughout this design process. Provide some information on areas where you went well as well as those where you would like to do something differently when working through the process again. Also list two skills you learnt or developed when completing this design task.

REFLECT ON LEARNING

- 1 Identify the sources of most fats.
- 2 List the sources of most oils.
- 3 Explain why lipids play an important role in food production.
- 4 Identify who invented margarine and the reason for designing this food product.
- 5 Complete the comparison alley below comparing butter and margarine.

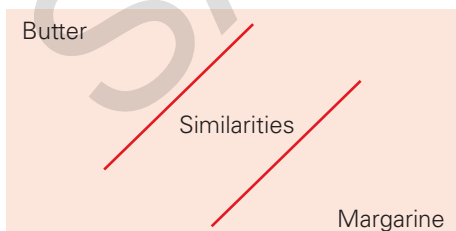


Figure 10.5 Comparing butter and margarine.

Structure and classification of fats and oils

essential fatty acids (EFA) 'Good' fats; the body does not produce these, so they must be consumed from food. Examples of foods that supply EFA are nuts, avocado and fish.

saturated fats 'Bad' fats that clog our arteries, such as those found in animal products like full-fat dairy items and fatty meat, as well as some plant-based sources.

unsaturated fats 'Good' fats that can help to reduce cholesterol levels. They are divided into monounsaturated fats and polyunsaturated fats.

Fatty acids are found in oils and fats. Some fatty acids can be made by the body but others are only available from foods. These are known as **essential fatty acids (EFA)**. Lipids may be **saturated** or **unsaturated** depending on their chemical structure. There are four main types of fats: saturated, monounsaturated, trans and polyunsaturated. Each type is determined by the chemical bond between the atoms.

Monounsaturated fats

Monounsaturated fats are considered a 'good' fat, as they tend to lower cholesterol levels. They should be used to replace saturated fats in your diet, reducing the risk of heart disease.

Polyunsaturated fats

Like monounsaturated fat, polyunsaturated fat is also considered a 'good' fat because of the benefit of replacing saturated fats with this type of fat. Polyunsaturated fats are found in plant and fish products. These fats contain omega-3 and omega-6, which have many health benefits,

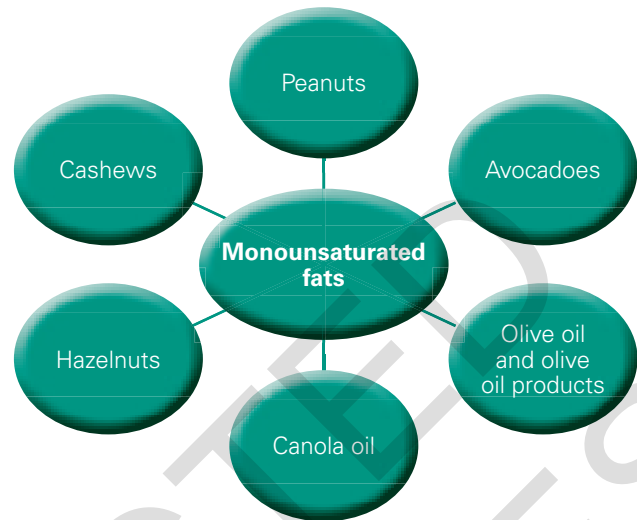


Figure 10.6 Sources of monounsaturated fats



Figure 10.7 Some examples of food sources of monounsaturated fats.

including lowering blood cholesterol, reducing blood pressure and reducing the risk of heart disease and strokes.

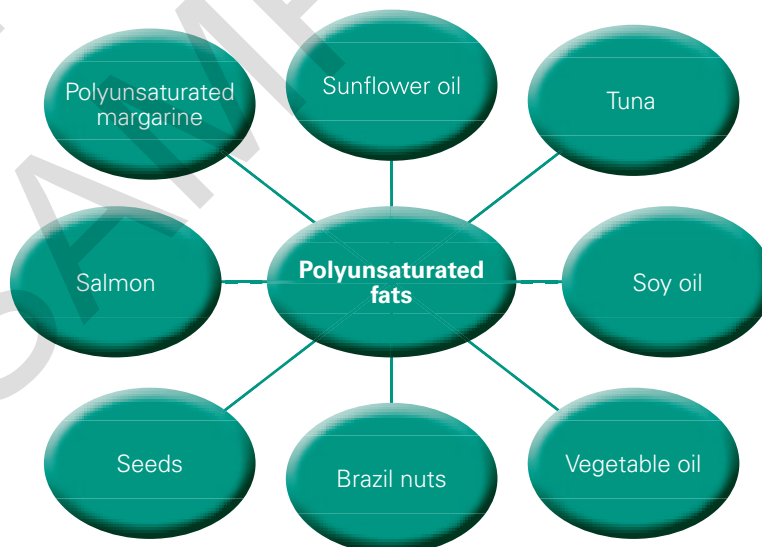


Figure 10.8 Sources of polyunsaturated fats



Figure 10.9 Some examples of food sources of polyunsaturated fats

Saturated fats

Saturated fats are found in all animal products and a few vegetable products. They are generally solid at room temperature and contribute to the risk of heart disease by increasing blood **cholesterol** levels. It is recommended

that we replace saturated fats with monounsaturated and polyunsaturated fats for better health.

cholesterol A waxy, fat-like substance used by the body to build cell walls. It is either produced in the liver or absorbed from animal fats eaten. It is necessary for good health; however, excess levels are detrimental.

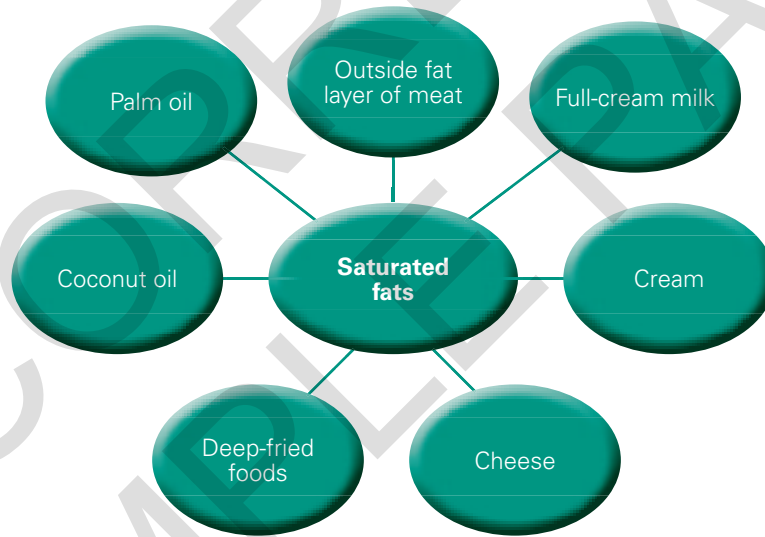


Figure 10.10 Sources of saturated fats



Figure 10.11 Some examples of food sources of saturated fats

Trans fats

Trans fats, otherwise known as hydrogenated vegetable oils, are much like saturated fats, raising cholesterol levels and increasing the risk of heart disease. Small amounts of trans fats are found naturally in food, but most are

created when liquid oil is changed into a solid fat. They are often referred to as 'ugly fats' because their impact on health is worse than that of saturated fats. These fats are mostly used in the food industry, as they are cheap to buy and have a long shelf life.

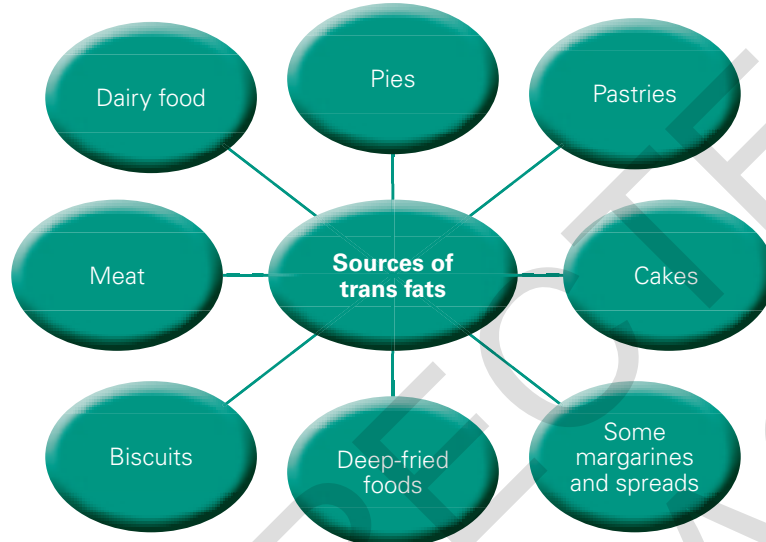


Figure 10.12 Sources of trans fats



Figure 10.13 Some examples of food sources of trans fats

10.2 LET'S COLLABORATE

The World Health Organisation has called for a ban on trans fats being used in food production globally. Suggest why it would do this. Discuss as a class.

10.3 LET'S COLLABORATE

So many of the foods we eat contain fat. List the different sources of fat in our diet. Suggest some alternative products that could be eaten instead. How many ways can you think of to reduce the amount of saturated fat in your everyday diet? Collate the responses as a class.









Lipid	Source/origin	Uses in cooking	Did you know?
Almond oil (monounsaturated) 	Plant: almond	Salad oil and baking	Almond oil is used more as a moisturiser for the body than for cooking. The ancient Egyptians used it to prevent wrinkles.
Butter (saturated) 	Animal: cow	Spread, frying, cake making and baking	It is a regulation that butter contain no less than 80 per cent milk fat. It is an excellent source of vitamin A.
Coconut oil (saturated) 	Plant: coconut	Used for confectionery, margarine, ice-cream and cooking oil	This is one of the few plant oils that is a saturated fat. Also used as a nourishing hair oil, and to make soaps and cosmetics like lip gloss.
Ghee (saturated) 	Animal: cow	Frying	Ghee is 'clarified butter', which is butter with the milk solids and salt removed. Ghee can be heated to higher temperatures than butter without burning. Ghee is of particular importance to Indian cooking because of the flavour it creates and the high temperature it can reach.
Lard (saturated) 	Animal: pig	Pastries, frying and roasting	Use lard sparingly as it is almost 100 per cent fat! Lard is the clean white fat rendered from pigs, used by humans since early hunting days. It is great for cooking as it is able to heat to high temperatures and produce a crispy final product.
Margarine (monounsaturated) 	Plant: vegetables	Spreads and baking	Margarine is an emulsion that has been hydrogenated to make it solid. Colour, salt, milk, flavour and antioxidants are all added to margarine.
Olive oil (monounsaturated) 	Plant: olives	Salad dressing and cooking oil	Excellent source of vitamin E which, in connection with monounsaturated lipids, reduces the incidence of heart disease. The largest producers of olive oil today are Italy and Spain.
Peanut oil (monounsaturated) 	Plant: peanut	Used in cooking, stir-frying, mayonnaise, margarine and salad dressings	Peanut oil was used as the original fuel source for the diesel engine.

Figure 10.14 Popular lipids






Lipid	Source/origin	Uses in cooking	Did you know?
Shortening (saturated and monounsaturated) 	Mixture of fats, both animal and plant	Deep frying, baking and pastry making	In Australia, shortening is 100 per cent fat. It is mostly produced for the food industry and is not readily available to the average consumer.
Suet (saturated) 	Animal	Pastry and puddings	Purchased from the butchers, it is an ingredient of a traditional Christmas pudding.
Sunflower oil (polyunsaturated) 	Plant: sunflower	Cooking, salad dressings, margarine and shortening	Richest oilseed source of vitamin E. Believed to have originated in Mexico; today the major producing countries are Russia, the United States and Argentina.
Vegetable oil (mix of polyunsaturated and monounsaturated) 	Plant: blended	General cooking and salad oils	Now more commonly used instead of animal fats for health reasons.
Duck fat 	Animal: duck	Roasting, confit , commonly used in French cooking	Unlike butter, duck fat can be kept and reused when cooking. The smoke point of duck fat is higher than that of butter and many oils, so it can be heated to higher temperatures. confit Different foods that have been cooked in oil or syrup, then sealed and stored.

Figure 10.14 Popular lipids (continued)

CREATE A SOLUTION

Your pantry is full of jars of different oils. It is time to unclutter the pantry cupboard and use some of the leftover oil before it reaches its best-before date.

- 1 Investigate the range of oils available. Choose a variety of oils that you have not worked with before to compile a list.
- 2 Research different recipes that include these oils as a key ingredient.
- 3 Suggest why these oils are used rather than other available varieties.
- 4 Generate a list of different recipes that you could prepare in class. Choose a recipe and justify your choice.
- 5 In preparation for your production, list five safety considerations you will need to follow. Explain the reasons for these practices and discuss how you will manage safety issues.
- 6 Produce this recipe in class and share with your class colleagues.
- 7 Explain the purpose of the oil in this recipe and reflect on whether the oil used could be substituted with a different variety. Explain your reasons.

REFLECT ON LEARNING

- 1 List the main food sources of saturated fats.
- 2 List two main sources of monounsaturated fats.
- 3 Explain the benefits of consuming polyunsaturated fats.
- 4 Identify which countries are the largest producers of olive oils.
- 5 Use a three-circle Venn diagram to identify and compare the differences and similarities between the three types of lipids.



Fat is a key ingredient in sausage making. You can use any fat, but pork is the most popular. Usually between a quarter and half of the volume is fat to ensure the sausage isn't dry. If the texture is grainy, there isn't enough fat. Sausages can easily be made at home – have a go yourself!



10.2 Nutrition and chemical properties of fats and oils

Fats and oils provide more **kilojoules** per gram than any other food. It is important that we monitor our intake of fats and oils so as not to consume more energy than our bodies need. We require only about 20 g of fat every day – that's just one tablespoon. Some fats are better for your body than others. These are often referred to as 'good' fats because of their benefits for health. The saturated fats are referred to as the 'bad' fats because of the negative impact these have on health. The 'good' fats are both the monounsaturated and polyunsaturated fats. We need to include fats – particularly monounsaturated and polyunsaturated fats – in our diet as they are the

kilojoule Unit used to express the energy or fuel value of food.

source of **fat-soluble vitamins** (A, D, E and K). Fat is also a major energy source.

fat-soluble vitamins Vitamins (A, D, E and K) that are not soluble in water and that need to be stored in the body in either the liver or fatty tissues. They are transported around the body by special proteins.

The major sources of fat in the Australian diet include:

- spreads – butter and margarine
- meat and meat products
- dairy products – full-cream milk and milk products
- chocolate
- takeaway and snack foods, especially fried foods
- cakes, pastries and biscuits.



10.4 INVESTIGATE IT

Statistics from the Australian Institute of Health and Welfare show that Australians are consuming far too much fat. Research how best to reduce your fat intake in everyday eating and design a video or podcast to promote these changes.

Food of the gods

One of the meanings of the word 'chocolate' is 'food of the gods'. It is believed that chocolate originated in the Amazon more than 4000 years ago. Australians are certainly eating their fair share of chocolate, with each person consuming an average of 5 kg of chocolate per year. It is a \$75 billion a year industry in Australia. Chocolate started off as currency – it was the ancient Aztec coin. It is the fat in the cocoa butter that gives chocolate its 'melt-in-the-mouth' texture.

REFLECT ON LEARNING

- 1 Identify the amount of fat required daily. Discuss whether Australians are consuming more, less or the correct amount of fat. Justify your response.
- 2 Explain why it is important to monitor our intake of fats and oils.
- 3 Name the fat-soluble vitamins.
- 4 List five major sources of fats and oils in the Australian diet.
- 5 Describe what gives chocolate its melt-in-the-mouth texture.

Check out olive oil

Olive oil has increased in popularity in Australia over the last 10 years or so, although it has been popular within Mediterranean countries for many years – figures from the European Union found that in Greece people are consuming nearly 18 kg of olive oil per year! You may have noticed the many different types of olive oils available. The flavour of olive oil can depend on where the olives are grown. Most olive oil is produced in Italy or Spain, although we are producing **boutique** olive oil in

boutique Describes a very specialised product that is usually produced in small quantities.

Australia, and many Australians are choosing to purchase our local produce.

To make the oil, the olives are washed then pressed into a paste.

The oil and water are separated out. From here, the oil is graded into three categories: extra virgin, virgin and pure olive oil.

10.5 INVESTIGATE IT

Conduct an investigation to find out whether any oils are produced in the region where you live.



Figure 10.15 Olive oils come in different varieties.

Extra virgin olive oil

Considered the best of the olive oils, this oil has the strongest flavour as it comes from the first pressing of the olives and has only 1 per cent acidity. This type of oil contains the most beneficial nutrients and **antioxidants**, but is also the most expensive. This oil is not usually used for cooking as the heat alters the taste. It is best used in salad dressings or served with bread as a healthy alternative to butter. If you must use this oil for cooking, mix with equal quantities of vegetable oil to give it a better taste.

antioxidant A substance, such as vitamin C or E, thought to help fight free radicals in the body that can cause disease.

Virgin olive oil

This is the oil produced from the second pressing. It can be used in much the same way as the extra virgin olive oil, although it can also be used for cooking (though not deep frying). It is often considered an ideal all-purpose oil but is a more expensive choice compared with its vegetable oil partners.

Pure olive oil

Pure olive oil is produced when the olives have had more than one pressing and undergoes some processing to remove any impurities. This oil has a lighter flavour than the virgin oils and is suitable for all types of cooking.

Light olive oil

This oil has gone through considerable processing to make it lighter in colour. The 'light' only refers to the colour and not the fat content. The flavour is also affected by the processing: this oil only has a light olive oil taste.



10.6 ACTIVITY

Sensory analysis: Get tasting!

For this activity, you will need four small pieces of bread, one to taste each type of oil. Toast the bread before you start. This is the method used in Italy to assess oil quality. Copy and complete the table below, and then taste one olive oil at a time in order to fill in your results. You will also need to read the bottle labels to collect all the information required. Remember, you are tasting the oil, not the bread. After you have finished, complete the questions below.

Appearance	Aroma	Texture	Taste	Saturated fat per 100 ml	Total fat per 100 ml
Extra virgin olive oil					
Virgin olive oil					
Light olive oil					
Pure olive oil					
Olive oil that is produced in your region of Australia					

- 1 Identify the oil you liked the most. Explain your choice.
- 2 Identify the oil you liked the least. Explain your choice.
- 3 Compare the oils. Was there a difference between the oils? Explain your answer.
- 4 Suggest what the term 'light' means to you.
- 5 Explain what you think the term 'light' means to consumers.
- 6 Describe how light olive oil is 'lighter'.
- 7 Discuss whether labelling this oil as 'light' is misleading to consumers. Justify your opinion.



Lemon myrtle and eucalyptus shortbread

Main tools and equipment

Sieve, measuring cups, measuring spoons, electric beater, baking tray

Production skills

Sifting, creaming, dough making, rolling, cutting, baking





Ingredients

 1 1/2 cups plain flour, sifted	 1/4 cup rice flour, sifted	 1/2 teaspoon baking powder, sifted	
 1/2 teaspoon ground lemon myrtle	 150 g salt-reduced butter	 1/4 cup caster sugar	 1 egg white
 200 g icing sugar	 1 teaspoon lemon juice	 1/4 teaspoon eucalyptus oil (for cooking)	

Method

- 1 Preheat oven to 160°C.
- 2 Combine sifted dry ingredients (plain flour, rice flour and baking powder) with lemon myrtle in a bowl.
- 3 Cream butter and sugar in a large bowl.
- 4 Stir in the flour mixture to form a soft dough. Cover with plastic wrap and rest in a cold place for 15 minutes.
- 5 Roll dough out onto a lightly floured surface to 3 mm thickness.
- 6 Cut into long fingers or triangles – you choose the shape for your biscuits!

MAKES 10 BISCUITS

-  Preparation time: 30 minutes
-  Cooking time: 30 minutes
-  Serving and presentation time: 5 minutes
-  Total time: 1 hour and 5 minutes



- 7 Place onto an oven tray sprayed with eucalyptus oil and bake for 30 minutes or until the shortbread is pale golden in colour.
 - 8 Remove from tray and cool on a wire cake rack.
 - 9 To make icing, beat the egg white until a soft peak is formed, fold in lemon juice and icing sugar and mix well.
 - 10 When biscuits are cool, ice with your own designs.
- 2 List two health and safety rules you had to consider when producing this recipe.
 - 3 Explain why extra virgin olive oil is used in this recipe.
 - 4 Describe the appearance, aroma, taste and texture of your shortbread using sensory analysis language. Write a complete sentence for each.
 - 5 Explain how you tested your shortbread to check it was cooked.
 - 6 Suggest how you could modify this recipe.
 - 7 If you made this recipe again, explain what you would do differently.

Evaluating

- 1 Name and describe the processes used in this recipe.

DESIGN BRIEF: AFTER-SCHOOL SNACKS

Nutritionists are encouraging all Australians to reduce their intake of saturated fats. One of the main sources of fat in our diet is in cakes and sweet treats, which many teenagers eat during the day or after school as a snack. Design a cake suitable for an after-school snack that includes a reduction in saturated and trans fats.

The carrot cake recipe on p.268 is included because it does not contain butter, a source of saturated fat. Suggest the ingredients containing 'good' fats that you may like to use or substitute for another ingredient in your cake recipe. Investigate the ingredients you may want to use in your cake.

Ethical issue: Say no to palm oil

Palm oil is an edible vegetable oil that is derived from the palm fruit. Palm oil is grown throughout Africa, Asia, North America and South America. Some 85% of the palm oil produced is exported from Indonesia and Malaysia. The palm oil industry DOES NOT think sustainably. It is linked to major issues of deforestation, habitat degradation, climate change,

animal cruelty and abuse of land rights for Indigenous people. Large areas of forests have and still are being cleared for the development of oil palm plantations.

World Wildlife Fund, Say No to Palm Oil, www.saynotopalmoil.com/Whats_the_issue.php.

Tasty Trivia

According to the World Wildlife Fund, an area the equivalent size of 300 football fields of rainforest is cleared each hour to make way for palm oil production.

Find out what you can do about this issue. Act sustainably and prepare an information item for your school website or newsletter informing people to stop purchasing products made with palm oil.

REFLECT ON LEARNING

- 1 Define the term 'lipid'.
- 2 Explain why we need to include some fat in our everyday diet.
- 3 Discuss how virgin olive oil is produced.
- 4 Describe three dietary changes people could make to reduce their saturated fat intake.
- 5 Is light olive oil better for you than ordinary oil? Explain your answer.

Carrot cake

Main tools and equipment

Grater, measuring cups, measuring spoons, measuring jug, loaf tin, large bowl, wooden spoon, spatula, skewer, cooling rack, whisk

Production skills

Grating, greasing, mixing, combining, beating

Cooking processes




Baking

Ingredients

Cake

 ½ cup olive oil	 2 eggs	 ¾ cup brown sugar	 2 carrots, grated	 1 cup self-raising flour	 ½ cup sultanas
 1 tablespoon crushed pineapple	 ½ teaspoon mixed spice	 ½ teaspoon cinnamon			





Cream cheese icing

 125 g cream cheese	 3 tablespoons (60 g) icing sugar	 1 tablespoon (60 ml) lemon juice
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Method

- 1 Preheat oven to 180°C.
- 2 Brush or spray a loaf pan with oil and line with baking paper.
- 3 Combine oil, eggs and sugar.

SERVES 6–8 (1 CAKE)

-  Preparation time: 20 minutes
-  Cooking time: 45–50 minutes
-  Serving and presentation: 10 minutes
-  Total time: 75–80 minutes

- 4 Add all other ingredients and mix well.
- 5 Place into your loaf tin and bake at 180°C for 45–50 minutes. Your cake is cooked when it shrinks slightly from the sides of the pan and springs back to the touch, or the skewer comes out clean and dry.
- 6 When cooked, let your cake cool in the tin for 5 minutes. Then continue to cool on a cooling rack.
- 7 For the icing, beat the cream cheese until smooth.
- 8 Gradually add the icing sugar.
- 9 Add the lemon juice and beat well until combined.
- 10 Spread on cake and serve.

Evaluating

- 1 Describe the appearance, aroma, taste and texture of your cake using sensory analysis language. Write a complete sentence for each of these.
- 2 List three safety rules you had to follow when producing your cake.
- 3 Explain the main role of the oil in this recipe.
- 4 Describe how you tested your cake to check that it was cooked.
- 5 Explain how your cake provided a solution to the design brief to reduce saturated fat intake.
- 6 Complete the following sentences:
 - a My strength today was ...
 - b If I was to make this again I would change ...
 - c Something interesting I learnt from completing this production was ...
 - d I could have improved my performance today by ...

DESIGN BRIEF: FLAVOURED OILS

Flavoured oils can be used for cooking, in salad dressings or poured over dishes for presentation. They also make great gifts. There are many different varieties available in the supermarket but flavoured oils are easy to make yourself.

Using at least two complementary ingredients, design your own flavoured oil that you could give to a friend as a gift. You may like to use the recipe on p.270 to help you get started. Include two recipes in which your oil could be used.

Design a label to go on your oil. Include the requirements needed on a food label.



Rosemary oil



ITALY

RECIPE

Main tools and equipment

Bottle, oven

Production skills

Sterilising, infusing

Ingredients



Method

- 1 Sterilise a bottle by washing it in hot soapy water and then leaving in an oven heated to 100°C for 20 minutes.
- 2 Fill the clean bottle with olive oil, almost to the top.
- 3 Add three or four stalks of rosemary to the bottle and put on the lid.
- 4 Place in a cupboard and leave for three days. Gently turn the jar twice a day to disperse the rosemary essential oil through the olive oil.
- 5 After three days, your oil is ready for use.
- 6 Your oil will last up to six months if stored correctly.
- 7 Use your rosemary oil in stir-fries, in bread making, on pasta or as a dipping oil.

SERVES APPROXIMATELY 12



Preparation time: 20 minutes sterilising,
10 minutes preparing, 3 days resting



Serving and presentation: 5 minutes



Total time: 3 days, 35 minutes



10.3 Sugar and spice and all things nice

Many of the foods we enjoy have salt, sugar, herbs and spices listed in their ingredients. The main reason we add sugar, salt, herbs and spices to food is to enhance flavour, aroma and colour. Many of the foods available today could not be produced without these ingredients.

Your tastebuds become accustomed to the taste of sweet and salty foods, such as savoury snacks, chocolate and lollies.



10.7 ACTIVITY

Finding salt

- 1 When reading food labels, identify the word you are looking for to locate the salt quantity in the product.
- 2 List the products you can find in your home or school pantry that do not contain this.



10.8 ACTIVITY

What are you eating?

- 1 Collect 10 different labels from your pantry or your lunchbox, some sweet and some savoury. If you can, try to include instant noodles, a breakfast cereal, soup and a muesli bar.
- 2 Copy the table below into your workbook and read each label to find out the information required.
- 3 Before you start, predict which products you think have the:

<ol style="list-style-type: none"> a highest sugar content b highest salt content c highest saturated fat content d lowest sugar content 	<ol style="list-style-type: none"> e lowest salt content f lowest saturated fat content g lowest trans fat content.
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Product name	Total fat	Saturated fat	Trans fat	Salt	Sugar	Flavours
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

- 4 Now answer these questions using your results:
 - a Were you surprised by any of these figures? Discuss your reasons.
 - b Describe the short-term and long-term effects of eating products that are high in sugar, salt and fat.
 - c List an alternative food item for each of the items highest in the investigated areas.
 - d Explain why you think food manufacturers use such large amounts of sugar, salt and fat.

Salt

The chemical term for **salt** is sodium chloride. Salt comes from two main sources: the sea (sea salt) and mining deposits (rock salt). Salt is used not only in savoury dishes, but also in sweet dishes to enhance flavour. While our bodies require a small amount of salt, there are concerns that we are consuming more salt than we should because we have developed a taste for it, just as we have for sugar.



In Japanese theatres, salt used to be sprinkled on the stage before each performance to prevent evil spirits from casting a spell on the actors.

Sugar

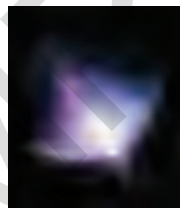
Sugar is an energy-dense carbohydrate mainly made of sucrose. Sugar is used in most commercial products, even those you would not expect, like tomato soup and peanut butter, as it makes food tasty and brings out flavours, encouraging people to consume more. Sugar has a very important role in many recipes and cooking techniques, with the most important of these being to provide sweetness. Sugar is also a preservation agent, inhibiting the growth of micro-organisms in products like jam and confectionery. Our diet would be very different without the use of sugar.

sugar An energy-dense carbohydrate mainly made of sucrose.



In 2001, astronomers discovered simple sugar molecules floating in the gas around a star about 400

light-years away.



Herbs and spices

Herbs are the leaves of plants, which can be purchased fresh or dried. Herbs deteriorate as they age, losing their colour and flavour. Most herbs grown in the garden can be air-dried. Pick the herbs in the morning, clean the leaves to remove any traces of dirt and lay them flat on a cake rack in a dark, well-aired location. Or you can tie your

herbs The leaves of plants, used to season food.

herbs in bunches and hang them for drying. **Spices** are the dried seeds, buds, fruits, barks or roots of plants. Spices are often sold in their original state – for example, cumin seed – or as a ground powder. Spices do not have a long shelf life once ground, so it is important to buy them in small amounts. As they age, they lose their flavour and fragrant aroma.

spices The dried seeds, buds, fruits, bark or roots of plants, used to season food.

History of food flavours

Salt

People have been using salt for preservation for thousands of years. Our appetite for salt grew when our ancestors started settling the land and learnt about the functions of salt. Not only did salt preserve foods such as meat, thus increasing shelf life; it also enhanced food flavour. Salt has an indefinite shelf life, but does absorb moisture, which can make it go lumpy. A great trick is to put a few grains of rice into your salt shaker to help it stay separated.

Sugar

Wild honey was the first form of sugar used as a sweetener by humans and has naturally been part of our diet since time began. The hives of wild bees were raided for the sweet, energy-dense liquid and later bees were encouraged to settle in hives and honey production started. During the sixteenth century, Christopher Columbus brought sugar cane to the Americas and it was cultivated there. Sugar was expensive during these times and was considered a luxury. The first factory to produce raw sugar was opened in Europe in 1801–02. In Australia, we now have a thriving sugar-cane industry.



The traditional diet of Aboriginal and Torres Strait Islander peoples did not contain much sugar. Sweetness was added to their meals using honey from the native bees, blossoms and honey ants.



Herbs and spices

All traditional cultures have used herbs and spices in their food products. They have often been used throughout history to hide the foul aromas and tastes of foods that may have spoiled or been preserved with large amounts of salt and eaten during the winter, when it was hard to find fresh food. Not only are herbs and spices bursting with flavour, aroma and colour; they are also used for their medicinal properties and some have been used to preserve foods. Many herbs and spices were used in traditional medicine and continue to be used in natural remedies today. For example, ginger tablets are a popular treatment for nausea and motion sickness.

The search for spices was one of the reasons the great explorers such as Marco Polo and Columbus went on their sea expeditions. Spices were brought back to Europe from Asia and Africa, and they were highly valued for



Figure 10.16 We regularly use herbs and spices to enhance a dish.

their medicinal properties, perfumes and flavour. This made spices very expensive during this time. Some of these spices include cardamom, ginger, cloves, coriander and cinnamon.



10.9 LET'S COLLABORATE

Typical herbs used in Europe during Medieval times included basil, bay leaves, chives, dill, fennel, juniper berries, marjoram, parsley, rosemary, sage and thyme. Name the herbs you recognise today on this list. List as many food products and recipes for each of these herbs as you can. Do you think any of these products were eaten during Medieval times? Research and explain your answer.



10.10 ACTIVITY

Spices of the world

Read through the spices of world cuisines below. Copy and complete the table below. Research and find two recipes that could be prepared using one or more of the spices listed – ensure that they are traditional recipes for that country. Add two more countries to the table and find out the spices used in their cuisines.

Spices found in popular cuisines

Country/ cuisine	Spices	Two recipes using one or more of these spices
India	Coriander seed, turmeric, cinnamon, cumin, fenugreek seed and leaf, ginger, pepper, chilli, cloves, tamarind, cardamom, saffron	
Morocco	Coriander seed, turmeric, paprika, cumin, cinnamon, ginger, cloves, pepper, chilli	
Africa	Coriander seed, cumin, allspice, ginger, pepper, fenugreek seed	
Middle East	Paprika, pepper, cumin, coriander seed, sumac, thyme, cassia, cloves, cardamom	



10.10 ACTIVITY continued

Spices found in popular cuisines (continued)

Country/cuisine	Spices	(Two) recipes using one or more of these spices
Indonesia	Coriander seed, cumin, fennel seed, cassia, turmeric, lemongrass, galangal, ginger, pepper, cloves, chilli	
Malaysia		Satay Nasi Goreng
Thailand		Pad Thai Massaman curry
China		Pickled cucumber salad Spring onion flatbread
Japan		Miso soup Chicken kara-age
Mexico		Chili con queso Sweet Mexican corn cake

REFLECT ON LEARNING

- 1 Explain why sugar is used in food products.
- 2 Identify the chemical name for salt.
- 3 Name the original source of sugar.
- 4 Explain why herbs were used originally in cooking.
- 5 List some of the spices brought back from the Far East to Europe and the foods produced with these.



10.4 Nutritional values: Chemical properties

Too much salt and too much sugar are not good for our health, but how do we know how much we are allowed? The *Australian Dietary Guidelines* can help you and your family to determine safe amounts of all flavourings.

Salt

Australians are probably eating more than double the daily recommended salt intake. It is estimated that 75 per cent of our salt comes from processed foods such as bread, margarine, butter, breakfast cereals and cheese. We do need some salt in our diet, as sodium is necessary to maintain the internal water balance within our bodies. However, a high sodium intake has been linked directly to high blood pressure.

Salt occurs naturally in almost all foods and is important because it provides flavour, which is why 'salt' or 'sodium' is listed on the label of almost every food product at the supermarket. Salt is also used to preserve foods, as it draws out moisture and prolongs a product's shelf life. It is positive to see so many products responding to the request to reduce our salt intake. There are now many 'no added salt' and 'low-salt' products on the market. These products must contain no more than 120 mg sodium per 100 g.



10.11 LET'S COLLABORATE

With a partner, research and discuss why we add salt to foods such as eggplant.



10.12 INVESTIGATE IT

Fish sauce is often used in Asian recipes instead of salt. Have you ever tasted fish sauce? Research how this commonly used Asian ingredient is produced and write a short report on the process.

Sugar

While there are many types of sugar, despite their different physical characteristics all sugars are nutritionally the same and do not contain any nutrients other than carbohydrate in the form of **sucrose**. Sugar is high in energy, not nutrients, and while your body does require energy, the best energy source is not sugar but the carbohydrates found in starchy foods like wholegrain cereal products.

sucrose A complex carbohydrate found in many plants and used as a sweetening agent.

fructose The sugar found in fruit.

An exception is **fructose**, the sugar found in fruits, because consuming fruits provides other nutritional benefits such as dietary fibre and vitamins. The major concern about high sugar consumption is the development of tooth decay. Sugar in the mouth is converted to a sticky substance that forms plaque on the surface of teeth; this eats away at the tooth enamel, causing decay and holes.

Herbs and spices

Herbs and spices add excitement to dishes. They can improve the flavour of any product and are often used to flavour healthier dishes that have had their fat, sugar and/or salt content reduced. Research has shown that herbs and spices provide a wide range of nutrients and phytochemicals that help prevent disease and contribute to better health. They contain high concentrations of antioxidants, as well as a variety of vitamins including vitamin C. Chinese medicine uses many herbs and spices in treatments – for example, garlic for protection against coughs and colds, and liquorice for the relief of constipation.

REFLECT ON LEARNING

- 1 Discuss why nutritionists are concerned that we are consuming too much salt.
- 2 List three everyday strategies to reduce salt intake.
- 3 Describe the consequences of consuming too much sugar.
- 4 Herbs contain phytochemicals. Explain what they are and why they are important for good health.
- 5 Other than for flavour, list two reasons for the use of herbs and spices in foods.

Types of sugar

The sugar with which most people are familiar is white table sugar, which is used commonly in households every day. However, there are a number of different types of sugar available and used in food production. Sugar is extracted from sugar cane or sugar beet and then refined into a number of different forms.



Can you believe that one can of soft drink contains 7–15 teaspoons of sugar? Measure out this amount to see just how much sugar this really is. Do you still feel like having a soft drink with lunch?




Sugar	Description	Uses in cooking
	Soft, moist, brown-coloured sugar with a very fine crystal size; often clumps together and needs separating.	Baking and dark confectionery
	A white-coloured fine crystal.	Cakes, meringues and puddings
	White sugar granules moistened and moulded together to form a cube shape.	Popular with coffee and tea drinkers as the exact measure can be guaranteed every time.
	A golden brown syrup made from the sugar cane refining process.	A main ingredient in the popular Aussie 'Anzac' biscuit; used in cake and biscuit making.
	Golden to pale brown sweet syrup.	Commonly used as a spread, but also popular in baked goods, confectionery and breakfast cereals.
	A fine white powder, which forms lumps if stored for long periods.	Confectionery and icing, and often sprinkled on cakes as decoration.
	A duller white, larger-sized sugar crystal.	Used mostly as table sugar but also for baked goods and confectionery.
	A dark brown to black-coloured, thick syrup with a strong aroma.	Liquorice, confectionery and baking.

Figure 10.17 Popular sugars

Cinnamon scone scrolls



Main tools and equipment

Sieve, measuring cups, measuring spoons, measuring jug, large bowl, baking tray, pastry brush, cooling rack





Production skills

Measuring, rubbing in, kneading, rolling, slicing, glazing








Cooking processes

Baking

SERVES 8

-  Preparation time: 30 minutes
-  Cooking time: 12–15 minutes
-  Serving and presentation time: 5 minutes
-  Total time: 47–50 minutes

Ingredients

 30 g butter	 2 cups flour	 ¾ cup milk	 75 g butter
 ½ cup brown sugar	 3 teaspoons cinnamon	 1 teaspoon milk (glaze)	

Method

- 1 Preheat oven to 200°C. Line a baking tray with baking paper.
- 2 Rub 30 g of butter into the flour until it resembles breadcrumbs.
- 3 Add milk until mixture comes together to form a soft dough.
- 4 Turn dough onto a lightly floured bench and knead until just smooth.
- 5 Roll dough into a rectangle, about 5 mm thick.
- 6 Cream the 75 g portion of butter with the sugar. Add the cinnamon and mix well.
- 7 Spread cinnamon mixture over dough.



Cinnamon scone scrolls – continued

- 8 Roll up into a log and cut into between 10 and 12 equal portions.
- 9 Lay portions flat on a baking tray. Remember that they will rise and spread, so leave space between each one.
- 10 Glaze with milk.
- 11 Place in oven to bake for 12–15 minutes or until golden brown.
- 12 Remove from oven and cool on a wire cooling rack.

Evaluating

- 1 Describe how you knew you had successfully rubbed in your butter.
- 2 Explain the role of the cinnamon in this recipe.
- 3 Suggest what would or wouldn't happen if you forgot to glaze your scrolls with milk.
- 4 Imagine that you have run out of cinnamon. Suggest alternatives that you could use.
- 5 Determine whether this recipe is an 'everyday' or a 'sometimes' snack. Justify your decision.



10.13 ACTIVITY

Sweet sugar

Research the process through which sugar goes from the sugar cane field until it ends up as refined sugar available for purchase in the supermarket. Design a poster or comic that illustrates and describes each processing stage.

Use your preferred browser to search for the following websites to help you get started:

- Bundaberg Sugar
- Sugar Knowledge International
- The Sugar Association.



DESIGN BRIEF: A CLASSIC DESSERT

The Golden Syrup Dumplings recipe on p.279 is an old-fashioned, popular dessert, which uses, obviously, golden syrup. Golden syrup has a long history in Australia due to our big sugar plantations in Queensland. Investigate and produce another old-fashioned, classic dessert that uses a sugar product such as sugar, honey or golden syrup as a main ingredient.

Golden syrup dumplings



UNITED KINGDOM

Main tools and equipment

Sieve, measuring cup, measuring spoons, measuring jug, metal spoons, saucepan, baking dish

Production skills


Measuring, sifting, rubbing in

Cooking processes

Boiling, baking

Ingredients

Dumplings

				
1 tablespoon (20 g) butter	1/2 cup (75 g) self-raising flour	1/4 teaspoon powdered ginger	1 egg, beaten	1 tablespoon (20 ml) milk





Syrup

			
3/4 cup (190 ml) water	2 tablespoons (40 ml) golden syrup	2 teaspoons (10 ml) lemon juice	1 tablespoon (20 g) butter

Method

- 1 Preheat oven to 190°C.
- 2 Rub the butter into the flour and ginger using your fingertips until it resembles breadcrumbs.
- 3 Add egg and milk, and mix into a soft dough.
- 4 Place spoonfuls of the dough mixture into a medium-sized baking dish.
- 5 Place syrup ingredients in a saucepan and stir until dissolved.
- 6 Bring to the boil. When boiling, pour over dough in baking dish and bake at 190°C for 30 minutes.
- 7 Serve on its own or with cream or ice-cream. An alternative is to sprinkle with coconut.

SERVES 2

-  Preparation time: 5 minutes
-  Cooking time: 30 minutes
-  Serving and presentation time: 5 minutes
-  Total time: 40 minutes



Golden syrup dumplings – continued

Evaluating

- 1 Using your sensory analysis skills, describe the appearance, aroma, taste and mouthfeel of your dessert.
- 2 Explain the role of the golden syrup in this old-fashioned, classic dessert.
- 3 Suggest another way you could present your sweet treat.
- 4 Did you find this task difficult? Explain your answer.
- 5 Complete the following statements:
 - a I'm proud of this because ...
 - b My strength today was ...
 - c I needed help with ...
 - d What I need to improve most now is ...
 - e One thing I am still not sure about is ...

10.5 About thyme: Herbs

Herbs are a fantastic way to add flavour to your food, and there are so many different varieties that can be used

in so many different ways. It is important to remember to always wash your herbs and shake them dry before you use them to ensure they are free of dirt and insects. You can use either fresh or dried herbs in a recipe. One tablespoon of fresh herbs is equivalent to a teaspoon of dried herbs.






Herb	Source/origin	Uses in cooking	Did you know?
 <p>Basil</p>	Greece and Italy; also an important ingredient in the cuisines of Thailand, Vietnam and Laos.	Main ingredient in pesto; used in pasta dishes, salads, herb butters and vinegars, and even used to make sorbet.	The name 'basil' comes from the Greek word for 'kingly herb' and this herb was cultivated by monks. There are different varieties of basil, such as purple and Thai basil.
 <p>Bay leaf</p>	Native to Mediterranean countries, including Greece and Italy.	Bay leaves are used to flavour stocks, soups, casseroles, corned beef and marinades; the leaf is usually removed from the dish after cooking.	Bay leaves were used to make wreaths to crown heroes in ancient times. They can be picked from the bush and used straight away.
 <p>Coriander leaf</p>	South-western Asia.	Used in many cooked and fresh dishes, such as curries and stir-fries, as well as salads and dips.	Coriander is the only product that can be both a herb and a spice, as we use the seeds, stems and leaves of the coriander.
 <p>Lemongrass</p>	Native to South-East Asia.	Commonly used in Thai cooking, in marinades, chicken, fish and soup dishes.	You have to bruise the stalk before use to release the oils and only the white section is used in cooking.
 <p>Lemon myrtle</p>	Native to Australia, one of the most commonly used indigenous ingredients.	A very versatile herb used in both savoury and sweet dishes, including ice-cream, bread, fish, chicken and tea.	One of the most popular of Australia's native herbs, lemon myrtle is also used in products such as shampoo and soap for its pleasant aroma and essential oil components.

Figure 10.18 Popular herbs




Herb	Source/origin	Uses in cooking	Did you know?
 Mint	Native to Mediterranean countries, including Greece and Italy.	Used in lamb dishes, desserts, confectionery, ice-cream, beverages and tea.	The most popular mint species are peppermint, spearmint and more recently apple mint. Mint is the most popular toothpaste flavour. Mint is a good companion plant, repelling pest insects.
 Oregano	Greece and Italy.	Pizzas, pastas, fish and meat dishes, casseroles and marinades.	Oregano is very important in Greek and Italian cuisines.
 Tarragon	France.	Béarnaise sauce, chicken, fish and egg dishes.	Tarragon is one of the four 'fine herbs' of French cooking.

Figure 10.18 Popular herbs (continued)



10.14 ACTIVITY

Using herbs

- Name a herb that is:
 - used to flavour vinegar
 - used in many Italian dishes and featured as a garnish on many dishes
 - used commonly with fish and seafood dishes
 - used to make a sauce that is served with roast lamb
 - often used in soups and casseroles but always removed before eating.
- Now list five more herbs not mentioned in the table and compare your list with that of a classmate.



Figure 10.19 Curly leaf parsley (top) and flat-leaf parsley.

firm stem. It is best to store parsley in cold water; it should last up to a week.

Check out parsley

You will probably be familiar with the 'humble' parsley. It is easily grown in the backyard herb garden and has been a simple but common garnish on plates for many years. It is said in Greek mythology that parsley grew from the blood of Archemorous, the forerunner of death, and one of the ways in which the ancient Greeks used parsley was for funerals. There are two different types of parsley: flat leaf or Italian parsley; and curly parsley.

Parsley is rich in iron and vitamins A, B and C, and can be a good source of these nutrients because there are recipes where parsley is eaten in large amounts. For flavour, the parsley should have unwilted leaves and a

10.15 LET'S COLLABORATE

- Investigate the countries where rosemary, parsley and mint traditionally are used. Find one recipe that uses each herb for each country you have identified.
- With a partner, research and identify any recipes that include large amounts of parsley as an ingredient.

10.16 INVESTIGATE IT

Why not try growing your own herbs at home or at school? Visit the Yates website for lots of information and podcasts to help you get started. Now you just have to decide what to grow.

Tabbouleh



RECIPE

Main tools and equipment

Chef's knife, measuring spoons, chopping board, kettle, small bowl

Production skills

Washing, chopping, dicing, mixing

Cooking processes

Combining

Ingredients


 2 tablespoons (40 ml) lemon juice	 2 tablespoons (40 ml) boiling water	 2 tablespoons (40 g) burghul	 1 bunch fresh parsley, finely chopped	 ¼ bunch mint, finely chopped
 2 tomatoes, finely diced	 2 spring onions, finely chopped	 2 teaspoons olive oil	 1 tablespoon (20 g) butter	

Method

- 1 Wash and drain the herbs well and dry on a paper towel.
- 2 Pour lemon juice and boiling water over burghul and leave to soften for 10–15 minutes.
- 3 Combine the parsley, mint, tomatoes, spring onions and softened burghul.
- 4 Mix in olive oil and season with salt and pepper to taste.
- 5 This can be served on its own. Alternatively, serve with flat bread, souvlaki or falafel.

SERVES 2

 Preparation time: 20 minutes

 Serving and presentation: 5 minutes

 Total time: 25 minutes

10.6 Spice up your life: Spices

Like herbs, spices are also an excellent way to add flavour, aroma and colour to food. Most of the important spices

are native to Asian regions, such as cinnamon, pepper, ginger, cloves and nutmeg. Allspice, vanilla and chillies come from the West Indies and Central America, and coriander, fennel, fenugreek and mustards are all found in the Mediterranean region.

Spice	Part used	Uses in cooking	Did you know?
 <p>Cinnamon</p>	Bark	Used in both savoury and sweet dishes, including curry pastes, Moroccan tagines and Indian rice, chocolate desserts, cakes, drinks and cinnamon toast; also used for mulled wine.	Cinnamon is indigenous to Sri Lanka. It is often used in incense and potpourri. There are references to cinnamon in the Bible.
 <p>Cloves</p>	Bud	Add flavouring to roasted meats; used in pies, baked fruit dishes, cookies, biscuits and gingerbread.	The word 'clove' comes from the French word for 'nail', as it is shaped like a small fingernail. Indonesia produces 80 per cent of the world's cloves. In Roman times, the clove, along with the nutmeg and pepper, was highly prized.
 <p>Coriander seed</p>	Seed	The seed is ground to flavour curries and Indian dishes.	Coriander is the only product that can be both a herb and a spice, as we use the seeds, stems and leaves of the coriander.
 <p>Saffron</p>	Stamen	Used in curry powders, sauces, soups, paella, bouillabaisse, risotto; it is not only used for its flavour, but also its vibrant yellow colour, which dyes the food.	Saffron is the most expensive spice in the world because each stamen has to be hand picked. Also used as a dye by many cultures, including Buddhist monks, who colour their robes with it.
 <p>Star anise</p>	Pod	Used to flavour Asian soups, marinades, spice mixes and chai tea; an ingredient commonly used in Indian, Chinese and Vietnamese cuisines.	Star anise fruits are harvested unripened and dried in the sun, during which time they develop their characteristic aroma and flavor, and deep, reddish-brown colour.
 <p>Vanilla</p>	Bean	Used in ice-cream, custards, baking and chocolate; you can also make vanilla sugar by placing a bean in a jar of sugar.	Vanilla has been used for centuries by the Aztecs in Mexico and was offered as a tribute to the Aztec emperor by his people. Real vanilla is expensive, so cheap, chemical imitations are common. This product is known as vanilla essence; vanilla extract is natural. Vanilla is not only used in foods, but is also found in many perfumes.
 <p>Wattle seed</p>	Seed	Native to Australia, wattle seed is used in many ways, including flavouring ice-cream, thickening sauces, being added to breads and damper, and in casseroles.	Wattle seed is a good source of protein and carbohydrate, and has been part of Aboriginal and Torres Strait Islander peoples' diets for thousand of years. Seeds can be crushed to make flour.

Figure 10.20 Popular spices

10.17 LET'S COLLABORATE



Black pepper is the most popular spice around the world. Cumin is the second most popular. Answer the following questions as a class.

- 1 Do you know these spices?
- 2 Why do you think these two are the most popular?
- 3 Can you name any countries that use these spices?

Tasty Trivia

It is very easy to make your own chai tea. It is simply a mix of spices and tea leaves with milk added if you wish. Try it for yourself.

10.18 ACTIVITY

Using spices

- 1 Name a spice that matches each of the following descriptions:
 - a the common ingredient used to flavour ice-cream
 - b used in many Indian dishes
 - c the most expensive spice because it has to be picked by hand
 - d used commonly in many dishes, often fried up with onions
 - e used to sprinkle on the top of a true Italian cappuccino (it is not chocolate and in its natural state it is rolled up)
 - f often used in apple crumble but always removed before eating.
- 2 Now write five of your own spices and swap your list with a classmate.



Figure 10.21 Traditional chai tea is brewed with an aromatic array of star anise, cinnamon, cloves, allspice and white peppercorn.

Check out ginger

Ginger is a root vegetable with a fresh and zingy flavour. It is used in products for its great flavour and aroma, and is a very versatile spice as it is used in both sweet and savoury dishes, such as ginger ale, gingerbread, curries and confectionery. Ginger was originally cultivated in China and has been used for centuries in traditional medicine. It was one of the first spices to reach Europe during the spice trade. When purchasing fresh ginger, it is best to buy a firm, fresh-looking root that doesn't bend. It can be stored in the fridge for two weeks if wrapped in foil. When cooking with fresh ginger, peel off the skin with a vegetable peeler, then slice or grate as required. It is also great in fresh tea with hot water, lemon and a little honey for a quick pick-me-up.

Tasty Trivia

Ginger is resorted to as the best cure for some of the simple ailments or common problems such as vomiting, nausea, digestive complaints and morning sickness. A cup of ginger tea in the morning may provide you with more vigour and freshness than an ordinary cup of tea.



Figure 10.22 Ginger can be used for both sweet and savoury dishes.

REFLECT ON LEARNING

- 1** Explain why soft drink is often referred to as 'empty calories'.
- 2** Describe the difference between herbs and spices.
- 3** Identify the parts of the plant that can be used as a spice.
- 4** Name five different spices that are used in sweet dishes and identify the recipes.
- 5** Describe the different forms in which herbs and spices can be purchased.



10.19 ACTIVITY

Reflections

Reflect back on your learning from this chapter by answering the following questions:

- 1** What did you learn from completing the activities and recipes in this chapter?
- 2** Of the activities that you completed, which did you enjoy most?
- 3** Of the activities that you completed, which did you find the most challenging?
- 4** What would you do differently if you were to complete these activities again?
- 5** Which areas would you like to learn more about?



LOOKING BACK

- Lipids play a very important role in food as they contribute to flavour, texture and aroma. Fats, a type of lipid, are solid at room temperature and are usually from animal sources, whereas oils are usually liquid at room temperature and often from plant sources (seeds and nuts). Fats are a major energy source, and also contain vitamins A, D, E and K.
- There are four main types of fats: saturated, trans, monounsaturated and polyunsaturated. Saturated fats are found in all animal products and a few vegetable products, and are generally solid at room temperature. Fats are often described as 'good' fats and 'bad' fats. The 'good' fats are both the monounsaturated and polyunsaturated fats.
- Sugar is an energy-dense carbohydrate mainly made of sucrose. Herbs are the leaves of plants, which can be purchased fresh or dried. Spices are the dried seeds, buds, fruits, barks or roots of plants. The main reason why we add sugar, salt, herbs and spices to food is to enhance its flavour, aroma and colour.
- Salt occurs naturally in almost all foods. It is important because it provides flavour and also preserves foods. Sugar does not contain any nutrients other than carbohydrate. Herbs and spices add excitement to dishes; they can improve the flavour of any product and research has shown that herbs and spices provide a wide range of nutrients.

TEST YOUR KNOWLEDGE

Multiple choice

- Which of the following are sources of 'good' fats?
 - avocado
 - olives
 - tuna
 - all of the above.



- Which of the following parts of a plant can be used as a spice?
 - seed
 - bark
 - root
 - all of the above.

True/false

- Sugar is a nutrient-dense carbohydrate.
- Saffron is the most expensive spice to use.
- All fat should be avoided.

Short answer

- Australian Dietary Guideline number 3 says, 'Limit intake of food containing saturated fat, added salt, added sugars and alcohol.' Explain the reason for this guideline. Suggest two strategies to reduce consumption of saturated fats, added sugar and added salt in your everyday diet.
- Discuss in detail the reasons why fat, salt, sugar, herbs and spices are used in so many different food products.

Extended response

Choose one herb and one spice to research that has not been discussed in this chapter. Investigate the following information:

- 1 Describe the appearance of the herb and spice.
- 2 Explain which part of the plant is used for the herb and spice.

- 3 Summarise the history of each.
- 4 Describe any medicinal ways in which the herb or spice may be used.
- 5 Find two recipes for each.

