

Unit 3.2.6

Current Food Systems and Personal and Social Behaviours

Key Knowledge and Key Skills

Key Knowledge 3.2.6

The relationships between current food systems and personal and social behaviours, with a focus on patterns that may encourage overconsumption of food and sedentary behaviour.

Key Skills 3.2.6

Discuss links between food, behaviours and effects on health and wellbeing.

Key Skills 3.2.8

Apply practical activities to evaluate factors that influence food selections and demonstrate understandings about repertoires that reflect the healthy eating recommendations of the Australian Dietary Guidelines and the Australian Guide to Healthy Eating.

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Key Terms and Definitions

A **food consumer** is a person that buys, prepares, and consumes food.

Food consumption refers to the preparation, use, and eating of food.

Food distribution involves transporting food from where it is produced to where people acquire it.

Food production refers to the process involved with cultivating crops and raising animals for use as a food source. It also refers to the processing of food in factories and the manufacturing of food into new food items.

A **food system** includes all the processes and activities that turn a potentially edible item into food to feed human populations. Food systems generally include four major components: production, processing, distribution, and consumption.

Food retailers are people that sell food.

Incidental exercise is the physical activity undertaken as part of daily activities.

Mindless eating occurs when people eat when distracted and are not aware of the amount of food they are eating.

Normalised refers to when a situation is considered normal or becomes normal.

Obese or **obesity** can be defined as abnormal or excessive fat accumulation that is a risk to a person's health.

Obesogenic refers to an environment that promotes obesity.

Overconsumption refers to consuming more energy than required by the body to support body systems and activity.

Overweight is defined as being over the recommended weight but not obese.

Personal behaviour refers to how we respond to our environment or different situations.

Sedentary behaviour refers to behaviours that occur when someone is awake but use very little energy; examples include sitting and driving a car.

Serving sizes are the recommended portion of food. The Eat for Health program recommends specific serving sizes. However, food manufacturers do not have to adhere to these recommendations.

Behaviours that involve or impact other people are considered **social behaviours**.

What is a Food System?

A **food system** includes all the processes and activities that turn a potentially edible item into food for human populations. It is often described as our food's process to get from the 'farm to the fork.' However, it is a far more complex process that includes:

1. primary production;
2. processing and packaging;
3. distribution and access;
4. media and marketing;
5. consumption; and
6. waste management of food.

A food system is the sum of all of these interrelated factors and how they work with each other.

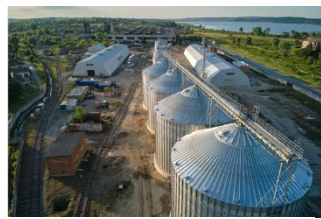
Watch the video below to find out what a food system is: <https://vimeo.com/243389426>

Primary Production

Primary production refers to food production where crops are grown and harvested and animals are raised. Australian farms produce considerable amounts of fruits, vegetables, wheat, and a huge amount of meat, particularly beef. During this stage, raw materials are converted into basic food commodities. Nowadays, primary production has emerged as a highly advanced industry where drones, gene editing, and even 3D printing are used to produce raw materials.



Wheat growing.



Wheat milling.



Cows being milked.



Chickens in a barn.

Processing and Packaging

Processing is often referred to as secondary processing. This involves changing the state of foods produced during primary production into other products. Processing techniques can range from simple acts such as slicing through to more complex processing techniques. Food manufacturers use the food produced by farms to make processed foods. A significant amount of dairy products, wine, beer, and small goods, such as bacon and ham, and meat are produced from the food grown and raised on Australian farms.



Meal preparation.



Packaging food.



Making bread at a factory.



Packaging bread.

Distribution and Access

Distribution involves the transportation, storage, and sales of food. It includes transportation of food between factories, farms, distribution centres, and grocery stores. Food is generally transported by road or rail within Australia, while imported food arrives by air or sea.

Access refers to how and where we get our food from. Many people buy food from cafes, convenience stores, restaurants, and supermarkets.

Many people in Australia buy their groceries from multinational companies that seek to make huge profits. Some people shop at farmers' markets and small grocery stores; however, data relating to this is difficult to source. Due to their dominance, the decisions that Woolworths and Coles make significantly influence the type of food Australians access. Their decisions about where food is sourced from, the type of food sourced, and where food is sold have a considerable influence on Australian diets.

Much of the food sold at supermarkets is packaged food. This has resulted in a food system where many foods are:

- high in salt, saturated and trans fats, and sugar;
- lacking in nutritional value;
- produced cheaply on a mass scale; and
- sourced from cheap suppliers.

These foods contribute to an environment where unhealthy, energy-dense, and nutritionally poor food choices seem easier for consumers to access.

Growing food and buying food directly from wholesalers and farmers' markets are options for some people.



Buying food at a bakery.



Grocery deliveries.



Food transportation.



Drones delivering food.

Media and Marketing

Food marketing occurs when someone promotes the sale of food products or food services. A range of media is used to market food, including billboards, magazines, newspapers, radio, social media, and television.



Marketing on billboards.



Marketing on social media.

Consumption

Consumption refers to the act of eating food. Consumption of food can occur anywhere and everywhere.

Fruit and vegetable consumption in Australia is considerably low and the intake of discretionary food items is high. The amount of energy found in the food Australians consume is of significant concern, especially with the increasing number of people in Australia that are overweight or obese. According to the National Health Survey, two out of three Australians aged 18 and over were overweight or obese from 2017 to 2018. Around one in four children and adolescents between the ages of two and 17 were also overweight or obese (Australian Bureau of Statistics, 2018).

People that are overweight and obese are at increased risk of coronary heart disease, high blood pressure, type 2 diabetes, stroke, and some cancers. It is also suggested that they may experience a lower quality of life compared to others that are a healthy weight.



Eating food at home.



Eating food in a car.

Watch this video to find out more about the obesity epidemic in Australia: <https://youtu.be/Y99HPi2D7lc>

Waste Management of Food

Waste management involves reducing the amount of wastage produced during production, processing, distribution, and consumption. When food and packaging are lost or wasted, all the resources used to produce the food, the water, land, energy, and labour go to waste. Unfortunately, people have not always disposed of waste thoughtfully.

Personal and Social Behaviours

Personal behaviour refers to the behaviour we exhibit in response to various situations and our actions as individuals. In contrast, our behaviours or choices that involve or impact others are considered social behaviours. Social behaviours are similar to personal behaviours, but they include interactions with other people.

Factors that encourage the Overconsumption of Food in our Food System

Consuming a more nutritious diet, eating less discretionary foods, and moving more are likely to help people lose weight. However, many people struggle to eat healthy foods and exercise. This is because many complex personal and social behaviours have influenced them to gain weight. These same factors and a food system that promotes overconsumption of food and sedentary behaviour make losing weight challenging.

What we Buy and Eat

Australia's food system promotes and supplies an abundance of highly processed foods. Some of these foods are nutritious, but many are considered unhealthy. Processed foods are often viewed as junk foods because they can contain high amounts of salt, saturated and trans fats, and added sugar. They are also usually low in dietary fibre and nutrients. A recent study by Deakin University identified a strong link between Australians that eat large amounts of ultra-processed foods and obesity (Deakin University, 2020).

Australians have been reported eating too much processed and discretionary food and not enough of the recommended five food groups. The 2011–12 National Health Survey revealed that many Australians did not eat enough of the five food groups. They also exceeded the recommended servings of foods from the discretionary food group (Australian Institute of Health and Welfare, 2019). Additional research found that Australians spend 50% of their food budget on discretionary foods (News, 2017) and consume around five serves of discretionary foods every day (CSIRO, 2021).

In order to maintain or control their weight, Australians should eat the recommended serving sizes from the *Australian Guide to Healthy Eating* and eat discretionary foods sometimes or in small amounts.

The following strategies may help Australia consume the correct serving sizes of the five food groups, control their food intake, and consume fewer discretionary food choices:

- create a shopping list of essential and nutritious foods and only buy the foods on the shopping list;
- fill half of their plate with vegetables, a quarter with lean protein sources, a quarter with whole grain or high-fibre cereals or low GI carbohydrates, and a minimal amounts (up to one tablespoon) with sauces and/or oils;
- learn how to visualise the recommended serving sizes at the *Eat for Health* website;
- serve drinks and meals in smaller cups, bowls, and plates as this decreases the amount of food people consume;
- serve meals on plates rather than from larger shared bowls as this will discourage people from having seconds;
- store leftovers in small containers as portion-controlled meals for occasions when preparing and cooking a meal are challenging; and
- wait 20 minutes after eating a meal before having seconds or dessert, as it takes 20 minutes for the stomach to send a message to the brain about satiety.

Go to this link to find more information about the amount and number of recommended serving sizes at the *Eat for Health* website: <https://www.eatforhealth.gov.au/food-essentials/how-much-do-we-need-each-day/serve-sizes>

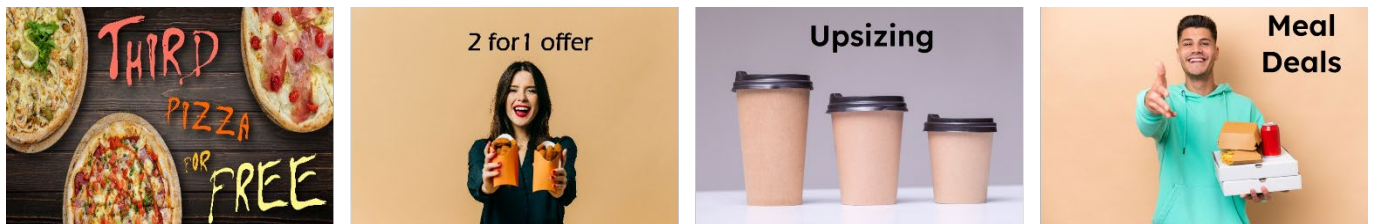
How Much we Buy and Eat

Food retailers and fast-food companies also produce foods often promoted as all-you-can eat bars, family meal deals, individual combo meals, snack packs, two-for-one offers, upsize offers and value box meal deals. Choice magazine has stated that one meal deals can contain around 50% of the energy needs of an adult; this percentage increases dramatically when people decide to purchase a bigger size (Kollmorgen, 2015). Consumers often seek out the bigger portion sizes because they feel they are getting a good deal and saving money. The production and processing of food into large serving sizes and people's tendency to buy them can significantly influence weight gain.

By following these tips, consumers may succeed in reducing their intake of highly processed foods:

- learn to read the labels of food products to determine the amount of saturated fats, sodium, and added sugar they contain;
- select foods with minimal additives;
- opt for fresh fruits and vegetables where possible; and
- refrain from purchasing multiple or bigger portion sizes of food.

The images are an example of the range of offers that can cause people to overconsume food.



Where we Buy our Food From

Where people buy their food is a behaviour that can contribute to the overconsumption of food. People often purchase food from convenience or fast-food outlets. These food outlets are usually located near busy roads, housing estates, petrol stations, public transport, and schools. The location of these outlets enables people to access them easily and quickly; hence why they are called convenience or fast-food outlets.

Nowadays, people no longer need to eat breakfast before leaving home, pack a lunch to take to school or work, or even prepare a dinner from scratch. There are so many convenience and fast-food outlets around that they can easily buy food to eat anytime they like. The increased availability of these outlets means that people have greater access to convenience and fast foods. They can usually purchase food quickly without waiting in long queues or walking across large car parks. This increased accessibility to convenience stores and fast-food outlets is likely contributing to the overconsumption of discretionary foods and weight gain.

Unfortunately, purchasing food from supermarkets also presents other problems. The amount of discretionary food at supermarkets is exceptionally high. Research by Deakin University found that, on average, 43% of the food advertised in supermarket catalogues, 88% of the food at checkouts, and 65.9% of the food at the end of grocery aisles were for junk foods (Parkes-Hupton & Priest, 2021). The increasing amount of discretionary foods heavily promoted at supermarkets is also likely to influence people to buy them.

People may be less likely to go to convenience and fast-food outlets and buy discretionary foods from supermarkets if they plan and shop for meals in advance. This is because they usually have something convenient at home to cook, which decreases their need to shop at convenience and fast-food outlets.

The images below show some places where people tend to buy more food than they need.



Who we Eat with

Whether people eat alone or with others impacts the quantity and quality of food people consume. Research by the Queensland University of Technology found that people that live and eat alone are more likely to consume diets that contain increased amounts of processed foods that lack nutritional value (Gajanan, 2015).

It is possible that individuals that live alone:

- buy convenience meals because less time is needed to prepare the meals and clean up compared with making meals from scratch;
- buy processed foods rather than buying increased quantities of ingredients needed to make meals because it can sometimes be cheaper;
- have limited motivation to prepare meals because they are the only ones eating them; and
- lack food preparation and cooking skills needed to make nutritious meals;

Other studies have found that people are more likely to consume greater quantities of food when they are in the company of others than when they eat alone (Higgs & Thomas, 2016). Individuals might consume more food when they eat in groups because they are:

- copying the eating behaviours of those around them and
- eating larger quantities of food, which may have been normalised by the other diners.

Where we eat our Food

People often eat when they watch a television show or movie, work at their desks, play digital games on a screen, drive a car, or even make dinner. Eating food while doing activities like these results in people eating food and not considering the quality or quantity of food they are consuming. As they are often unaware of how much food they are eating, people tend to overeat at these times, contributing to weight gain. This behaviour is referred to as mindless eating. Mindless eating occurs when people eat when distracted and are not aware of the amount of food they are eating.

People could consider the following strategies to become more aware of the type and quantity of food they eat:

- use smaller serving dishes or buy smaller packets of food; this will result in people deciding whether they continue to eat once they have finished eating;
- refrain from eating while doing another activity and focus on eating instead;
- drink more water while doing activities rather than drinking other beverages and eating food; and
- eat regular meals and plan healthy snacks.

Watch this video that explains how to avoid mindless eating: <https://youtu.be/HkeXLNEDdEo>

Watch this video about how to avoid overconsumption by controlling portion sizes: <https://youtu.be/R7LLRc9GpcU>

Factors that encourage the Sedentary Lifestyles in our Food System

How People Get Their Food

When people shop at grocery stores, they walk around, collect groceries, place them on registers, wheel shopping trolleys to cars, drive home, and unpack their items. This process contributes to a person's daily energy output and promotes an active lifestyle. For many years, people have been buying their food and spending energy doing so. This is referred to as incidental exercise.

However, the way people get their food is changing. Many people are beginning to do some, if not all, of their weekly **grocery shopping online** (Australian Bureau of Statistics, 2022). Since the beginning of the COVID19 lockdowns, the number of people shopping for groceries online has increased by 33% (Ibis World, 2022). When people shop for groceries online, they can collect the groceries from a supermarket car park or have them delivered. Either way, they exert very little energy in the process.

Another way people are getting their food is via **meal kit delivery services**. Meal kits consist of recipes with pre-portioned ingredients that are usually delivered to peoples' homes. While these meal kits encourage people to cook meals, the amount of energy that people use to prepare these meals is considerably less than if they were to shop

for the ingredients themselves. Currently, the rate of people ordering meal kits exceeds any other growth market in the online grocery sector (Power, 2022).

Drive-through services and fast-food meal deliveries also influence how people get their food. These services increased in popularity before the pandemic and have become indispensable for many. People likely use drive-through services because they feel it is faster and they can stay in their cars. Consumers also use more online fast-food delivery services such as Uber Eats and Deliveroo. It seems that online shopping, meal kits, and food delivery services are increasing in popularity. However, the limited energy people expend when using these services is concerning.

The images below identify various ways to buy food with limited activity.



Watch this video about how our lifestyles have become more sedentary overtime: <https://youtu.be/9nzjiTQk9DQ>

Watch this video to find out how some Australians are changing their personal and social behaviours to reduce the incidence of overweight or obesity: <https://youtu.be/udFjmWRWeUs>

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Written Activity One

Australia's Most Unhealthy Fast Food Meals

Read the article at this link:

<https://www.goodfood.com.au/eat-out/news/new-report-reveals-australias-most-unhealthy-fast-food-meals-20200529-h1of3k>

1. Provide a brief account of what this article is about.

2. What do you think the following quote from the article means, and why is it a problem?

"Previous research has shown the majority of chains don't publicly identify nutrition and health as a focus area."

3. Which fast-food companies have meals with the highest energy value?

What are these fast-food companies doing that contributes to this?

4. How do you feel about our current food system after reading this article? Justify your opinion.

Written Activity Two

Portion Distortion

Read the article at this link:

<https://www.choice.com.au/health-and-body/diet-and-fitness/weight-loss/articles/increasing-portion-sizes#:~:text=Supersizing%2C%20or%20value%20adding%2C%20is,ve%20gotten%20a%20good%20deal.>

Answer the following questions:

1. What does the term supersizing, value-adding, or upsizing refer to?

2. Provide some examples of supermarkets or fast-food companies that provide supersized food options.

3. Why is supersizing a successful marketing strategy?

4. Why might supersizing be a problem? In what ways does it encourage the overconsumption of food?

5. List some other strategies supermarkets and fast food companies use to get people to buy and consume more food.

Written Activity Three

Personal and Social Behaviours in the Food System

People's personal and social behaviours in the food system can influence overconsumption and sedentary behaviour. This can have an impact on people's wellbeing.

Read each scenario in the table below and answer the questions.

Personal and Social Behaviours	How do these behaviours influence overconsumption and/or sedentary behaviour?	What potential health impacts might occur as a result of this behaviour?
A convenience store near a secondary school sells large frozen soft drinks for \$1 and a smaller one half the size for 80 cents.		
A farmer grows a range of fresh produce and sells his fresh produce at a farmers' market.		
A family turns off the television while they are eating.		
When purchasing groceries, a shopper sees various sweet-flavoured single-serve milk marked down to 30 cents each.		
A family plant and maintain a vegetable garden.		
A child is given a certificate as a reward for a free children's meal at a fast-food franchise.		

A person orders their groceries online that are then delivered to their front door.		
A parent begins making the nightly dinner; they ask the youngest child to collect some herbs from their garden.		
It's the school holidays, and a shopper sees that frozen pizzas have been reduced from \$7 to \$3.50 each.		
Parents involve the children in the preparation of dinner.		
A family orders all their food, groceries, and take-away dinners online.		

Written Activity Four

Compare the Pair

Using the websites listed, compare the number of kilojoules used in the scenario below.

- <https://www.medibank.com.au/livebetter/be-magazine/exercise/kilojoules-burned-in-exercise-calculator/>
- <https://www.justlocal.com.au/clients/dieting/exercise.php>

Scenario: Jordan is 22 years of age, 165cm tall, and weighs 65 kilograms. He is looking forward to the finale of their favourite reality television show. He wants to have dinner beforehand so he can watch the entire show without interruptions. Jordan has two options: buy a take-away burger for dinner and collect it from the shops, or make a burger using the ingredients he already has.

Your task is to determine the number of kilojoules Jordan would use in both options.

Buying dinner from the shops		
Activity	Duration	Kj used
Phoned order takeaway	2 minutes	
Walked to car	30 seconds	
Drove in car	5 minutes	
Walked to shop	1 minute	
Walked to car	1 minute	
Drove in car	5 minutes	
Walked to house	30 seconds	
Eating	10 minutes	
Put rubbish in the bin	30 seconds	
Total Kj used:		
Making Dinner		
Activity	Duration	Kj used
Preparing meals/cooking	25 minutes	
Eating	10 minutes	
Washing dishes	10 minutes	
Total Kj used:		

Which activity expended the most energy?

What are the possible advantages and disadvantages of each scenario?

Scenario	Advantages	Disadvantages
Buying Dinner from the shops		
Making Dinner		

Practical Activity One

Serving Size Recommendations

Recent surveys state that 67% of Australian adults aged 18 are overweight or obese, and 25% of Australian children and adolescents are overweight or obese. One possible reason for this is that the portions we are serving being served have increased over the last several decades. Experts have termed this as 'portion distortion.'

The Australian Guide to Healthy Eating recommends how many serves a person should consume from the five food groups based on age and gender.

But what is a serve? Most Australians do not know how many servings they should have from each food group, let alone what a serving is.

In this practical activity, your teacher will provide the class with various foods from each food group. You will compare the difference between food manufacturers and the Australian Guide to Healthy Eating recommendations.

Follow the instructions below:

1. **Refer** to each food package to determine the serving sizes as suggested by the food manufacturer.
Record this amount in the table.
2. **Visit** the website below to find out what a serve is, according to The Australian Guide to Healthy Eating.
<https://www.eatforhealth.gov.au/food-essentials/how-much-do-we-need-each-day/serve-sizes>
3. **Measure** the serving size according to the Australian Guide to Healthy Eating.
Record this amount in the table.

Food Groups	Serving Sizes				Which was the larger serving size?
	Manufacturer Serving Size		AGHE serving size		
Baby spinach		cups		cups	
Canned fruit in natural juice		cups		cups	
Rolled Oats		grams		grams	
Milk		ml		ml	
Minced Meat		grams		grams	
Chocolate (Discretionary Food)		grams		grams	

Class Discussion:

- Were the serving sizes accurate?
- Were there any results that surprised you?
- Do you eat as per the Australian Guide to Healthy Eating recommendations?
- Discuss the impact on Australian health if all the population consumed the serving sizes you estimated.

Practical Activity Two

Compare Burgers

Using the links provided, compare the nutritional value of a fast-food burger with a homemade burger.

Fast food burger: <https://mcdonalds.com.au/maccas-food/nutrition>

Homemade burger: <https://www.taste.com.au/recipes/beef-burgers-lot-2/926a10a0-1f08-45f5-81b5-6f5144fea4e3>

Baked Chips: <https://www.taste.com.au/recipes/two-toned-spiced-chips/49da1723-ea09-4cc2-a440-707bc3830c2e>

(click on the [more nutrition information](#) link to locate the nutritional information)

Fish Burger - Fast Food	Per Serve	Burger - Homemade	Per Serve
Energy		Energy	
Protein		Protein	
Fat, total		Fat, total	
Saturated Fat		Saturated Fat	
Carbohydrate		Carbohydrate	
Sugars		Sugars	
Sodium		Sodium	
Dietary Fibre	NA	Dietary Fibre	
Medium Fries - Fast Food	Per Serve	Chips - Homemade	Per Serve
Energy		Energy	
Protein		Protein	
Fat, total		Fat, total	
Saturated Fat		Saturated Fat	
Carbohydrate		Carbohydrate	
Sugars		Sugars	
Sodium		Sodium	
Dietary Fibre	NA	Dietary Fibre	
Medium Fries - Sprite	Per Serve	Water	Per Serve
Energy		Energy	
Protein		Protein	
Fat, total		Fat, total	
Saturated Fat		Saturated Fat	
Carbohydrate		Carbohydrate	
Sugars		Sugars	
Sodium		Sodium	
Dietary Fibre	NA	Dietary Fibre	NA

Totals			
Energy		Energy	
Fat		Fat	
Saturated fat		Saturated fat	
Carbohydrates		Carbohydrates	
Sugars		Sugars	
Sodium		Sodium	

Let's Cook!

Prepare the homemade burgers and chips.

You will need to reduce the quantities of the burger and chips to serve one or two people.

Let's Evaluate

Sensory Evaluation

1. **Circle** the face that best represents your feelings about the commercial, homemade burger, and chips.

Fast-food burger



Homemade burger



Fast-food chips



Homemade chips



2. Which meal did you prefer the sensory properties of?

3. Describe the appearance, taste, smell/ aroma, texture, and taste of the meal you prefer most.

4. Describe the appearance, taste, smell/ aroma, texture, and taste of the meal you prefer least.

Nutritional Evaluation

1. **Compare** the nutritional value of the meals by completing the table below:

Differences: Commercial Meal	Similarities	Differences: Homemade Meal

2. Answer the following questions:

How does eating fast food impact health and well-being?

What is the impact of purchasing fast food and making homemade food on sedentary behaviour?

What is the impact of purchasing fast food and making homemade food on overconsumption?

Which is best, buying fast food or making homemade food? Justify your response.

Summary Activity

What is the main idea about the key knowledge & key skills?	
In your own words, summarise what our current food system is like.	
List some sedentary behaviour that relates to the food system.	Discuss the impact of this sedentary behaviour on health and wellbeing.
Identify when overconsumption occurs in the food system.	Discuss the impact of overconsumption on health and wellbeing.

Exam Preparation

Section A - Multiple Choice Questions (5 marks)

Question 1

1. Which of the following is an example of sedentary behaviour in our food system?

- a. Ordering groceries online.
- b. Using a self-serve checkout.
- c. Preparing, cooking, and cleaning up after a homemade meal.
- d. Watching television.

Question 2

Which of the following is an example of an environment promoting overconsumption of food?

- a. Salad rolls available for sale at the workplace canteen.
- b. Students preparing home-cooked meals in Food Studies class.
- c. A café selling banana bread at a reduced price for people who purchase a bigger-sized takeaway coffee.
- d. A person makes a double quantity required of a meal, so there is enough to eat for two nights instead of one.

Question 3

Which one of the following is a practical step that an individual could take to avoid overconsumption of food?

- a. Purchase food in bulk.
- b. Buy multiple food items when they are on special.
- c. Always purchase the food option that offers value for money.
- d. Compile a shopping list of food needed for the week and adhere to it when shopping.

Question 4

Which one of the following peer group behaviours encourages healthy food consumption?

- a. Meeting up at a fast food outlet every Friday night for dinner.
- b. Buying an extra-large salted popcorn to share with a friend at the movies.
- c. Shopping at a friend's local businesses.
- d. Taking part in an online 'live' cooking course about healthy cooking on a budget.

Question 5

Over-consumption of which of the following foods is likely to result in weight gain?

- a. Vegetable soup.
- b. Coffee.
- c. Donuts.
- d. Carrot sticks and rice cakes.

Section B – Short Answer Responses (15 marks)**Question 1** (5 marks)

Thursday night is traditionally pizza night in the Kumar household. The Kumar's local pizza shop has a special deal; three large pizzas for only \$15. Mrs. Kumar buys this special deal, even though two pizzas that cost \$12 would be enough to feed the family.

- a. Provide a likely reason why Mrs. Kumar ordered the pizza deal even though her family only needed two pizzas. (3 marks)

- b. Identify the effect of the over-consumption of food on health and wellbeing. (2 marks)

Question 2 (4 marks)

Distribution and access are considered a component of the food system.

Identify and explain two patterns of behaviour that may encourage sedentary behaviour in this component of the food system. (4 marks)

Question 3 (6 marks)

Discuss three ways people can avoid the overconsumption of food. (6 marks)

Exam Preparation

Section A - Multiple Choice Questions (5 marks)

Question 1

1. Which of the following is an example of sedentary behaviour in our food system?

- a. Ordering groceries online.
- b. Using a self-serve checkout.
- c. Preparing, cooking, and cleaning up after a homemade meal.
- d. Watching television.

The answer is A. Minimal movement is required when ordering groceries online.

The answer is not B. Movement is required when walking into a shop, collecting items from the shelves, and then using the self-serve checkout. This is not a sedentary activity.

The answer is not C. A significant amount of activity is involved in preparing, cooking, and cleaning up after a homemade meal.

The answer is not D. Watching television is a sedentary activity. However, it does not relate to the food system unless a person is watching food commercials or eating food while watching television.

Question 2

Which of the following is an example of an environment promoting overconsumption of food?

- a. Salad rolls available for sale at the workplace canteen.
- b. Students preparing home-cooked meals in Food Studies class.
- c. A café selling banana bread at a reduced price for people who purchase a bigger-sized takeaway coffee.
- d. A person makes a double quantity required of a meal, so there is enough to eat for two nights instead of one.

The answer is not A. There are no 'two for the price of one' or upsizing deals being sold alongside the salad roll; therefore, it can be assumed that this is not an example of overconsumption.

The answer is not B. There is no information about the quantity of home-cooked meals being produced. It can be assumed that this is not an example of overconsumption.

The answer is C. Offering banana bread to people at a reduced price if people purchase a large coffee encourages people to consume more and is an example of overconsumption.

The answer is not D. While the person has made double the quantity required, they are doing so to provide enough food for two nights.

Question 3

Which one of the following is a practical step that an individual could take to avoid overconsumption of food?

- a. Purchase food in bulk.
- b. Buy multiple food items when they are on special.
- c. Always purchase the food option that offers value for money.
- d. Compile a shopping list of food needed for the week and adhere to it when shopping.

The answer is not A. When people purchase food in bulk, they risk eating more significant amounts than they would if they had only bought what they needed at the time.

The answer is not B. There is a risk that people will consume more food than required if they buy multiple items when they are on special.

The answer is not C. Often, larger food sizes are better for money. However, there is a risk that people will consume more food if it is available.

The answer is D. Compiling a shopping list and only buying what is on it is likely to result in people only purchasing what they need.

Question 4

Which one of the following peer group behaviours encourages healthy food consumption?

- a. Meeting up at a fast food outlet every Friday night for dinner.
- b. Buying an extra-large salted popcorn to share with a friend at the movies.
- c. Shopping at a friend's local businesses.
- d. Taking part in an online 'live' cooking course about healthy cooking on a budget.

The answer is not A. The food at fast food outlets is often high in fat, salt, and sugar. They also tend to promote specials that promote the overconsumption of food.

The answer is not B. It isn't easy to assess how much you have consumed when you share food with others. In addition, the salt added to the popcorn is not healthy.

The answer is not C. Shopping at a friend's local business might encourage food sovereignty and is a social activity. However, there is no evidence to suggest the food is healthy.

The answer is D. Taking part in an online cooking course can involve interaction with others. The focus of the class is healthy cooking on a budget.

Question 5

Over-consumption of which of the following foods is likely to result in weight gain?

- a. Vegetable soup.
- b. Coffee.
- c. Donuts.
- d. Carrot sticks and rice cakes.

The answer is not A, B, or D. These foods contain few kilojoules.

The answer is C. Donuts contain a significant amount of kilojoules.

Section B – Short Answer Responses (15 marks)**Question 1** (5 marks)

Thursday night is traditionally pizza night in the Kumar household. The Kumar's local pizza shop has a special deal; three large pizzas for only \$15. Mrs. Kumar buys this special deal, even though two pizzas that cost \$12 would be enough to feed the family.

- a. Provide a likely reason why Mrs. Kumar ordered the pizza deal even though her family only needed two pizzas. (3 marks)

For one mark, the student needed to refer to the case study.

The pizza deal that Mrs. Kumar purchased meant that she received an additional pizza for \$3. The pizza would normally cost \$5.00.

For two marks, the student needed to explain why people like Mrs. Kumar buy larger portions on special.

People often do this because they feel they are getting better value for money. For only a fraction more money, they get so much more food. They feel that they are getting a better offer or deal.

- b. Identify the effect of the over-consumption of food on health and wellbeing. (2 marks)

For two marks, the student needed to state two effects of the over-consumption of food on health and wellbeing.

Two of the following responses were accepted:

- People who overconsume food can become overweight or obese.
- They could also acquire type two diabetes.
- They may become at risk of a heart attack or cardiovascular disease.
- They may be at risk of some types of cancers.

Question 2 (4 marks)

Distribution and access are considered a component of the food system.

Identify and explain two patterns of behaviour that may encourage sedentary behaviour in this component of the food system. (4 marks)

For 2 marks, the student needed to identify two patterns of behaviour that encouraged sedentary behaviour.

- Online shopping
- Ordering fast food to be delivered to homes
- Using a drive-through at a fast food outlet.

For an additional two marks, the student needed to explain why these patterns of behaviour encourage sedentary behaviour.

Any two of the following responses were accepted.

- People who shop online do not have to move much to get groceries. They may have to retrieve them from their front doorstep and put the groceries away. When they go to a store to buy groceries, they have to walk around the shops and lift groceries in and out of cars. This involves physical activity.
- People who order fast food delivered to their homes do not have to do any physical activity except walk to the store.
- People who use drive-throughs do not have to walk into the store to get their meals.

Question 3 (6 marks)

Discuss three ways people can avoid the overconsumption of food. (6 marks)

For 3 x 2 marks, the student needed to explain three ways people could avoid the overconsumption of food.

Any 3 of the following methods were accepted.

- People could use plates with sections showing how many servings of vegetables, protein, and carbohydrates they should have in a meal. This may help them control their serving portions.
- People could try to fill up on foods like vegetables that do not contain as many kilojoules. This is likely to decrease the number of kilojoules they overconsume.
- People could become educated about what equals a serve. They could start using serving sizes when they are preparing their dinners.
- People could avoid buying foods in bulk or specials, where they must purchase one item to get another free. Not having food available may help them avoid overconsumption.

Starter Activity One

On Special

In this task, students will determine how many advertisements in supermarket 'specials' brochures promote overconsumption.

Distribute a selection of supermarket 'specials' brochures to students.

Ask students to:

- Circle all the foods that belong in the Australian Guide to Healthy Eating (including the Eat Small Amounts section) in green; and
- Circle all the foods in the discretionary section of the Australian Guide to Healthy Eating in red.
- Students should then count up how many foods are in each section.

Class Discussion:

1. How many foods advertised belong in the Australian Guide to Healthy Eating?
2. How many foods advertised belong in the discretionary group?
3. Do these results surprise you?
4. How might this impact people's shopping behaviour?
5. Other than reducing the price of food, what other methods does the supermarket use to get people to buy more food and overconsume?

Starter Activity Two

Sedentary Activities

List as many sedentary activities related to the food system as you can!

Overconsumption

List reasons people overconsume food as you can!