

CHAPTER 9

Legumes, nuts and seeds

ACCESS PRIOR KNOWLEDGE

- 1 Define the term 'legume'.
- 2 Name as many different types of seeds as you can.
- 3 Outline the nutritional benefits of consuming nuts.
- 4 'Meat-free Monday' is a campaign to include more legumes in your diet. Suggest four healthy meat-free meals you could make to feed your family.
- 5 Discuss why baked beans are good for your heart.

9.1 Legumes, nuts and seeds: The basics

Legumes, nuts and seeds taste great and feature in many popular and delicious meals and food products around the world. By definition, **legumes** are the seeds from some pod-bearing plants, but they are most commonly recognised and known by people as beans, lentils, chickpeas and peas.

legumes The seeds from some pod-bearing plants.

Legumes are also often referred to as **pulses**, which are in fact dried legumes. While legumes grow on plants, **nuts** grow on trees and are defined as edible kernels in a hard shell. **Seeds** are dried from the flowers or fruits of plants such as the poppy, sesame, pumpkin and sunflower. Legumes, nuts and seeds are all very good sources of protein and are an important part of ensuring a balanced diet.

pulses Dried legumes.

nuts Edible kernels in a hard shell.

seeds The flowers or fruits of plants such as the poppy.



9.1 ACTIVITY

Introducing legumes

Have you ever had legumes, nuts or seeds before? Chances are you have, but you may not have realised it at the time. Below is a list of different food products made from legumes, nuts and seeds. Discover how many of these food products you have already consumed and enjoyed. Copy the table into your workbook and complete it (except for the last column) to discover your legume, nut and seed culinary experiences.

Food	Country of origin	Have you ever eaten this?	Did you enjoy this food?	Legume, nut or seed?	Class tally
Hummus					
Baked beans					
Dhal					
Falafel					
Frijoles					
Tofu					
Baklava					
Tahini					
Friand					
Chilli con carne					
Minestrone					
Almond milk					
Sesame snaps					
Praline					
Soy sauce					
Pesto					
Poppy seed cake					



9.1 ACTIVITY continued



Figure 9.1 Falafel



Figure 9.2 Lemon and pistachio friands



Figure 9.3 A bowl of tahini

Collect and collate the responses from your classmates to determine the most and least consumed food products.

- 1 Graph the information gathered from your survey by using a computer graphing program or drawing by hand. Remember to label your axes correctly and give your graph an appropriate title. You also need to include a key for your data.
- 2 Based on the graph, which product has been consumed by your class most often?
- 3 Identify any products that nobody has tried before.
- 4 From the information in the table, identify which product you liked the most.
- 5 List any products that you did not enjoy.

DESIGN BRIEF: LEGUMES

Hummus is made using legumes. Prepare this dip and another dip that is low in fat and high in fibre, and that contains legumes. After your production, complete the evaluation questions.

You may like to serve this with bread. Ask your teacher about the recipe for Flat Bread that is available in the Teacher Resource Package.



The word *hummus* means chickpea in Arabic.



Hummus

Main tools and equipment

Food processor, small bowl, wooden spoon, measuring spoons, juicer

Production skills

Blending, presenting

Ingredients

 150 g chickpeas, tinned	 ¼ teaspoon ground cumin	 Juice of 1 lemon	 2 cloves garlic	 3 tablespoons (60 ml) water
 2 tablespoons tahini	 2 tablespoons yoghurt	 Pinch paprika (garnish)	 Turkish or pita bread	

Method

- 1 In a food processor, blend the chickpeas, cumin, lemon juice, garlic and water until the mixture looks like a thick cream or paste.
- 2 Spoon in the tahini and yoghurt. Blend again until combined.
- 3 Add additional water – just a small amount at a time – if consistency is too thick.
- 4 Add salt and pepper to taste.
- 5 Present on a plate and sprinkle with paprika for colour.
- 6 Serve with fresh bread such as Turkish or pita bread and/or vegetable sticks.

SERVES 2



Preparation time: 10 minutes



Serving and presentation time: 5 minutes



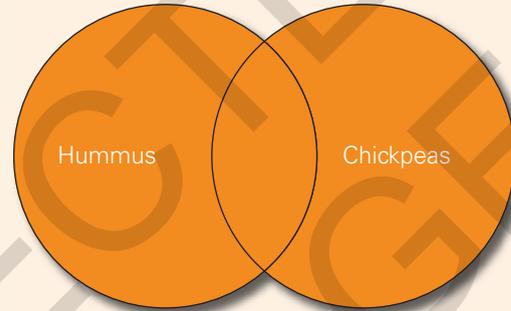
Total time: 15 minutes



Hummus – continued

Evaluating

- 1 Complete a taste comparison test of the prepared chickpeas and the hummus. Compare the similarities and differences between the main ingredient and the hummus using a Venn diagram.
- 2 Using your sensory analysis skills, describe the appearance, aroma, taste and mouthfeel of your hummus.
- 3 Hummus is an 'everyday food'. Explain why.
- 4 List three different ways in which you could use your hummus.
- 5 Describe another way in which you could present your hummus.
- 6 Suggest why people might choose to use canned chickpeas when they produce this recipe.



9.2 LET'S COLLABORATE

Legumes have been produced and eaten all around the world for many years. Why do you think this is the case? As a class, see whether you can come up with three or four different reasons. (*Hint: think about cultural, nutritional, economic and environmental reasons.*)



Figure 9.4 Legumes, nuts and seeds can become part of every meal.

History of legumes, nuts and seeds

Legumes have been a **staple food source** all over the world for centuries because they are cheap to produce and purchase, and are very filling. In fact, the lentil is claimed to be the first

staple food source

A food that is eaten regularly and in large quantities. It is the most eaten product in the diet.

food ever grown and harvested as a food source by humans. Mexico cultivated the first kidney, pinto and black beans, while China is famous for its soy and adzuki beans. Lentils were found in the tombs of the Egyptians for the pharaohs to eat in the next world.

Today, legumes are available worldwide and their use in recipes has increased, with legumes becoming a popular alternative to meat. They can be eaten fresh or dried, and are available canned for easy preparation and use.

Nuts and seeds were the original snack food for the human race. Before food cultivation, humans would hunt and gather their foods, and nuts were a significant food source during these times. They were easy to gather and store as well as tasty and nutritious.



9.3 LET'S COLLABORATE

List examples of Australian staple foods. Select two different countries and discuss what you believe their staple food products are.



The macadamia and bunya nuts are the only nuts indigenous to Australia. All other nuts grown in Australia have been introduced and cultivated.



REFLECT ON LEARNING

- 1 Explain the differences between legumes and pulses.
- 2 Discuss why legumes are commonly eaten by vegetarians.
- 3 Lentils were found in the tombs of the pharaohs. Suggest why they were left there.
- 4 Outline the reasons why legumes are a staple food source for many countries.
- 5 Describe why nuts are often used as a snack food.



9.4 INVESTIGATE IT

Visit the supermarket or Coles Online and complete the following cost-comparison chart. Before you start, predict which protein source you believe is the cheapest per 100 g and which is the most expensive per 100 g. Then answer the questions that follow.

Product	Cost and amount of the item	Cost per 100 g	Ranking from best price to most expensive
Fillet steak			
Chickpeas, dried			
Chickpeas, tinned			
Lamb chops			
Chicken fillets			
Lentils, dry			
Lentils, tinned			
Salmon fillets			
Rump steak			
Low-fat beef mince (5 star)			

- 1 Identify which protein source is the most affordable. Explain your answer.
- 2 Identify which protein source is the least affordable. Explain your answer.
- 3 Suggest the most sustainable protein source. Justify your response.
- 4 Describe what you have learnt from completing this activity. Did any of the results surprise you? Discuss your response.



9.5 ACTIVITY

Pricey protein

Legumes should be our number one protein source:

- It takes up to 30 times less land per kilogram to produce legumes compared with meat.
- It takes 25–35 kg of legumes of feed to produce 1 kg of meat. Think about the number of meals you could make with 25 kg of legumes, compared with 1 kg of meat.
- Land is being cleared for meat production, resulting in **land degradation**.
- Legumes are an extremely economical protein source:
 - They cost less to produce, manufacture, transport, store and prepare.
 - They have a much longer shelf life.
 - Once dehydrated or canned, they do not require refrigeration until cooked.
 - They can be packaged in recyclable and reusable materials.
 - They are just as versatile as meat.

land degradation

Deterioration of the quality of the land until it is no longer able to be used.

- 1 Describe how this issue of sustainable protein production makes you feel.
- 2 Compare how often you eat meat vs legumes at home.
- 3 Describe the changes you would have to make to your diet if meat were only consumed occasionally.
- 4 Explain the importance of protein in the human diet.
- 5 Present the arguments for both sides of this issue.
- 6 Justify your position on this issue.
- 7 Design a marketing campaign providing reasons why people should be consuming meat-free but protein-packed meals every week.

9.2 Quality considerations: Sensory properties

When purchasing legumes, nuts and seeds, you should consider the following characteristics:

- no signs of dirt or discolouration.
- packaging should show no signs of damage, in particular cans not dented
- skin should not be wrinkly.

Dried and canned legumes and seeds should be stored in a cool, dry pantry in an airtight container. Although they do have an extended shelf life, they should be consumed within six months. Once cooked, legumes need to be refrigerated and eaten within two or three days.

No signs of dirt or discolouration

Packaging should show no signs of damage, in particular cans not dented

Skin should not be wrinkly

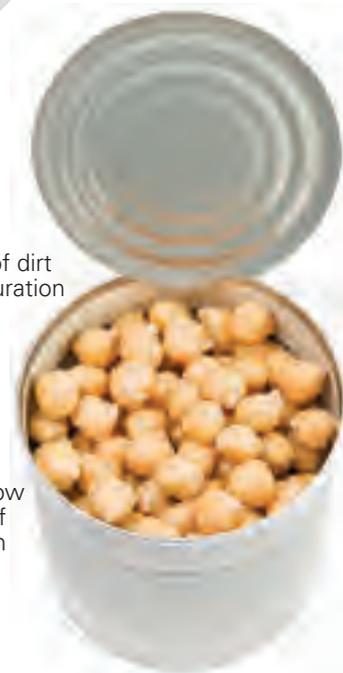


Figure 9.5 The characteristics of high-quality legumes



Storing nuts

Because of their fat content, correct storage of nuts is important. They do have a shelf life and will go **rancid**

rancid Describes a stale smell and flavour in fats and oils.

after a while. To keep nuts fresher for longer, it is a good idea to store them in your refrigerator; otherwise, they can be kept in a cool, dry pantry in an airtight container.

9.3 Nutritional value of legumes, nuts and seeds

Legumes, nuts and seeds are often described as some of nature's 'super foods' because they have a high nutritional value and are a cheap source of protein. They are inexpensive to produce, which makes them very affordable. In many countries, legumes and nuts are used instead of meat in everyday meals, with meat only being eaten on special occasions, as meat is costly to produce and expensive to consume.

Legumes, nuts and seeds have been an important protein source throughout history, and continue to

be the major protein source for **vegetarians** and **vegans**, as they are a great alternative to meat. Legumes and nuts are an incomplete protein source, and therefore need to be combined correctly to ensure they provide a complete source of protein to make up a healthy diet. For

vegetarian Generally, a person who eats eggs and dairy products, but does not eat any animal flesh (this type of vegetarian is called lacto-ovo).

vegan A person who does not eat or use any animal products and eats only plant foods.



Figure 9.6 Legumes and nuts can be purchased in a variety of ways.

example, beans and rice should be eaten together to create a complete protein source.

9.6 LET'S COLLABORATE

Research and discuss the differences between complete and incomplete protein. Outline the reasons for including protein in the diet.

Legumes are high in carbohydrates (but low in GI carbohydrates), fibre, folate and iron, making them a healthy food choice. Legumes are also low in fat.

Some people are cautious about eating nuts due to their high fat content, but nuts are a sensational snack food as they not only taste great but also contain many vitamins and minerals. They are, in fact, a source of '**good**' fats. (Fats are discussed further in Chapter 10.) As you can see from the Venn diagram in Figure 9.7 on p.234, the significant nutritional difference between legumes, nuts and seeds is fat content. While there are many similarities in nutritional composition, nuts do

'good' fats Fats that tend to lower cholesterol levels when they replace saturated fats in the diet, thus reducing the risk of heart disease.

contain amounts of fat and some nuts are extremely high in polyunsaturated fat. On the whole, nuts are generally a nutritious food: they are a high source of protein and therefore another good food choice for vegetarians. It is important to eat small amounts of nuts at a time due to their high fat content. It is recommended that we eat only a handful of nuts per day, but we are encouraged to eat more legumes, which are very low in fat, every day.

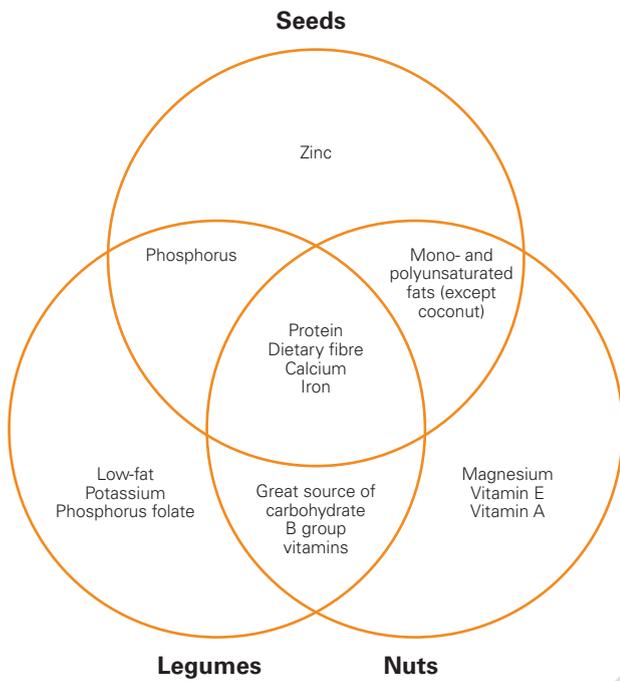


Figure 9.7 Comparing the nutritional properties of legumes, nuts and seeds

Tasty Trivia

The soybean is the only product in the legume family that is a complete source of protein. Soybeans have been cultivated by Chinese farmers since approximately 1100 BCE.

9.7 ACTIVITY

Which nut?

Using this fat content graph, answer the following questions.

- 1 Identify which nut has the lowest fat content.
- 2 Identify which nut has the highest fat content.
- 3 People often avoid nuts because of their fat content. Is this justified? Explain your response.
- 4 Discuss why nuts are a great snack food for outdoor activities like hiking.

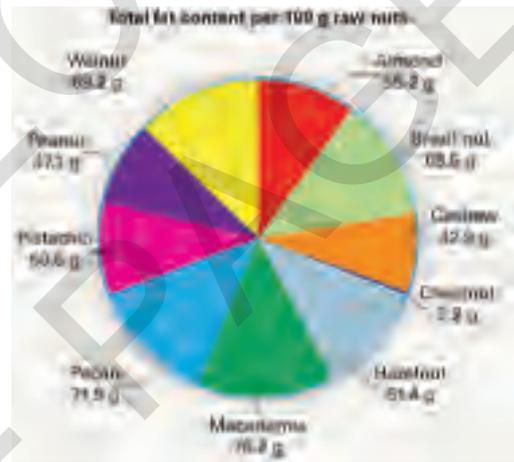


Figure 9.8 Total fat content per 100 g raw nuts

9.8 ACTIVITY

Nuts for sale

Nuts are often sold and served salted.

- 1 Explain why you think nuts are salted.
- 2 List the varieties of nuts you can buy salted.
- 3 Discuss how salting nuts could have an impact on their nutritional properties.
- 4 Explain why it is better to buy and cook with unsalted nuts.
- 5 Complete a taste test of a salted and an unsalted nut and compare the differences.
- 6 List which nut you prefer and explain why.

DESIGN BRIEF: VEGETARIAN DINNER

You have a friend coming over for dinner who is a vegetarian. You have bought some tofu and either have to design your own tofu recipe or try the following Fried Tofu and Dipping Sauce recipe. You also need an accompaniment to ensure you prepare a filling and tasty meal. Design a salad or vegetable dish suitable for a vegetarian that uses Asian flavours to complement your fried tofu. Or design your meal using tofu as your key ingredient. You don't have much time, so whatever you make needs to be quick.

Fried tofu and dipping sauce



Main tools and equipment

Plates, chopping board, chef's knife, measuring spoons, measuring cup, measuring jug, frying pan, tongs

Production skills

Crumbing, slicing, whisking

Cooking processes

Shallow frying

SERVES 1 OR 2

-  Preparation time: 15 minutes
-  Cooking time: 10 minutes
-  Serving and presentation time: 5 minutes
-  Total time: 30 minutes

Ingredients

Fried tofu

					
¼ block tofu (90 g)	2 tablespoons cornflour	Pinch salt	Pinch white pepper	½ egg, whisked	¼ cup panko breadcrumbs
					
¼ cup oil, for shallow frying	¼ spring onion, finely sliced	¼ chilli, finely sliced			

Dipping sauce

				
1 tablespoon soy sauce	1 teaspoon rice wine vinegar	¼ teaspoon sugar	½ teaspoon sesame oil	¼ spring onion, finely sliced
				
¼ chilli, finely sliced	1 teaspoon ginger, minced	1 clove garlic, finely chopped	¼ teaspoon sesame seeds	



Fried tofu and dipping sauce – continued

Method

- 1 Slice tofu into 6 even-sized cubes.
- 2 Season cornflour with salt and pepper.
- 3 Prepare three separate plates ready for the three-stage crumbing: one has cornflour, one has beaten egg and the other has breadcrumbs.
- 4 Coat the tofu in the cornflour, egg and then breadcrumbs.
- 5 Heat oil in a frying pan.
- 6 Shallow fry the tofu gently, turning over when each side browns.
- 7 Drain on paper towel.
- 8 For the dipping sauce, prepare all ingredients, then combine.
- 9 Serve tofu and dipping sauce garnished with finely sliced chilli and spring onion.

CREATE A SOLUTION

Oh no! You have just found out your friend is vegan, not vegetarian. Redesign your tofu meal to ensure that your final meal solution is suitable for you to serve to them.

Start by identifying any ingredients that would not be eaten by a vegan, then suggest other alternative ingredients that you could use to modify or change the recipe.

- Change the water a number of times during the soaking process. Don't use this water when cooking – start your recipe with fresh water.
- Simmer the beans slowly until they are tender – this makes them easier to eat and digest.
- When introducing canned beans into your diet, your body needs time to adjust to them. Start to eat them in small amounts and gradually increase your intake.
- If you are really worried about discomfort, eat lentils: they are broken down by your body much more readily.

Remember resistant starch

Resistant starch is a type of fibre that is unable to be digested by the body. Legumes are high in resistant starch. This type of fibre is called resistant because it is unable to be digested by the small intestine and passes through the body to the large intestine where it is broken down by fermentation. Resistant starch is also a vital component of a healthy digestive system – it keeps your bowels regular.

Canned beans

Canned beans can be a great source of vitamins C and B; however, the resistant starch found in canned legume products is hard for the body to digest, which can cause unwanted discomfort. There are a number of steps you can take when cooking with canned beans to help your body digest them easily. Try these tips the next time you make your own baked beans:





9.9 ACTIVITY

Researching resistance

There are a number of reasons why the body is unable to digest resistant starch. Go to the Australasian Science website and research resistant starch to answer the following questions.

- 1 Complete a PMI chart on what you have researched about resistant starch. Write at least four points for each column.

P(lus)	M(inus)	I(nteresting points)

- 2 Explain why our bodies cannot digest resistant starch.
- 3 Outline any health conditions that are linked to resistant starch and describe the connection.
- 4 Design a podcast or infographic to inform consumers about resistant starch. Include the following:
 - a the recommended amount of resistant starch we should eat every day (on average, we consume 5–7 g per day)
 - b why it is important to include resistant starch in our daily diets
 - c foods that contain resistant starch.
 - d at least five tips for ways to increase resistant starch consumption. (Here's one to get you started: add chickpeas to your rice or pasta salad.)



Figure 9.9 Baked beans, the musical food!

9.4 Love legumes!

Today the availability of the different types of legumes is increasing due to improvements in accessibility, exporting and importing, production of product varieties and convenience, with prepared and canned legume products readily available.

REFLECT ON LEARNING

- 1 Compare and contrast the significant differences between legumes, nuts and seeds.
- 2 State the dietary recommendations for legumes, nuts and seeds.
- 3 Legumes, nuts and seeds are all incomplete sources of protein. Define and explain incomplete protein. Name the legume that is the exception to this rule.
- 4 Discuss the importance of resistant starch in your everyday diet.
- 5 Suggest two ways to increase dietary fibre in your daily diet.

Legume	Origin	Description	Cooking uses	Did you know?
 <p>Black-eyed peas</p>	Native to Africa and Asia.	White in colour with a black eye, these small-sized beans have a smooth texture and mild bean taste.	Casseroles, salads, soups	Black-eyed peas feature in South American and Jamaican 'soul food' cooking, travelling to the New World via the slave trade.
 <p>Cannellini beans</p>	Native to South America.	Pale white in colour and a medium size, these beans have a mild, nutty flavour.	Italian dishes, salads, soups, French cassoulet	These beans were first cultivated by the Incas and are very important to Italian cuisine. They are a great substitute for haricot or white kidney beans in recipes.
 <p>Lentils</p>	It is believed that lentils probably originated in Europe and Asia but, as they have been used since prehistoric times, it is hard to confirm.	Small and disc-like in appearance, these can be green, brown, red or yellow in colour.	Casseroles, dhal, pâtés, soups	A Hindu proverb says 'Rice is good, but lentils are my life.' The red lentil is the oldest of the lentil family. Lentils have fed us for thousands of years and in some areas are as important in today's diet as they were in earlier times. Unlike other legumes, lentils do not need to be pre-soaked before cooking.
 <p>Red kidney beans</p>	Native to the Americas.	A medium-sized bean with a smooth, mealy texture and a bright, rich red colour.	Casseroles, chilli con carne, salads, soups, stews	Cultivated by the Aztecs, these are among the most widely used legumes. They can cause food poisoning if they are not boiled for long enough before cooking.
 <p>Soybeans</p>	Native to Asia.	A small, smooth and creamy white coloured round bean that has a bland sweet flavour.	Casseroles, pâtés, fritters, tofu	Considered to be one of the 'five ancient grains' of China, the soybean has been grown for food in that country for over 2000 years.
 <p>Split peas</p>	Thought to have first originated in India.	A small round disc either yellow or green in colour; these are a variety of garden pea that has been peeled and split in half.	Casseroles, dhal, soups	Split peas have been found in archaeological sites dating back 2000 years. When choosing split peas, look for a strong colour.

Figure 9.10 Popular legumes

9.10 ACTIVITY

Left-out legumes

Figure 9.10 is not a comprehensive list of legume products.

- 1 List any legumes that are not listed in the table.
- 2 Add them to the table.
- 3 Research information so that you can fill in each column, reflecting the examples in the chart.
- 4 Prepare a meat-free meal using one of the listed legumes.
- 5 Design a recipe card to promote your meat-free meal.

9.5 Cooking with legumes

Preparing legumes

Dried legume products such as beans and chickpeas need to be rehydrated before they can be used for cooking. Legumes should be soaked at room temperature in water for six to eight hours, or overnight, to improve their digestibility. This also reduces their cooking time when you are ready to cook them. Alternatively, you can use the 'quick boil' method – cover them in water and bring to the boil for two minutes. Then cover and leave to soak for an hour. Your legumes are now ready for cooking.

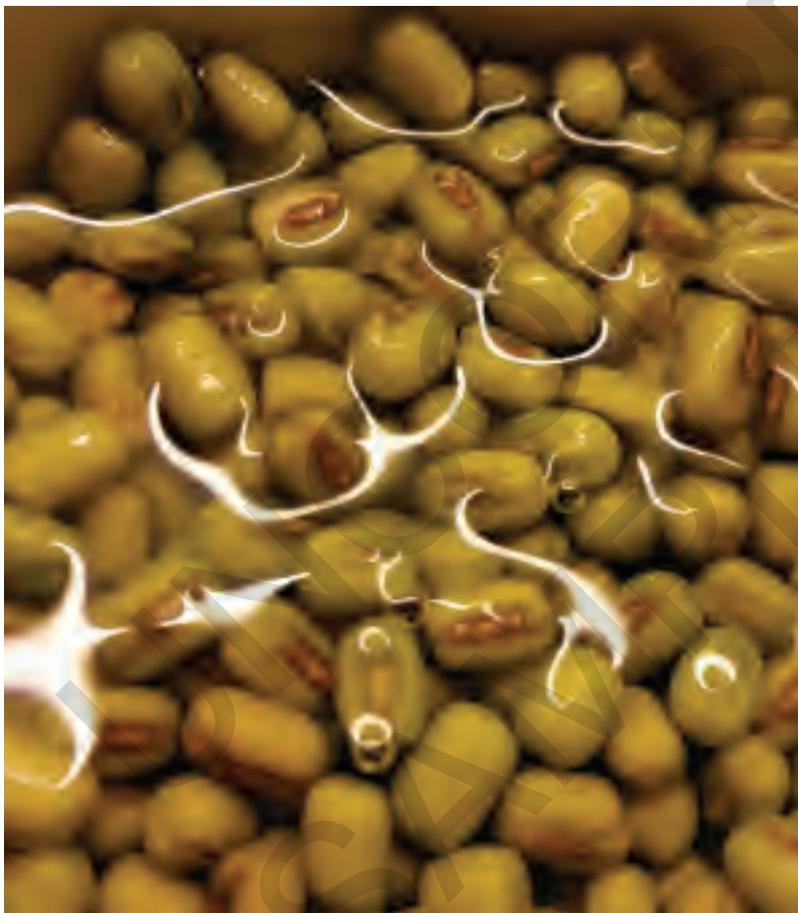
Cooking tip: try not to over-stir them while cooking, as this can often make them start to fall apart. You can also buy canned legumes that are ready for use immediately.

Check out chickpeas

The chickpea, also known as the Garbanzo bean, has a nutty flavour and has been grown throughout history in India. Chickpeas are ranked the 10th most consumed product in the world and are a popular ingredient in Spanish, Italian, Greek, Middle Eastern and Indian cuisines. They are a very versatile product, often found in salads, curry dishes, stews and dips, or just eaten roasted. Chickpeas got their name because it was thought that the shape resembled a chicken's beak. There are two types of chickpeas, the Desi of Indian origin and the Kabuli from the Middle Eastern and Mediterranean regions. Both varieties are grown in Australia. They are extremely versatile and can be milled into flour, known as besan flour, used predominantly in Indian cooking. They can be roasted and eaten plain, and they also come dried or canned ready to use.

Tasty Trivia

Do you have the correct legumes in your cupboard for your recipe? If not, it is not a problem. In most cases, you can substitute with another legume type and cook your recipe.



Chickpea meringue nests

Main tools and equipment

Measuring spoons, measuring cup, electric beater, medium bowl, baking tray, baking paper

Production skills

Beating

Cooking processes

Baking

MAKES 2 NESTS

 Preparation time: 20 minutes

 Cooking time: 1.5 hours

 Serving and presentation time: 10 minutes

 Total time: 2 hours

Ingredients

					
200 g canned chickpeas (retain the liquid)	1/3 cup liquid from drained chickpeas	1/4 teaspoon Cream of Tartar	1/4 teaspoon white vinegar	1/2 cup icing sugar, sifted	1/2 teaspoon vanilla

Filling ingredients

		
1/4 cup cream	1 teaspoon icing sugar	50 g raspberries or mixed berries

Method

- 1 Preheat oven to 120°C.
- 2 Line a baking tray with baking paper.
- 3 Drain chickpeas and reserve the liquid.
- 4 Beat chickpeas with electric beater until the mixture is white and foamy, forming soft peaks. This will take about 5 minutes.
- 5 Add cream of tartar and white vinegar. Beat until combined.
- 6 Gradually beat in icing sugar, a small amount at a time, until stiff and glossy peaks form.



- 7 Beat in vanilla.
- 8 Spoon mixture onto baking paper, forming two meringue nests.
- 9 Use the back of a teaspoon to smooth the tops.
- 10 Bake meringues for 1.5 hours. Turn off oven and cool inside for 30 minutes.
- 11 Prepare the topping by beating the cream and sugar until a stiff peak is formed.
- 12 Wash and hull the berries.
- 13 To serve, spread the nests with the cream and decorate with the mixed berries.

Evaluating

- 1 This is a very unusual meringue. Describe why this is the case.
- 2 Describe the appearance, aroma, taste and texture of your finished meringue nests.
- 3 Outline how you could make this recipe suitable for a vegan.
- 4 Discuss the reason for cooking this product for such a long time and then cooling in the oven.
- 5 Describe the difference between soft peaks and stiff peaks.
- 6 Suggest two other topping ideas you could use if making this again.
- 7 Evaluate your skill level in completing this practical task.

DESIGN BRIEF: LEGUMES

Many people don't eat as many legumes as they should. Design your own affordable meal or snack using a legume product. It must serve two people and include at least five ingredients, including one vegetable or fruit. The final presentation of your dish must be visually appealing for your consumer and enhance the properties of your dish. Include the following design process steps when completing this brief:

- 1 Outline reasons why legumes do not appear in the everyday diet of many Australians as often as they are recommended.
- 2 Generate ideas to help you solve this brief.
- 3 Plan your production, including preparing a production plan.
- 4 Take a food-styled photograph of your final product to be displayed in your classroom to promote the consumption of legumes.

REFLECT ON LEARNING

- 1 Name your favourite legume. Explain your choice.
- 2 List five different types of legumes.
- 3 Draw a flow chart explaining the steps you need to follow to prepare legumes for cooking. Explain the reasons for each step.
- 4 You have a tin of red kidney beans in your pantry cupboard. Describe how you could incorporate these into tonight's dinner.
- 5 Discuss why legumes are often called a 'super food'.



9.6 Nutritious nuts

Nuts are a versatile food commodity. There are many different varieties of nuts to choose from and they can be eaten raw or cooked into a number of different food products, including both sweet and savoury. Nuts can be purchased whole, roasted, salted, flaked, blanched, slivered and ground.



Technically, the peanut is a legume but it is usually grouped in the nut category because it shares many physical and chemical properties with nuts.



<p>Almond</p> 	<p>A flat-shaped nut with a pointy end and a smooth texture; creamy white colour covered with a brown skin.</p>	<p>Used in both savoury and sweet dishes, such as stir-fries, cakes, pastries, biscuits, confectionery and ice-cream.</p>	<p>Ground almonds are the main ingredient in marzipan. Half the world's almond supply is grown in California. They were cultivated as early as the second century BCE. Sugar almonds are a traditional food for births and wedding celebrations.</p>
<p>Brazil</p> 	<p>Long, three-sided creamy-coloured nut with a dark brown skin.</p>	<p>Great for desserts or on cheese platters, cakes, biscuits, confectionery and pastries.</p>	<p>Very high fat content. Brazil nut oil is often used in salad dressing. The world's supply of Brazil nuts is still gathered from wild trees, mostly located in the Amazon. Nuts have been known to kill or badly injure people when they fall off the tree.</p>
<p>Chestnut</p> 	<p>Large and round with brown flesh; they have a point at one end and a brown skin.</p>	<p>Sold roasted and puréed, used in savoury and sweet dishes.</p>	<p>This is the only nut that can be treated like a vegetable because it has more starch and a small amount of oil. Chestnuts are often roasted and sold on the streets during winter around the world.</p>
<p>Coconut</p> 	<p>Crunchy, white flesh and clear milk, encased in a brown fibrous husk.</p>	<p>Used in curries, for coconut cream and milk, cakes, biscuits, desserts and ice-cream.</p>	<p>Contains milk that is a refreshing drink and an important ingredient in Asian curries. Very high in fat – 87 per cent saturated.</p>
<p>Hazelnut</p> 	<p>Small, round, light-brown nut with a point at one end; it has a thin brown skin.</p>	<p>Great snack food; used in cakes, biscuits, stuffing, pastry, desserts, confectionery and ice-cream.</p>	<p>Mainly monounsaturated oil and a good source of vitamin E. 'Hazel' comes from the Anglo-Saxon word meaning 'hood' or 'bonnet'.</p>
<p>Macadamia</p> 	<p>White, smooth round nut.</p>	<p>Used in desserts, savoury dishes such as pasta, confectionery and ice-cream; also manufactured into macadamia oil and butter.</p>	<p>Excellent source of fibre. Native to Australia and an important food for Aboriginal and Torres Strait Islander peoples. A popular chocolate-coated treat.</p>
<p>Peanut</p> 	<p>Long pod-like nut with two to three seeds (the edible part), which are covered by a reddish, brown skin.</p>	<p>Great snack, used for savoury and sweet foods such as peanut butter, salads, satay, confectionery, desserts and ice-cream.</p>	<p>Not a real nut; actually a legume. Found in tombs dating back to 950 BCE.</p>

Figure 9.11 Popular nuts

Nut	Description	Cooking uses	Did you know?
 <p>Pecan</p>	Long, flat nut with a ridge running lengthways down the middle, covered in a thin brown skin.	Desserts, confectionery, cakes, biscuits, pastry and ice-cream.	Main ingredient of pecan pie. Unlike most nuts, these are low in fibre. Used by astronauts while in space because they are a concentrated energy source. Often confused with the walnut, as it looks similar, only flatter. Pecan shells are used for chicken litter.
 <p>Pistachio</p>	A small, green kernel covered in a thin red-coloured skin; usually comes in its shell.	Pâté, terrines, accompaniment to meats, desserts, pastries, confectionery and ice-cream.	An excellent source of iron.
 <p>Walnut</p>	This creamy brown, round nut has two joined hemispheres that resemble a butterfly; it has a light brown, thin skin.	Used in stuffing, biscuits, salads and salad dressing, pastry and confectionery.	Many people say this nut looks like a human brain. Can you see any resemblance? There are 15 different types of walnuts growing around the world.

Figure 9.11 Popular nuts (continued)



9.11 ACTIVITY

Nut recipes

Using the list of nuts from Figure 9.11, find a recipe for each nut listed. Then answer the following questions:

- 1 How many of the listed nuts have you eaten before?
- 2 Identify which nut was the easiest one for which to find a recipe. Suggest why this was so.
- 3 Identify which nut was the most difficult one for which to find a recipe.
- 4 Discuss whether you have ever produced or consumed any of these recipes before.
- 5 How many of the recipes have you never tried? List each new recipe.
- 6 Which recipe would you be most keen to cook in class? Explain why.



Peanut butter

Main tools and equipment

Tea towel, measuring spoons, food processor, sterilised jar

Production skills

Shelling, blending

Ingredients



Method

- 1 Rub the skins off the peanuts.
- 2 Put peanuts in food processor and process until ground.
- 3 Gradually add oil and process until oil is absorbed and a paste is formed.
- 4 Add salt to taste and store in a sterilised jar.

Recipe tip: You can make a crunchy or smooth peanut butter. This recipe is for crunchy peanut butter. For a smooth peanut butter, put half the peanuts and half the oil in the processor and blend until smooth. Then gradually add the remaining peanuts and oil until you have a smooth paste.

Evaluating

Compare your peanut butter with a commercial variety using a table like this.

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

SERVES 2

-  Preparation time: 15 minutes
-  Serving and presentation time: 5 minutes
-  Total time: 20 minutes



- 1 Which peanut butter did you prefer? Explain why.
- 2 Work out how much it cost to make your homemade peanut butter. Use the Coles Online website to help you work out the cost of the ingredients.
- 3 Compare this with the cost of the commercial peanut butter.
- 4 Which peanut butter represents better value?
- 5 Overall, discuss which peanut butter is best and explain why, with reference to cost and sensory properties.



Figure 9.12 Nuts can be used whole, slivered or crushed when cooking.



Peanut butter has been traced to the Aztecs and the Incas – two ancient civilisations that lived in the area that we today know as South America.



9.12 ACTIVITY

Cooking with nuts

Roasting nuts really brings out their flavour – try it for yourself!

- 1 Preheat your oven to 300°C and spread the nuts out on a baking tray in a single layer. Roast for 10–15 minutes. Watch them closely as they can burn quickly due to their high fat content.
- 2 Compare the flavour between a raw nut and roasted nut.
- 3 Describe which tasting you preferred: the raw or cooked nut.
- 4 Describe the physical and sensory changes that occur once the nut has been cooked.
- 3 Investigate alternative methods available to cook nuts.

Check out cashews



9.13 ACTIVITY

Cashew conversation

Investigate the cashew nut and copy and complete the chart below, in a similar way to Figure 9.11 on pp.242–3. Research up to five facts for the last column.



Nut	Description	Cooking uses	Did you know?
Cashew			



CHINA

Chicken and cashew nut stir-fry

RECIPE

Main tools and equipment

Vegetable knife, measuring spoons, measuring cup, measuring jug, chopping board, frying pan, wooden spoon

Production skills

Slicing, measuring

Cooking processes

Stir-frying

SERVES 2

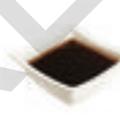
 Preparation time: 10 minutes

 Cooking time: 15 minutes

 Serving and presentation time: 5 minutes

 Total time: 30 minutes

Ingredients

 1 teaspoon cornflour	 1 chicken stock cube	 ¼ cup water	 1 tablespoon soy sauce	 1 tablespoon oyster sauce	 2 teaspoons peanut oil
 1 chicken fillet, thinly sliced	 ½ brown onion, sliced	 1 clove garlic, crushed			
 2 spring onions, thinly sliced	 1 carrot, thinly sliced	 ½ red capsicum, sliced			
 80 g Chinese broccoli, chopped	 6 snow peas, sliced	 1 bok choy, quartered			
 1 teaspoon coriander, chopped	 ¼ cup (35 g) unsalted roasted cashew nuts	 Small handful bean sprouts (garnish)			



Method

- 1 Prepare all ingredients, starting with the vegetables and finishing with the chicken.
- 2 Combine cornflour, chicken stock cube, water, soy sauce and oyster sauce. Set aside.
- 3 Heat oil in a frying pan or wok.
- 4 Add chicken and stir-fry until cooked.
- 5 Remove chicken from pan.
- 6 Fry onion until transparent, then add all other vegetables and cook until just softened.
- 7 Add chicken, cashew nuts, coriander and sauces to the pan. Stir until the mixture boils and thickens slightly.
- 8 Garnish with bean sprouts and serve.

Evaluating

- 1 Identify the processes used to produce the Chicken and Cashew Nut Stir-Fry.
- 2 List five other vegetable ingredients you could use in this stir-fry to create a colourful, fresh and nutritious meal.
- 3 Outline three safety rules you had to consider when producing this recipe.
- 4 Describe the role of the cashew nuts in this recipe.
- 5 If you wanted to serve more people with this recipe, but didn't want to double the ingredients, what could you serve this with?
- 6 Describe the appearance, aroma, taste and texture of your stir-fry using sensory analysis language. Write a complete sentence for each one.
- 7 Describe what you learned from making this recipe.
- 8 If you made this recipe again, what would you do differently? Explain why.

Successful stir-frying

Stir-frying is a simple and quick technique to make tasty food fast. Have everything prepared before you start so that when it is time to cook you can stay with your food at all times. Always keep the ingredients moving by tossing them in your pan. This ensures everything cooks evenly.

If cooking large quantities, cook your meat in batches. This helps it to brown and cook quickly. If you have too much in the pan at once, the meat will start to 'stew' in its own juices.

When stir-frying vegetables, it is best to start with those that take the longest to cook, like onion, carrot

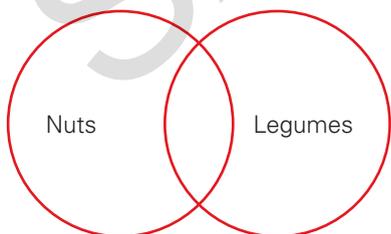
and broccoli; this way, your other vegetables won't over-cook and end up soft. A good vegetable stir-fry still has a crunch when you eat it.



Figure 9.13 Stir-fry should have a crunch to it.

REFLECT ON LEARNING

- 1 Copy and complete the Venn diagram by comparing and contrasting nuts and legumes.



- 2 Describe the reasons why nuts might be cooked.
- 3 List the different ways nuts can be purchased.
- 4 Identify the nutrients found in nuts. Explain why they are important for good health but should only be eaten in small amounts.
- 5 Stir-frying is a popular cooking method. Suggest three reasons why this is so.

9.7 Sensational seeds

Seeds may look small and not very exciting, but they are packed with vitamins and minerals. They are used in a range of savoury and sweet dishes, and add colour, flavour and texture to your favourite dish.

9.14 LET'S COLLABORATE



With a partner, list all the food products you can think of that use seeds, either in the recipe or as a garnish – for example, poppy seeds on bread products.

Check out wattle seeds

You probably have seen the well-known Australian emblem, wattle, around your area blossoming in spring. The Acacia (wattle) not only has a very pretty flower, but its seed has been included in the diet of Aboriginal and Torres Strait Islander peoples for thousands of years. Wattle seed has long been a rich source of protein and carbohydrate, especially during drought times. Wattle seed is becoming popular in cooking due to its nutty, mild, coffee-like flavour. Wattle seeds are added to damper and muffins, and ground and used to thicken salad dressings, sauces and casseroles. The seed can be crushed into a flour and has even been used in dessert dishes.

Wattle seed contains calcium, iron, zinc and potassium in fairly high concentrations. Due to its low glycaemic index and being high in fibre, wattle seed is also very good for diabetics.

Be careful, as there are only a small number of edible wattle seed types, so don't gather your own! Wattle seed is an ingredient that needs to be purchased commercially for human consumption.



Seed	Description	Cooking uses	Did you know?
Caraway 	Small, thin, brown black, crescent-shaped seed with a very strong and aromatic fragrance.	Seed cakes, Hungarian goulash, salads and served with vegetables; also added to cheese in Europe.	Aid the digestion of food. Used in love potions by the ancient Greeks and Egyptians to prevent your loved one from straying. Also served with baked apples in England to prevent flatulence.
Pumpkin 	Flat, oval-shaped green kernel encased in a creamy white shell.	Snack bars, salads, cakes, slices, biscuits and sprinkled in soups and casseroles.	High in protein, iron and vitamin C. Popular, healthy snack food. Dry your own using your microwave or direct sunlight.
Sesame 	Very small, flat cream-coloured seed.	Toasted and added to salad, meatloaf, casseroles, quiche and stuffing; also sprinkled on breads and made into a paste (tahini) and oil.	One of the oldest and most nourishing seeds, dating back to 1600 BCE. Contains a large amount of oil.
Sunflower 	Beige-coloured, small, flat, oval-shaped seed.	Popular in breads, added to salads (often roasted), cakes, biscuits and puddings.	Good source of iron, zinc and vitamin C.
Poppy seeds 	Very tiny, round, grey seed.	Commonly used on breads and dry biscuits, as well as cakes, pastries and strudels; can be ground and used to thicken curries.	Source of calcium.

Figure 9.14 Popular seeds



Wattle seed and bush tomato risotto



AUSTRALIA

RECIPE

Main tools and equipment

Measuring cups, measuring spoons, measuring jug, chef's knife, chopping board, wooden spoon, saucepan

Production skills

Measuring, dicing

Cooking processes

Saut eing, simmering

SERVES 2

 Preparation time: 10 minutes

 Cooking time: 30–35 minutes

 Total time: 40–45 minutes

Ingredients

 1 teaspoon oil	 1 clove garlic, crushed	 1/2 brown onion, diced	 1/2 cup Arborio rice
 2 cups vegetable stock	 1/2 teaspoon ground wattle seed	 1/2 tablespoon ground bush tomato	 1/4 diced tomato as garnish
 5 basil leaves, shredded	 1 teaspoon cream	 20 g parmesan, shaved	

Method

- 1 Place the oil into a saucepan and heat. Add the onion and garlic and saut e until translucent.
- 2 Place saucepan onto a low heat. Add the rice and stir for a couple of minutes to seal the rice.
- 3 Add the vegetable stock, a quarter at a time. The rice should always be covered by liquid. Stir well after each amount of liquid.



- 4 When half your stock has been added, add your wattle seed and bush tomato. Stir well. Continue adding your stock.
- 5 Cook until rice is just tender or *al dente*. Add cream, diced tomato and basil leaves, mixing well.
- 6 Remove from heat and garnish with parmesan cheese before serving.

Evaluating

- 1 List five other ingredients that could be included in your risotto.
- 2 Describe the flavours of the bush tomato and wattle seed.
- 3 Suggest an alternative ingredient you could use if you are unable to get bush tomato for this recipe.
- 4 Explain how you were able to tell when your rice was cooked.
- 5 Outline what you should do with any leftover risotto.

Quick ideas for seeds

- 1 Sprinkle over your breads, cakes and biscuits before cooking them.
- 2 Combine with your muesli or chopped up with fruit in your yoghurt for a great breakfast to start off your day.
- 3 Add a spoonful to your pasta, rice, hamburgers and casserole dishes. Sprinkle over your salad.
- 4 Add to your stir-fries, sprinkle over food after cooking for a nutritious, colourful and tasty garnish.



9.15 ACTIVITY

Investigating legumes, nuts and seeds

- 1 Go back to Activity 9.1 on p.227. Fill in the last column, identifying which legume, nut or seed is featured in this food product.
- 2 Have you tried any new foods since filling out this chart? Go back and use a different-coloured pen to check off the food products listed that you have now tried.
- 3 Add any new legumes, nuts and seeds to your chart that you may have studied but that have not been included. An example is wattle seed.



Figure 9.15 Pumpkin seeds are versatile as well as being incredibly nutritious.

REFLECT ON LEARNING

- 1 Research and then describe how poppy seeds are used in Indian cooking.
- 2 Identify the main nutrient provided by wattle seeds.
- 3 Explain how you might use pumpkin seeds.
- 4 Outline the benefits of including seeds in your diet.
- 5 Provide two tips for incorporating seeds into your diet.



9.16 ACTIVITY

Fact or fiction?

- 1 Pick five different food items from this chapter.
- 2 For each one, list three factual statements and one that is fiction.
- 3 Play 'fact or fiction' with the class. Everyone has to guess which one of your statements is fiction. Here is an example for the caraway seed:
 - a The caraway seed is often found in sweet treats such as cakes.
 - b In England, the caraway seed was served with baked apples to prevent flatulence.
 - c The caraway seed was so named because it was first discovered being eaten by caraway birds.
 - d The caraway seed has a long association with love, being used in ancient love potions.(Answer: Fiction – statement c.)



LOOKING BACK

- 1 Legumes are the seeds from some pod-bearing plants – for example, chickpeas, lentils and red kidney beans; pulses are dried legumes. They are a good source of protein and are high in carbohydrate, fibre, folate and iron, and low in fat. Legumes are available dried or canned, and also already prepared.
- 2 Nuts are an edible kernel in a hard shell, such as hazelnuts, macadamia nuts and cashew nuts. They are a source of ‘good’ fat, and must be stored correctly so that they do not become rancid, due to their fat content. There are many different types of nuts, which can be purchased whole, roasted, salted, flaked, blanched, slivered and ground.
- 3 Seeds are dried from the flowers or fruits of plants, such as poppy, sesame, pumpkin and sunflower.

- 2 The best way to store nuts is:
 - a uncovered in the fridge
 - b covered in the pantry
 - c uncovered in the pantry
 - d covered on the bench.

True/false

- 1 Nuts are edible kernels in a hard shell.
- 2 Legumes must be cooked to improve their palatability.
- 3 Seeds can give food products colour and texture when used in cooking.

Short answer

- 1 Legumes are very high in dietary fibre and resistant starch. Explain why this is important for good health.
- 2 Legumes are a sustainable and affordable source of protein. Describe why this is so.

TEST YOUR KNOWLEDGE

Multiple choice

- 1 Legumes, nuts and seeds are:
 - a all high in fibre and low in fat
 - b all high in fat and low in fibre
 - c not very nutritious but taste great
 - d all a great source of fibre.

Extended response

As you have discovered, legumes are a highly nutritious and delicious food source, yet many people do not include them regularly in their diets. Design a daily menu that features legumes, nuts and seeds, and have a complete protein source for at least two meals. Don't forget some snack foods and drinks. Include the recipe for your evening meal. Use the table below to help you.

Breakfast	
Morning snack	
Lunch	
Afternoon snack	
Dinner	