

Unit 3.1.5

The Australian Guide to Healthy Eating

Key Knowledge and Key Skills

Key Knowledge 3.1.5

The nutritional rationale of the Australian Guide to Healthy Eating, with particular focus on the ways in which food selection can assist in the prevention of obesity and related lifestyle diseases.

Key Skill 3.1.5

Discuss the nutritional rationale of the Australian Guide to Healthy Eating.

Key Skill 3.1.8

Apply the healthy eating recommendations of the Australian Dietary Guidelines and Australian Guide to Healthy Eating to the planning of daily food intake and, through practical activities, create nutritious meals to cater for a diverse range of needs.

VCE Food Studies Study Design p. 20 and 21

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Key Terms and Definitions

Antioxidants are mostly found in plant foods. They are naturally occurring molecules that help to protect you from harmful free radicals that cause disease and illness.

Cancer is a term used for a group of diseases where someone's cells divide and grow uncontrollably and spread to other parts of the body. Some cancers that are linked to obesity include breast, liver, stomach, pancreatic and colon cancer. Post-menopausal women who are overweight are also at increased risk for breast cancer.

Coronary Heart Disease is the term used to describe the process where plaque builds up around the artery walls in the heart. This results in the arteries, leading to the heart, becoming narrow and inhibiting oxygenated blood being delivered and flowing to the heart. It is a term used to describe a group of diseases, including stroke and heart attacks.

When discussing nutrition, the term **diet** refers to a person's eating patterns or the kinds of foods they regularly eat. It can also be used when someone is referring to a weight-loss diet.

Free radicals are often dangerous molecules that can damage cells. Free radicals often play a role in deterioration of the eyes, inflammation of the joints, damage to the brain, ageing, increased risk of cardiovascular disease and some cancers.

Insulin is a hormone released by the pancreas into the bloodstream to help glucose enter the body's cells and be used as an energy source.

Overweight or obesity is the term used to describe an individual who carries excess weight. The amount of weight that determines if someone is overweight or obese will differ for individuals according to factors such as their age, sex and height.

Phytochemicals are naturally occurring chemicals in plant foods such as fruits, vegetables, whole grains, beans, nuts and seeds. They act in a similar way as antioxidants by stopping free radicals causing damage in our bodies.

The word **rationale** is derived from the term 'reason.' The term rationale refers to the explanation (fundamental reasons) that someone gives for something that happened or for something that exists.

Type 2 diabetes is a condition where the body cannot effectively produce and/ or use the insulin that the pancreas produces. People with this condition often have high glucose levels in the blood because the glucose cannot enter the cells effectively. This increases someone's risk of heart disease, stroke and problems with their eyes (cataracts, glaucoma and blindness) and nerve damage.

The Eat for Health Website

The Australian Government developed the Eat For Health website to help Australians understand the types of foods and lifestyle behaviours that contribute to their health and wellbeing. The website uses two key tools to promote healthy eating, the Australian Guide to Healthy Eating and the Australian Dietary Guidelines.

The Australian Guide to Healthy Eating and the Australian Dietary Guidelines aim to help Australians:

- select food that prevents obesity and other related lifestyle diseases;
- determine their daily energy and nutritional needs;
- calculate the number of serves from the five food groups that they require each day;
- have the necessary knowledge to plan nutritious meals; and
- develop healthy eating patterns.

The Eat for Health website provides a range of resources, including brochures, calculators to estimate energy needs, posters, sample meal plans, and serving size recommendations. Information about food labelling, food safety, nutritious recipe examples, and tips for eating well are also available.

[Click here](#) to access the Eat for Health website.

What are the Australian Dietary Guidelines?

The Australian Dietary Guidelines provide up-to-date advice about the amount and kinds of foods we need to eat for health and wellbeing. The recommendations are based on scientific evidence that are developed after the consideration and analysis of quality research.

[Click here](#) to access a poster of the Australian Dietary Guidelines.

The current Australian Dietary Guidelines were developed by NHMRC, other leading nutrition experts and the Australian Government. They were released in 2013. In 2020, the NHMRC announced the review of the Guidelines. This review aimed to ensure that the Guidelines are based on the most up-to-date and relevant scientific evidence.

Watch these videos to find out more about the Australian Dietary Guidelines: <https://youtu.be/roXGhO8aCl4> and <https://youtu.be/b9GJkYJ2qe8>

The following links provide further information about the Australian Dietary Guidelines for adults and children.

[Click here](#) to access the Healthy Eating for Adults brochure.

[Click here](#) to access the Healthy Eating for Children brochure.

[Click here](#) to access the Healthy Eating during Pregnancy brochure.



What is the Australian Guide to Healthy Eating?

The Australian Guide to Healthy Eating provides a visual representation of the types of foods that Australians should consume. Following the guide enables people to select the right amount and type of food that promotes health and wellbeing.

The Australian Guide to Healthy Eating has several components, including:

- a visual guide of how much of the five food groups people should eat each day;
- a table that recommends how much of each food group adolescents, adults, and children should eat every day; and
- a guide that explains what a serving size equals.

The Australian Guide to Healthy Eating has a circle divided into five separate sections representing each of the five food groups. The area of each section indicates the proportion of food from each food group that should be eaten every day.



The Five Food Groups

[Click here](#) to access a diagram of the Australian Guide to Healthy Eating.

To help Australians understand the quantity of food they require, the government has also produced a guide demonstrating what equals a serving size.

[Click here](#) to access the Recommended Serving Sizes.

The information at the links below provides the recommended number of serves from each of the five food groups required according to age, activity level, and height. More active and taller individuals are likely to need additional serves from the five food groups.

[Click here](#) to access the Recommended Number of Serves for Adults.

[Click here](#) to access the Recommended Number of Serves for Children.

Watch this video to find out more about the Australian Guide to Healthy Eating: <https://youtu.be/7rgI5q-XnKg>

Watch this video to learn more about the Australian Guide to Healthy Eating serving sizes:

<https://youtu.be/kodTAp82fag>

The Rationale of the Australian Guide to Healthy Eating

The most recent review by the National Health and Medical Research Council was in 2013. The next review of the was announced in 2020.

The rationale (reasons) for the development of the Australian Guide to Healthy Eating and the Australian Dietary Guidelines include:

- the provision of resources to support educators, food manufacturers, food retailers, health professionals, policy-makers, and the general public about nutrition and wellbeing;
- the provision of reliable and trustworthy dietary information.

These resources aim to:

- reduce the incidence of type 2 diabetes, cardiovascular disease, and some cancers; and
- encourage and inform Australians about how to make healthy food choices.

It is important to note that the Australian Dietary Guidelines apply to all healthy Australians as well as those with health conditions such as being overweight. However, they do not apply to people who need special dietary advice for a specific medical condition and the frail elderly.

Enjoy a Wide Variety of Nutritious Foods from the Five Food Groups

The Australian Guide to Healthy Eating encourages people to enjoy a wide variety of nutritious foods from the five food groups every day.

People who eat a variety of foods from the five food groups are likely to have better nutritional status, improved quality of life, and live longer than people who do not. When people eat a variety of foods, they are more likely to absorb a range of nutrients and other food components, such as antioxidants and phytochemicals. Antioxidants and phytochemicals are beneficial because they destroy free radicals that can cause illness and damage the body's cells.

Consuming a variety of foods also means that individuals are less likely to eat one particular food or type of food. Although it rarely happens, eating the same kind of food can accumulate toxic levels of nutrients in the body, in particular, fat-soluble vitamins.

Vegetables and Legumes/ Beans

The Australian Institute of Health and Wellness has reported that, in 2017–2018, less than 1 in 10 adults met the recommendations for daily vegetable consumption. A diet with inadequate fruit and vegetable intake is a risk factor for overweight and obesity, heart disease, and type 2 diabetes. The Australian Guide to Healthy Eating promotes the consumption of vegetables and legumes/ beans.

The rationale for suggesting people consume a variety of coloured and types of vegetables and legumes is because different vegetables contain different antioxidants, nutrients, and phytochemicals. Increasing the diversity of nutrients, and phytochemicals, and antioxidants in the body protects against cell damage and illness. Diets that contain a range of nutrients are associated with less incidence of disease and death.

The suggested serving sizes of vegetables are higher than for fruit. This is because vegetables are lower in kilojoules than fruit. High consumption of vegetables helps people control or lose weight because they are low in kilojoules and nutrient-dense. Evidence suggests that eating a diet high in vegetables helps lower the risk of heart disease, type 2 diabetes, obesity, and some cancers.

It is important to eat a variety of different types of vegetables. Vegetables can be grouped according to the nutrients they provide. The main groups of vegetables are provided below.

Dark green or cruciferous/brassica	Root/tubular/bulb vegetables	Legumes/beans	Other Vegetables
Broccoli, brussels sprouts, bok choy, cabbages, cauliflower, kale, lettuce, silverbeet, spinach, snow peas	Bamboo shoots, turnip, carrots, cassava, garlic, potato, taro, turnip, shallots, sweet potato, swede, taro and turnip.	Cannellini beans, chickpeas, lentils, lima beans, red kidney beans, soybeans, split peas, and tofu.	Avocado, capsicum, celery, cucumber, green beans, eggplant, mushrooms, okra, pumpkin, sprouts, squash, tomato, zucchini.

Source: <https://www.eatforhealth.gov.au/food-essentials/five-food-groups/vegetables-and-legumes-beans>

Fruit

The Australian Bureau of Statistics reported that, in 2017–2018, only 51.3% of Australian adults ate the required two serves of fruit per day.

Fruit provides a range of essential nutrients, including vitamin C, folate, potassium, fibre, and carbohydrates. Eating the skin of fruits and vegetables provides additional fibre. The antioxidants, fibre, and phytochemicals found in fruit help prevent some cancers.

Around 3–4 pieces of fruit are needed to make one glass of fruit juice, making this drink high in sugar and lacking in fibre. For this reason, fruit juice belongs in the discretionary section of the Australian Guide to Healthy Eating. Another reason why fresh fruit is encouraged rather than fruit juice is because eating fruit takes longer to consume than drinking juice. This allows the stomach more time to signal to the brain that hunger has been satisfied.

Grain (cereal) foods, mostly wholegrain and/or high-cereal fibre varieties, such as bread, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa, and barley

It is important to select wholegrain or high-fibre varieties of this food group as they contain a range of nutrients, including carbohydrates in the form of starch, fibre, B group vitamins, vitamin E, iron, zinc, magnesium, and phosphorous.

The rationale for stating that people should eat wholegrain and high-fibre varieties of this food group is that wholegrains help lower cholesterol levels in the blood, reduce the risk of heart disease, manage type 2 diabetes, and assist with weight management by contributing to satiety. Evidence has proven that the fibre in these foods also helps reduce the incidence of colon (bowel) cancer.

Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans

Chicken with the skin removed and red meat with fat trimmed off are included in this group. Chicken skin and red meat contain saturated fat. Saturated fat contributes to high levels of low-density lipoprotein (LDL) cholesterol that can cause cholesterol to build-up in the arteries. This increases the risk of heart disease and stroke.

Legumes/beans, eggs, tofu, nuts, and seeds are also part of this group because, like meat, they also contain protein. However, only some of these foods provide additional nutrients such as B group vitamins, complete proteins, iodine, iron, unsaturated fats, and zinc.

Lean red meat can be part of a healthy diet and is particularly important for people with an iron deficiency.

Fish, nuts, and seeds contain essential Omega-3 fatty acids, which are polyunsaturated fats. They are significantly important for brain development and reduce cholesterol levels in the blood, thereby decreasing the risk of heart disease.

People who do not eat foods that are derived from animals can select the tofu, nuts and seeds, legumes, and beans from this food group. The protein from these foods has low-biological value, but with a nutritious diet, they should be able to obtain the protein their bodies need for growth, maintenance, and repair.

Processed and cured meats like bacon, ham, sausages, and salami belong in the discretionary section of the guide because they are high in saturated fat and salt.

Milk, yoghurt, cheese, and/or alternatives, mostly reduced fat

The dairy foods in this group are excellent sources of calcium, protein, and vitamins, including vitamin B12. Studies in the past suggested that full-fat varieties of dairy foods contain saturated fat, which increases the risk of heart disease. The Australian Dietary Guidelines, therefore, suggest people select low-fat dairy foods.

Dairy alternatives are also grouped in this section. It is important that dairy alternatives contain added calcium, vitamin A, and vitamin D. People with allergies or intolerances to milk should choose dairy alternatives with added calcium and no added sugar.

Water

How much water we need depends on factors such as our gender, body weight, temperature, and how much physical activity we do. The body needs water to assist with digestion, absorption of nutrients, and getting rid of waste products. It helps regulate our body temperature and prevents dehydration.

The Australian Guide to Healthy Eating does not recommend a specific amount of water that we should drink, but it simply recommends drinking plenty of water. Tap water in Victoria is an inexpensive choice and is fortified with fluoride, which helps prevent dental decay.

The Australian Guide to Healthy Eating encourages people to drink water instead of drinks like cordials, juices, and soft drinks. These drinks are usually high in sugar and could easily contribute to weight gain. A 600 ml bottle of soft drink can contain around four tablespoons of sugar.



Watch this video to discover why it is essential that we drink water: <https://youtu.be/9iMGFqMmUFs>

Use Small Amounts

The Australian Guide to Healthy Eating suggests people eat small amounts of unsaturated fats because, even though they reduce the risk of heart disease and lower assist in lowering cholesterol levels. They still have the same kilojoule value as saturated fats and therefore must only be used in small amounts otherwise they will contribute to weight gain.

Watch the video at this website link:

<https://www.britannica.com/video/180101/Overview-fats>



Only Sometimes and in Small Amounts (Discretionary Foods)

Foods high in saturated fat, salt, and sugar belong in the 'only sometimes and in small amounts' section of the Australian Guide to Healthy Eating, otherwise known as the discretionary foods section. As well as being high in fat, salt, and sugar, discretionary foods are mostly energy-dense and contain little, if any, nutritional value. Eating high amounts of these foods can make someone overweight or obese. It is also linked to heart disease, type 2 diabetes, and some forms of cancer.

Saturated fats are found in many discretionary foods and drinks, including deli meats such as sausages, hot dogs and salami, some takeaway meals, and processed foods like biscuits, pastries, and cakes. Saturated fats are often referred to as 'bad fats' because they increase the risk of cardiovascular disease and raise LDL cholesterol in the blood of people who consume them.

People only require a little salt in their diets. However, many Australians add too much salt to their foods. Much of the salt they consume comes from foods in the discretionary section of the Australian Guide to Healthy Eating. Consuming too much salt can contribute to fluid retention, heart failure, kidney problems, kidney stones, osteoporosis, stroke, stomach cancer and thickening of the heart muscle.

Sugar is a form of carbohydrate that the body converts to glucose during digestion. It is found naturally in a range of foods in small quantities; however, it is also added to foods during the manufacturing process, often in large amounts. If the body does not use the energy it gets from sugar, it is stored in the liver as glycogen. When the body needs energy, the liver releases glycogen. The liver is unable to store high amounts of glycogen. Therefore, any excess glycogen stores are converted to fatty acids and stored in the liver and body as fat. This is why a diet high in sugar contributes to health problems linked to obesity. Being overweight or obese is a risk factor for type 2 diabetes, heart disease, and some types of cancers. It is also linked with a high incidence of liver disease and tooth decay.

Another concern with sugar is that it contains many kilojoules but is nutrient-poor. Individuals who fill up on this sweet treat might feel too full to eat nutritious foods. Of significant concern is the amount of sugar found in soft drinks. Health professionals are concerned that these sweet drinks contain high amounts of sugar yet are quick to consume and fill up on, leaving little appetite for more nutritious food choices.

The image below identifies a range of discretionary food choices.



Food Selection and the Prevention of Obesity

A person is considered overweight or obese when they carry an abnormal or excessive amount of fat that presents as a risk to their health. Consuming even slightly more energy than normal over long periods can cause you to become overweight or obese. Fat accumulates in our bodies when the energy (kilojoules) we consume from food and drink is greater than the energy we expend. Obesity increases the risk of many diseases such as type 2 diabetes, heart disease, and some types of cancers. This risk is higher for individuals who carry weight around their abdominal area.

The following measures can be taken to prevent obesity:

- *Eat less processed and sugary foods:* Processed foods may contain high amounts of hidden fat, salt, and sugar. Eating large amounts of processed foods may result in higher fat and sugar consumption, adding to weight gain.
- *Eat more servings of vegetables and fruit:* Vegetables keep you feeling full for longer, help regulate your blood sugar levels and are low in kilojoules.
- *Eat more fibre* - High-fibre foods contribute to satiety, which is a feeling of fullness. Eating high-fibre foods throughout the day may reduce the likelihood of people eating high-energy-dense foods.
- *Eat low-glycaemic index (GI) foods:* As long as they are low in kilojoules, low GI foods may help people lose weight.
- *Ensure kilojoules input is less than your output:* It is necessary to ensure your energy output exceeds the amount of energy you get from food to lose weight.

Food Selection and the Prevention of Type Two Diabetes

Diabetes is a disease that affects how the body uses glucose, a sugar that is the body's main source of fuel. The body needs glucose for energy. Carbohydrates in food are broken down into glucose and absorbed into the bloodstream by the cells. At this point, the glucose is referred to as blood glucose or blood sugar. The pancreas releases insulin, which helps the glucose enter the body's cells when energy is needed.

When someone develops type 2 diabetes, the insulin they produce doesn't work effectively in the body. Therefore, the glucose cannot get into the cells and the levels in the blood get too high. The blood glucose levels remain high in the bloodstream, and therefore, the pancreas continues to produce more insulin. Eventually, the pancreas wears out from making so much insulin. This results in the person needing injections of insulin. If not treated, type 2 diabetes can cause a range of health issues, including heart disease and stroke, kidney disease, and problems with vision.

People who are not physically active and are overweight or obese are more likely to develop type 2 diabetes. The extra weight they carry and accumulated fat around the stomach often cause insulin resistance.

The following measures can be taken to prevent type two diabetes:

- Eat a diet low in fat, particularly saturated fats: Fats have the highest energy (kilojoule) content of all foods. Eating too much fat can make you put on weight, which may make it difficult to manage blood glucose levels. Our bodies need some fat for good health, but the type of fat people choose should be unsaturated fats (monounsaturated or polyunsaturated).
- Eat a diet low in sugar: Eating too much sugar can make symptoms worse, as diabetes makes it more difficult for the body to manage blood sugar levels.
- Eat low-GI foods: Some carbohydrate foods release glucose into the bloodstream more quickly than others. Foods that produce a slower rise in blood glucose levels are described as having a low-GI and can be helpful in blood glucose management.
- Eat regular meals and eat carbohydrate foods throughout the day: Carbohydrates are digested by the body to use as energy. The amount of carbohydrates in a meal has the most significant effect on blood glucose levels. By eating regular meals and spreading your servings of carbohydrate foods evenly throughout the day, you can maintain energy levels without causing large increases in blood glucose levels.

Food Selection and the Prevention of Cardiovascular Disease

Cardiovascular disease is the term used to describe a range of diseases related to the heart and blood vessels. Some of these health problems include narrowing the blood vessels (arteries), which can cause a heart attack and stroke. Unhealthy eating, being physically inactive, being overweight or obese, having type 2 diabetes, drinking excessive amounts of alcohol, and a diet high in cholesterol can increase the risk of coronary heart disease.

The following measures can be taken to prevent cardiovascular disease:



- Decrease the consumption of LDL cholesterol and increase the consumption high-density lipoprotein (HDL) cholesterol. LDL adds to the plaque build-up in your arteries and HDL protects you against heart disease.
- Replace saturated and trans fats with unsaturated fats: Saturated fats can increase LDL cholesterol in the blood. “Unsaturated fats can help improve cholesterol levels by decreasing bad (LDL) cholesterol and increasing good (HDL) cholesterol” (Heart Foundation, 2020).
- Eat foods that contain more fibre, particularly soluble fibre: Eating foods high in fibre may give you a feeling of fullness and you are less likely to eat foods high in saturated fats, sugar, and salt. Consuming soluble fibre is also good as it lowers LDL cholesterol.
- Reduce your salt intake: A diet low in salt helps lower and prevent high blood pressure, which increases your risk of stroke and heart disease.

Watch this video to gain more understanding of how diet can prevent heart disease: <https://youtu.be/7PDo9Ur99Fs>

Food Selection and the Prevention of some Types of Cancers

The foods that we eat can prevent some types of cancers such as bowel, mouth, oesophagus and stomach cancer.

The following measures can be taken to prevent diet-related cancers:

- Eat more wholegrains: Eating a variety of grains, wholegrain products, legumes, roots, and tubers provides protective benefits against cancer.
- Eat less processed and red meat: Consuming processed meats like bacon, burgers, ham, hot dogs, and some sausages may increase the risk of bowel cancer. Some research also indicates that consuming red meat may increase the risk.
- Eat a variety of different types and coloured fruits and vegetables: Fruits and vegetables contain many antioxidants, minerals, and vitamins, which may help decrease your risk of cancer associated with the digestive system. They may indirectly prevent cancer because they are low in kilojoules (energy) and their consumption is linked with a healthier weight.
- Consuming a high-fibre diet: A high-fibre diet helps prevent bowel cancer because it increases the amount of faeces produced and helps the faeces go through the bowel more quickly.

Creating healthy meals

The website links below provide information about applying the principles of the Australian Dietary Guidelines and the Australian Guide to Healthy Eating to the planning of daily food intake and how to adapt recipes to create healthy meals.

[Click here](#) to find out about low-fat cooking techniques.

[Click here](#) to find out about adding a variety of fruits and vegetables to meals.

[Click here](#) to find out how to plan nutritious meals.

[Click here](#) to find out how to make healthy meals and snacks.

Written Activity One

Credibility Check

In this task you will research one of the following diseases:

- Overweight & Obesity
- Bowel Cancer
- Type Two Diabetes
- Cardiovascular Disease

You will need to access two websites to complete this research. It is important that you ensure the information you use is credible.

Watch this video to find out credible websites: <https://www.youtube.com/watch?v=PLTOVoHbH5c>

Use the checklist below to determine if the websites you use for this task are credible.

Credibility Checklist		
What is the name of the website?		
Who wrote the source?		
Is this person trustworthy and credible?		
Who published the source?		
Is this organization trustworthy and credible?		
When was the source published?		
Is it recent and relevant?		
For whom was the source written?		
Is the source, author, or publisher biased in any way?		
Can another source validate this information?		
Is this website credible? Why? Why not?		

Research

Answer the following questions:

Nutrition-related Disease Research		
What disease have you chosen to research?		
Describe what happens to the body because of this disease.		
Outline the causes of the disease.		
List the symptoms of this disease.		
Identify the types of foods that impact this disease.	Negative	Positive
Identify the lifestyle behaviours that impact this disease.	Negative	Positive

Written Activity Two

PowerPoint Presentation

1. Select one of the following nutritional-related diseases:
 - Cancer
 - Coronary Heart Disease
 - Obesity or Overweight
 - Type 2 Diabetes
2. Form a small group with other students in your class that has chosen the same topic as you.
3. Develop a 3 to 5-minute PowerPoint presentation about your chosen nutrition-related disease.

Answer the following questions in your presentation:

- What is this disease?
- Who gets this disease?
- Why do they get this disease?
- What can people do to prevent getting this disease?
- What should people do if they have this disease?
- Where might people find some credible information about this disease?

You must also include a day's meal plan that might prevent someone from getting this disease.

Explain how the day's meal plan aligns with the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.

4. Use your PowerPoint to create an oral presentation of your chosen disease.

Each person must take part in the oral presentation.

Watch this video to find out how to record your voice on PowerPoint: <https://youtu.be/tzJ1dZBGpUg>

5. Present your presentation in class or upload it to your school server for your classmates to view.
6. Observe one or more of the presentations and complete the feedback form below:

Topic:		
Presentation Group Members:		
To what extent did the presentation meet the following:	Yes	Needs Work
The presentation was informative.		
The presenters had a good understanding of the topic.		
The presentation was organised and easy to follow.		
The slides enhanced the presentation.		

Written Activity Three

Teach a Lesson.

1. Select one of the following nutritional-related diseases:

- Cancer
- Coronary Heart Disease
- Obesity or Overweight
- Type 2 Diabetes

2. Develop a starter activity about your chosen topic.

You might like to create a crossword, fill-in-the-gap, Kahoot quiz, true/ false, or matching game.

Practical Activity One

Modify Me

Your task is to modify the recipe below using the ingredients listed below,

Make notes on the recipe with your modifications.

<input type="checkbox"/> Wholemeal flour	<input type="checkbox"/> Olive Oil	<input type="checkbox"/> Lemon	<input type="checkbox"/> Low fat cheese
<input type="checkbox"/> Plain flour	<input type="checkbox"/> Vegetable Oil	<input type="checkbox"/> red onion	<input type="checkbox"/> Chives
<input type="checkbox"/> Cooked white rice	<input type="checkbox"/> Margarine	<input type="checkbox"/> baby spinach	<input type="checkbox"/> Egg
<input type="checkbox"/> Wholemeal bread	<input type="checkbox"/> Nuttalex	<input type="checkbox"/> cherry tomatoes	<input type="checkbox"/> 1:2 (Greek yoghurt to milk)
		<input type="checkbox"/> zucchini	

Let's Evaluate

Answer the following questions after you make the quiches.

1. [Click here](#) to download a copy of the Australian Guide to Healthy Eating at this link.

Plot the ingredients in the original recipe in the guide.

Using a different coloured pen, **plot** the ingredients in your modified recipe in the guide.

2. Which recipe meets the guide best? Why?

3. In what ways, does your modified recipe meet the rationale of the Australian Guide to Healthy Eating?

Let's Cook**Shortcrust Pastry****Preparation Time:** 50 minutes**Ingredients:**

½ cup plain flour	60g butter
½ cup self-raising flour	2 tablespoons water
¼ teaspoon salt	½ teaspoon lemon juice

Rubbing in Method:

1. **Sift** and **mix** flours and salt.
2. **Add** butter and **rub** into flour using finger-tips until mixture resembles breadcrumbs.
3. Gradually **add** sufficient water and lemon juice to flour mixture to a firm dough, leaving the basing clean.
4. **Sprinkle** board lightly with flour, **turn** dough onto board and **knead** lightly until smooth.
5. **Refrigerate** for 30 minutes before using.

Food Processor Method:

1. **Assemble** food processor with chopping blade. **Test** processor to see if it works.
2. **Add** butter to flour mixture and **blend** until mixture resembles fine breadcrumbs.
3. **Add** sufficient water and lemon juice to flour mixture to a firm dough, leaving the basing clean.
4. **Sprinkle** board lightly with flour, **turn** dough onto board and **knead** lightly until smooth.
5. **Refrigerate** for 30 minutes before using.

Bacon and Onion Mini Quiches**Preparation Time:** 50 minutes**Ingredients:**

50g short cut bacon rashers, rind removed & chopped	Salt and pepper
½ red onion, finely chopped	125 ml milk
½ dry mustard	1 egg, beaten
30g tasty or cheddar cheese, grated	¼ cup cream
1 teaspoon oil	1 quantity shortcrust pastry

Rubbing in Method:

1. **Preheat** oven to 180°C and **grease** 12 hole patty cake tray.
2. **Heat** oil in frypan and **add** chopped bacon, onion and mustard. Season
3. **Cook** over medium heat until onion is golden and bacon slightly crisp.
4. **Place** on paper towel to drain and cool.
5. **Combine** milk and egg in a bowl.
6. **Divide** bacon mixture evenly between pastry cases.
7. **Pour** egg mixture over bacon and sprinkle with cheese.
8. **Bake** for 15 minutes or until golden brown. **Stand** for 5 minutes in tin and then remove.

Practical Activity Two

Understanding Food Labels and Discretionary Choices

1. Make one of these snacks from the [LiveLighter](#) website.

[Healthy Chocolate Zucchini Muffins](#)

[Pizza Scrolls](#)

[Date and Muesli Slice](#)

[Spiced Potato Samosas](#)

2. The nutritional information for your food product is available on the Live Lighter Website.

Fill in the nutritional information for your chosen recipe in the first column in the table below.

3. The Eat for Health website has provided a guide on understanding food labels.

[Click here](#) to access the How to Understand Food Labels guide.

Fill in the recommendation for total fat, saturated fat, carbohydrates, sugars, sodium, and fibre in the second column below.

Food Product:		How to read Food Labels Recommendation
Nutrient	Avg qty per 100g	
Energy		
Protein		
Fat, total		
Saturated		
Carbohydrate		
Sugars		
Sodium		
Fibre		

4. Use the data guide on the website to answer the following questions.

- a. Compare the guide's recommendations for total fat, saturated fat, salt, and sugar with the food item you made.

b. What might happen to you in the long term if you consumed this type of food regularly?

What nutritional-related diseases might you be at risk of getting?

c. Why are total fat and saturated fat listed separately on the food label?

d. How can you work out the amount of unsaturated fats in packaged food?

e. Why might a website that promotes nutrition promote the recipe you made?

f. How can you tell if this is a credible website?

g. **Justify** this statement, "It is good to consume foods high in unsaturated fats."

h. **Discuss** how this food meets the recommendations of the Australian Guide to Healthy Eating.

Summary Activity

<p>What is the main idea about the key knowledge & key skills?</p>	
<p>Briefly explain the rationale (reason) for the Australian Guide to Healthy Eating.</p>	
<p>Enjoy a <u>wide variety</u> of nutritious foods <u>from the five food groups</u></p>	
<p><i>Vegetables and Legumes/ Beans</i></p>	
<p><i>Fruit</i></p>	
<p><i>Grain (cereal) foods, mostly wholegrain and/or high-cereal fibre varieties, such as bread, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa, and barley</i></p>	

<i><u>Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans</u></i>	
<i><u>Milk, yoghurt, cheese, and/or alternatives, mostly reduced fat</u></i>	
<i><u>Water</u></i>	
<i><u>Use Small Amounts</u></i>	
<i><u>Only sometimes and in small amounts (Discretionary Foods)</u></i>	
Briefly explain how food selection can assist in preventing obesity and related lifestyle diseases.	
Obesity and Overweight	

Cardiovascular disease	
Some cancers	
Type two diabetes	

Exam Preparation

Section A - Multiple Choice Questions (5 marks)

Question 1

Identify the false statement:

- a. Every meal should be in proportion to the Australian Guide to Healthy Eating.
- b. White flour is an example of refined carbohydrates.
- c. Choosing low-fat dairy products is an excellent way to reduce saturated fat intake.
- d. Deli meats belong in the Only Sometimes and Small Amounts section of the Australian Guide to Health Eating.

Question 2

A diet high in fibre can assist with decreasing the risk of:

- a. Cardiovascular disease.
- b. Obesity and Overweight.
- c. Type Two Diabetes.
- d. All of the above.

Question 3

Legumes are included in two sections of the Australian Guide to Healthy Eating because:

- a. They are a source of protein and a vegetable.
- b. There is an abundance of legumes in Australia.
- c. The government is trying to encourage people to eat more Australian-grown legumes.
- d. They are a good source of nutrition for vegetarians.

Question 4

The Australian Dietary Guideline help Australians eat nutritious foods by encouraging them to:

- a. Eat a wide variety of foods.
- b. Be physically active.
- c. Exercise more.
- d. Prepare food safely.

Question 5

According to the Australian Guide to Healthy Eating rationale, which of the following foods is the best to consume for lunch?

- a. Fried rice with bacon, an orange, and an apple.
- b. Wholegrain salad sandwich, fruit salad, and water.
- c. Wholegrain ham and salad sandwich, an apple, and water.
- d. Fish pie is made using reduced fat pastry, a muesli bar, and a soft drink.

Section B – Short Answer Responses (15 marks)

Question 1 (2 marks)

A range of oils can be used in cooking.

Explain why unsaturated spreads and oils appear in the 'Eat Small Amounts' section of the Australian Guide to Healthy Eating.

Question 2 (4 marks)

- a. Identify one diet-related condition or disease other than cardiovascular disease that occurs due to consuming too much energy. (1 mark)

- b. State one thing a person can do to ensure their diet contains less energy and explain why this may help them lower their energy intake. (3 marks)

Question 3 (4 marks)

Daily Meal Plan

Meal	Food
Breakfast	Homemade banana and milkshake made with milk and ice-cream
Snack	Two chocolate biscuits
Lunch	1 red apple 1 wholemeal wrap with hommus spread 1 medium-sized chocolate milkshake
Afternoon Tea	1 small bucket of hot chips with tomato sauce 1 latte made with full-cream milk
Dinner	2 beef and bacon sausages Mashed potato Broccoli and beans
Afternoon Tea	2 scoops of ice cream with chocolate topping.

The Australian Guide to Healthy Eating recommends consuming a wide variety of food.

In what ways does the meal plan above reflect this advice?

Question 4 (5 marks)

Bread Sample One			Bread Sample Two:		
	Quantity per serving (41g)	Quantity per 100g	Quantity per serving (94g)	Quantity per serving	Quantity per 100g
Energy	599kj	1060	980kj	1040kj	
Protein	4.5g	8g	7.9g	8.4g	
Total Fat	1g	1.9g	3.4g	3.6g	
Saturated Fat	0.17g	0.3g	<1g	<1g	
Carbohydrate	27g	49g	40g	42.7g	
Sugars	1.7g	3g	2.4g	2.6g	
Dietary Fibre Total	1.5g	2.7g	3.8g	4g	
Sodium	226mg	400mg	310mg	330mg	
Ingredients: Wheat Flour, Water, Yeast, Vinegar, Canola Oil, Soy Flour, Emulsifier (481), Vitamins (Thiamin, Folic Acid).			Ingredients: Wheat flour, water, mixed grains (17%) (kibbled wheat, kibbled rye, kibbled triticale, oats), linseeds, kibbled soy, yeast, vinegar, canola oil, wheat gluten, cultured wheat flour, soy flour, vegetable emulsifiers (481, 471, 472e), malted barley flour, vitamins (thiamin, folic acid).		

Using the nutrition information panels provided above from two types of bread, evaluate which bread is the better choice for the prevention of cardiovascular disease.

Exam Preparation

Section A - Multiple Choice Questions (5 marks)

Question 1

Identify the false statement:

- a. Every meal should be in proportion to the Australian Guide to Healthy Eating.
- b. White flour is an example of refined carbohydrates.
- c. Choosing low-fat dairy products is an excellent way to reduce saturated fat intake.
- d. Deli meats belong in the Only Sometimes and Small Amounts section of the Australian Guide to Healthy Eating.

Question 2

A diet high in fibre can assist with decreasing the risk of:

- a. Cardiovascular disease.
- b. Obesity and Overweight.
- c. Type Two Diabetes.
- d. All of the above.

Question 3

Legumes are included in two sections of the Australian Guide to Healthy Eating because:

- a. They are a source of protein and a vegetable.
- b. There is an abundance of legumes in Australia.
- c. The government is trying to encourage people to eat more Australian-grown legumes.
- d. They are a good source of nutrition for vegetarians.

Question 4

The Australian Dietary Guideline help Australians eat nutritious foods by encouraging them to:

- a. Eat a wide variety of foods.
- b. Be physically active.
- c. Exercise more.
- d. Prepare food safely.

Question 5

According to the Australian Guide to Healthy Eating rationale, which of the following foods is the best to consume for lunch?

- a. Fried rice with bacon, an orange, and an apple.
- b. Wholegrain salad sandwich, fruit salad, and water.
- c. Wholegrain ham and salad sandwich, an apple, and water.
- d. Fish pie is made using reduced fat pastry, a muesli bar, and a soft drink.

Section B – Short Answer Responses (15 marks)

Question 1 (2 marks)

A range of oils can be used in cooking.

Explain why unsaturated spreads and oils appear in the 'Eat Small Amounts' section of the Australian Guide to Healthy Eating.

For 2 marks, the student needed to explain why unsaturated spreads and oils are in the 'Eat Small Amounts' section of the Australian Guide to Healthy Eating.

A sample response may have included:

Small amounts of unsaturated spreads and oils help to prevent cardiovascular disease. However, if too many are eaten, they could also contribute to weight gain. This is why the guide states to eat them in small amounts and they are found in the Eat Small Amounts of the guide.

Question 2 (6 marks)

a. Identify one diet-related condition or disease other than cardiovascular disease that occurs due to consuming too much energy. (1 mark)

For 1 mark, the student could have listed any of the following diet-related conditions or diseases.

- Type Two diabetes
- Overweight or Obesity

b. State one thing a person can do to ensure their diet contains less energy and explain why this may help them lower their energy intake. (3 marks)

For 1 mark, the student needed to state how a person can reduce energy intake.

For 2 marks, the student needed to explain why this reduces energy intake.

The student's response could have included one of the following dot points.

- People could eat more fibre, meaning they might feel full and be less likely to eat foods containing high energy.
- People could eat more protein which contributes to satiety, making people less likely to eat foods containing high amounts of energy.
- People could consume foods with less fat and sugar in them. Fat and sugar get stored as energy if it is not used up as part of normal body processes or due to being active.
- People could ensure they do not overeat and eat the correct portion sizes in line with the Australian Guide to Healthy Eating. Eating the correct portion sizes is likely to result in consuming the right amounts of energy.
- People could eat more vegetables, so they are full and less likely to eat discretionary food items that contribute to weight gain.

Question 3 (4 marks)

Daily Meal Plan

Meal	Food
Breakfast	Homemade banana and milkshake made with milk and ice-cream
Snack	Two chocolate biscuits
Lunch	1 red apple 1 wholemeal wrap with hummus spread 1 medium-sized chocolate milkshake
Afternoon Tea	1 small bucket of hot chips with tomato sauce 1 latte made with full-cream milk
Dinner	2 beef and bacon sausages Mashed potato Broccoli and beans
Afternoon Tea	2 scoops of ice cream with chocolate topping.

The Australian Guide to Healthy Eating recommends consuming a wide variety of food.

In what ways does the meal plan above reflect this advice?

To receive full marks, the student must have referred to the daily meal plan with links to how it does or does not relate to the consumption of a wide variety of nutritious foods.

The student's response could have included two of the following dot points.

The Australian Guide to Healthy states that people should eat a wide variety of food from each of the five food groups.

- Two types of different coloured fruits are included in the meal plan; this adds variety.
- There are only four vegetables (chickpeas in hummus, potato in the chips and mashed, broccoli, and beans). There needs to be more coloured vegetables as broccoli and beans are the same color.
- Potatoes are in the meal plan twice. Using a different type of vegetables, such as beetroot to make chips instead of white potato, would have increased the colours and types of vegetables consumed.
- The meal plan has only two types of dairy food: full-cream milk and ice cream. Ice cream is considered a discretionary source. There needs to be more variety of low-fat dairy foods in the meal plan.

Question 4 (5 marks)

Bread Sample One			Bread Sample Two:		
	Quantity per serving (41g)	Quantity per 100g	Quantity per serving (94g)	Quantity per serving	Quantity per 100g
Energy	599kj	1060	980kj	1040kj	
Protein	4.5g	8g	7.9g	8.4g	
Total Fat	1g	1.9g	3.4g	3.6g	
Saturated Fat	0.17g	0.3g	<1g	<1g	
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Ingredients: Wheat Flour, Water, Yeast, Vinegar, Canola Oil, Soy Flour, Emulsifier (481), Vitamins (Thiamin, Folic Acid).			Ingredients: Wheat flour, water, mixed grains (17%) (kibbled wheat, kibbled rye, kibbled triticale, oats), linseeds, kibbled soy, yeast, vinegar, canola oil, wheat gluten, cultured wheat flour, soy flour, vegetable emulsifiers (481, 471, 472e), malted barley flour, vitamins (thiamin, folic acid).		

Using the nutrition information panels provided above from two types of bread, evaluate which bread is the better choice for the prevention of cardiovascular disease.

The student must have referred to data from the nutrition panel to be awarded full marks, with links to the prevention of cardiovascular disease.

Any two of the following reasons could have been included in the student's response.

The fibre content of sample one is 2.7g per 100g, and the fibre content of sample two is 4g per 100g. Eating foods high in fibre may give you a feeling of fullness, and you are less likely to eat foods high in saturated fats, sugar, and salt, which contribute to cardiovascular disease.

A diet low in salt helps lower and prevent high blood pressure, which increases your risk of stroke and heart disease. There is a marginal difference between the two bread samples regarding salt content, with sample one at 226mg per 100g and the other at 310g per 100g. In terms of salt content, bread sample one would be the most appropriate choice for preventing cardiovascular disease.

Sample one contains 1.6g of unsaturated fats compared to sample two, which has around 2.6g. Saturated fats contain HDL cholesterol protects people against heart disease and helps to lower the LDL (bad) cholesterol in the body. LDL cholesterol contributes to plaque buildup in the arteries, which can cause cardiovascular disease.

Starter Activity One

The Australian Guide to Healthy Eating

In small groups, draw a diagram of the Australian Guide to Healthy Eating.

Write down the food that the people in group ate over the last 24 hours in the correct sections of the Australian Guide to Healthy Eating.

Starter Activity Two

Good Eating Habits

In small groups, brainstorm all the different ways that you can reduce the likelihood of nutrition related diseases.