

Book I

Year II



Food and Textiles Technology

**Food and Nutrition
Caring for the Family**

Food And Textiles Technology

Year 11 Book One

Food & Nutrition

Caring for the Family



GOVERNMENT OF SĀMOA
MINISTRY OF EDUCATION, SPORTS AND CULTURE

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INTRODUCTION

Talofa,

If you are a Secondary School student studying Food and Textile Technology at Year 11, this book has been written for you.

It has been designed to give you information and an understanding of different topics that relate to Food and Nutrition and Caring for the Family.

In this book we continue to build on the information and knowledge you have acquired in this subject area in Year 9 and Year 10. In Unit One of the book we will cover the subject of food and nutrition. We will investigate the use of food preservation in the past and in present day Sāmoa, we will explore the use of food additives in commercially produced food, carry out practical activities in meal planning and do some exercises in food budgeting.

In Unit Two of this book we explore the role of the family and compare and contrast the expectations that Sāmoan families have in urban and rural situations.

We will explore how families cope with changes and how they can meet the needs of the elderly and family members with non-communicable diseases.

In each Unit of this book there are activities that you can do individually or in a group. You can ask your teacher or another experienced adult to help you with the group activities given.

All the words that may be new to you have been placed in a box on the left hand side of the relevant page. The meanings of these words are given to you in the glossary at the back of the book so you can look them up if you need to.

We hope you will experience new and exciting things as you journey through this book.

Unit 1: FOOD AND NUTRITION

Topic 1 Keeping Food Safe

Food preservation methods, past and present

The preservation of food is a process used to:

- Prevent food from going bad.
- Slow down the natural aging process of food so that it may be kept for a longer period of time.

Food preservation has been carried out in Sāmoa for hundreds of years. Processed foods, refrigerators and freezers have all been designed to keep our food fresher longer. The availability of these has contributed to the loss of food preservation techniques, which are an important part of the heritage of our people.

In Year 9 we identified that smoking, drying, burying, fermenting and baking were some of the different traditional methods of preservation used by our ancestors in the past. An old traditional recipe for making a sauce from coconuts called sami lolo was also introduced. In Year 10 we explored the preservation of seasonal foods like fruits and vegetables and tried out ideas like drying fruits in the oven for snack foods.

Activity 1 Review Of Food Preservation Methods

Look at the following pictures. Match up the correct caption listed below with the preservation method that it represents.

List of captions

1. Sun-dried fruit snacks are crispy.
2. Smoking adds an interesting flavour.
3. Seasonal fruit makes good jam.
4. Fish dried in the sun lasts longer.
5. Breadfruit fermented in a pit is an old tradition.

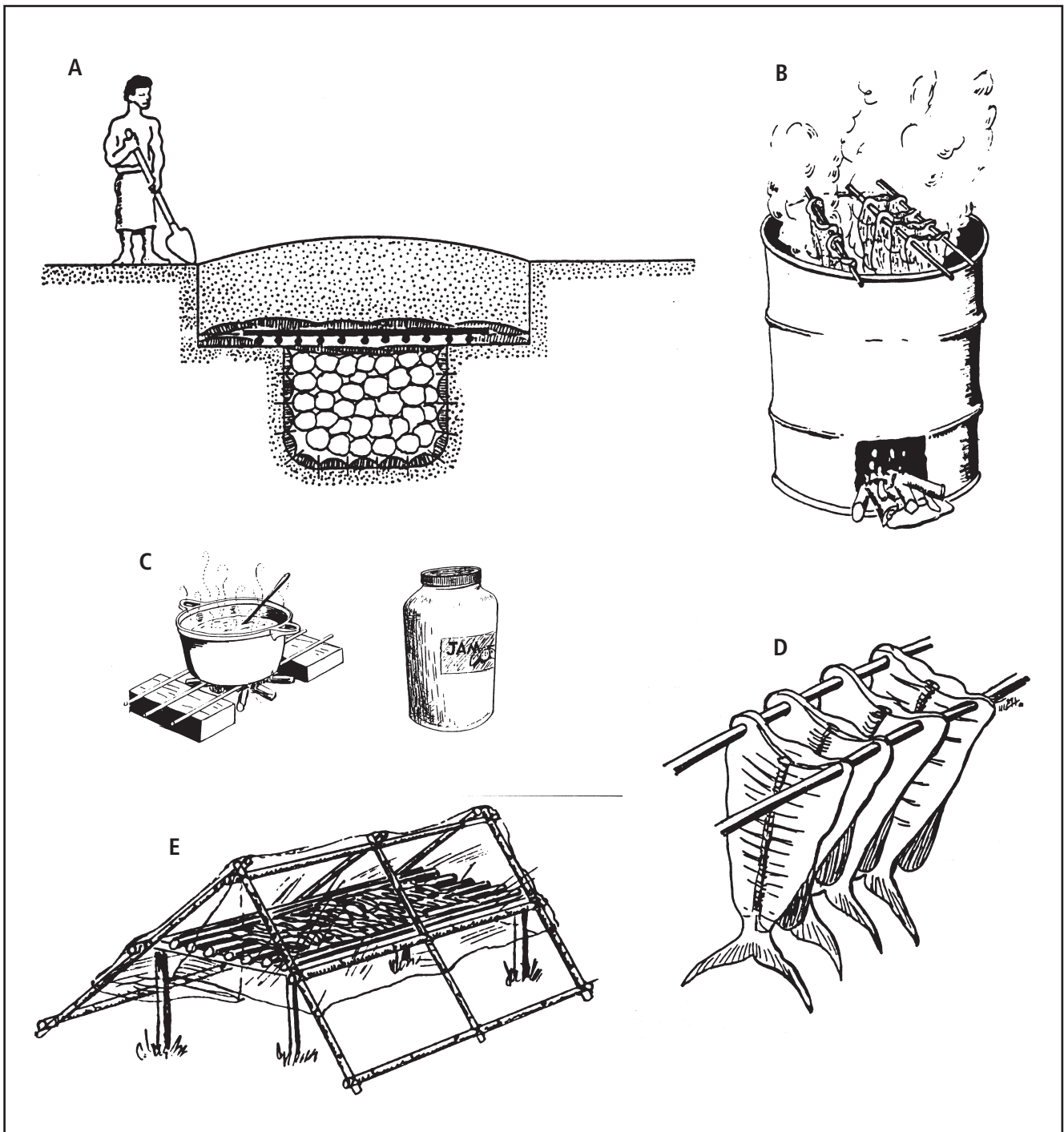


Diagram 1.1
Traditional preservation methods.

Many of us living in Sāmoa in the 21st Century have heard stories about masi ulu or fermented breadfruit and its 'smell' but have never had the opportunity to see or taste it. However, there are some people today who have eaten or are still making masi ulu. Therefore, this year you are going to be given the opportunity to interview and ask people in your community about the food preservation methods used in the past and to find out whether these are still being used today.

Activity 2

Food Preservation In The Past

Key Words:
Preservation.
Consistency.
Fermented.
Micro-organisms.
Anaerobic.
Preference.

Read through the following account taken from a book written by one of the early missionaries to Sāmoa and carry out the following exercises.

George Turner of the London Missionary Society, in his book, *Sāmoa a hundred years ago and long before* (first printed in 1884), describes the masi Sāmoa or fermented breadfruit.

‘While the breadfruit is in season every family lays up a quantity in a pit lined with banana and cocoa-nut leaves, and covered with stones. It soon ferments; but they keep it in that state for years, and the older it is they relish it all the more. They bake this in the form of little cakes, when the breadfruit is out of season, and especially when there is a scarcity of taro. The odour of these cakes is offensive in the extreme to a European; but a Sāmoan turns from a bit of English cheese with more disgust than we do from fermented breadfruit’.

1. Complete the table by giving other words for the ones mentioned in the story. The first one has been done for you and Sāmoan words have been given for some of the others.

Words from the passage	Give another word or words to describe this	Give a Sāmoan word or words to describe this
in season	bearing fruit at that time	fuata poo fua i le taimi nei
ferments		pala, mafu
relish		fiafia lava i ai
little cakes		
scarcity		oge, leai ni meaaano
odour		
offensive		le manaia, manogi leaga
disgust		

2. Having read through the extract from George Turner’s book, copy the following paragraph (making masi ulu) into your exercise book, and fill in the blank spaces.

Making masi ulu

When breadfruit is in season _____ family preserves or lays up _____ in a _____. The pit is lined with _____ and _____ leaves and topped with stones. Because there is a little air the breadfruit soon _____. The breadfruit can be kept in the pit for a long time and this is a good storage method. The longer the breadfruit is in the pit the tastier it is and the more the people _____ it. The masi is brought out when the breadfruit is not in _____. This happens especially when there is a _____ of taro. The masi is mixed with coconut cream and baked in small _____. The masi has a strong smell and is described by some Europeans as _____. However, they eat cheese that some Sāmoans turn away from in _____. This shows that food likes and dislikes have a lot to do with personal preference rather than the quality of a food.

Fermentation

What is fermentation?

It is a process that causes food to change in taste and structure through the action of special kinds of micro-organisms like yeasts or bacteria.

In the case of fermented breadfruit these organisms produce an acid that makes the breadfruit go soft and acid or sour in flavour but does not cause the breadfruit to go bad or spoil. What actually happens is that the organisms that cause food to go off, or rot, cannot live or survive in an environment that is acidic, so the breadfruit is preserved. The organisms that cause fermentation grow well in a situation where there is no air or oxygen around the food.

Sāmoans in the past discovered that when they dug pits, lined them with clean banana leaves, placed breadfruit or bananas in them, covered them with more layers of leaves and left them for a long time, they were able to keep the breadfruit or bananas in good condition until they needed to use them. What they probably did not realise was that as soon as breadfruit or bananas were covered in a pit, micro-organisms started to grow and produce the acid that preserved the food. This caused the flesh of the breadfruit and the bananas to break down and become like a soft dough in consistency and even change in colour. The longer the masi was left the whiter and more sour it became. That is probably why the Sāmoans of George Turner's time relished or greatly enjoyed the masi that had been stored in the pit a long time.

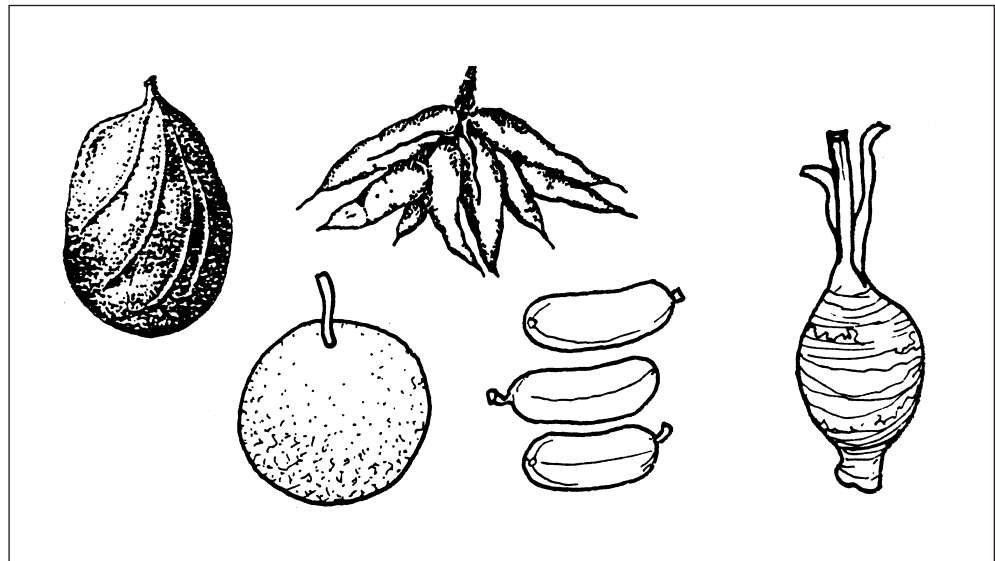


Diagram 1.2

Foods that can be fermented: breadfruit, banana (plantain), Tahitian chestnut (ifi), taro and cassava.

People that have actually eaten masi say that it smells mafu (smells like milk when it goes sour) or like miti mafu (smells like coconut sauce when it goes sour). They also say that masi can be mixed with coconut cream and made into dough bundles or faapapa (little cakes) and baked in the umu or earth oven.

During fermentation most of the nutritional value of the food is maintained. The main nutrient we obtain from root crops or starchy fruits is carbohydrate. This is used by the body to provide energy to do work or play. The amount of energy in the food is maintained during fermentation. However, there may be some loss of vitamins, but root crops and starchy fruits are not the main sources of vitamins in our diet. Levels of some B vitamins may increase as yeast products are a good source of B vitamins.

An important fact we learn from Turner's account is that food preservation was an everyday part of life in those days. This was the technology used by Sāmoans in the past to cope with changes in the supply and demand of food. Crops that were blown down by hurricanes and any excess crop yields were gathered, stored and preserved. This food was then available when there were food shortages. Why do you think we are not using this form of technology today?

The fermentation process is also seen in other common food processing methods. There are many different kinds of moulds, yeasts and bacteria that can give food a special flavour or texture. Moulds, yeasts and bacteria are living things. The natural processes in their life cycles can cause changes. For example, yeast is mixed with other ingredients to form bread dough. Over a period of time the yeast grows and produces gas, which causes the dough to rise. Certain moulds and bacteria are used to produce specific flavours in cheese: *e.g. Blue vein cheese*. Some bacteria cause milk to go sour and produce a popular food called yoghurt.

Activity 3**The Fermentation Process**

Answer true or false after each of these sentences

1. Fermentation is a process caused by micro-organisms. *True/False*
2. Some of these micro-organisms are called yeasts or bacteria. *True/False*
3. These organisms produce an acid that makes breadfruit go sweet. *True/False*
4. These organisms like to grow in aerobic conditions or where there is a lot of oxygen present. *True/False*
5. Fermented breadfruit does not go 'off' because it is preserved in acid. *True/False*
6. Breadfruit stays the same after one year, just as it was before being put in the pit. *True/False*
7. Fermented breadfruit was used in the past as a standby food when there was a shortage of other staple foods like taro. *True/False*
8. Fermented breadfruit has a smell that Europeans love. *True/False*
9. Fermented breadfruit has the same nutritional value as fresh breadfruit. *True/False*
10. When ready for use, the fermented breadfruit is wrapped in banana leaves to resemble small parcels and baked in an umu. *True/False*

Did you know?

That pit fermentation was a popular form of food preservation not only in Sāmoa but throughout the Pacific. The foods that were fermented in pits were usually root crops and starchy fruits like breadfruit, bananas — plantain variety, Tahitian chestnuts (ifi — Sāmoan, ivi — Fiji, aila — Papua New Guinea) taro and cassava. The masi is called ma in Tongan and ma'i in the Cook Islands.

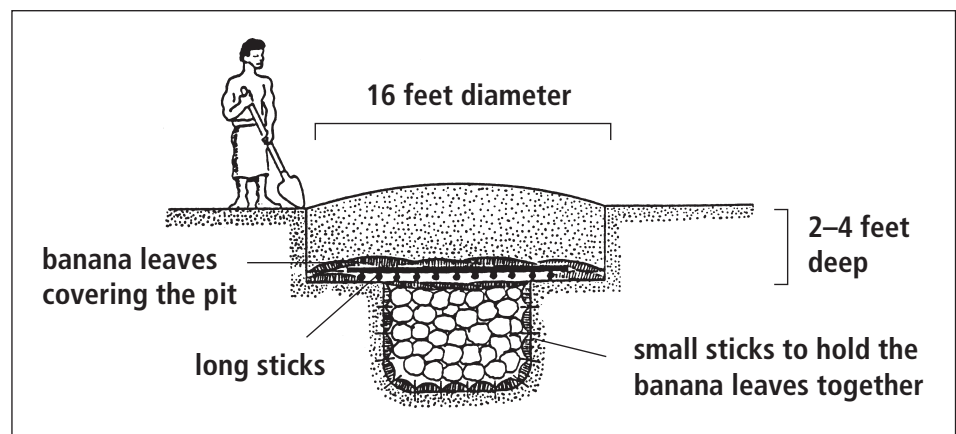


Diagram 1.3
The Tongan fermentation pit.

Activity 4**Discussion: The Importance Of Preserved Foods****Key Words:****Acidic.****Consistency.****Significance.****Nutritional value.**

Discuss the answers to these questions in groups of four. Write up your answers on newsprint. Have each group report on their answers. Write a paragraph or two in your exercise book to summarise the answers to these questions. Hand your work to the teacher.

1. Why do you think the most common foods that were preserved in fermentation pits were root crops and starchy fruits?
2. What was the significance of this practice for Pacific Islanders in the past?
3. What is the food group that these foods belong too?
4. What are the main nutrients provided by these foods?
5. Do you think the fermentation preservation method affects the nutritional value of these foods?

Activity 5**Food Preservation Methods, Past And Present**

Diagram 1.4

Common methods of food preservation seen today.

1. Carry out a simple investigation in your village or community to find out what food preservation methods were used in the past and whether these methods are still in use today.
 - Talk to or interview elderly people and ask them about foods they ate in the past.
 - How were these foods preserved?
 - What methods were used to keep foods fresh or to last longer?
 - What methods of preserving foods are still being used today?
 - Use the methods outlined in the chart on page 12 as a guideline for your questions.
2. Copy the chart on page 12 into your exercise book and fill it in with your findings.
 - In the first column the main food preservation methods that were covered in Years 9 and 10 have been written for you.
 - In the second column write down the names of all the foods that you know or found out are preserved using these methods (one has been done for you).
 - In the third column put a tick (✓) for yes or a cross (X) for no if the foods were preserved in this way and used in the past (more than 50 years ago).
 - In the fourth column put a tick (✓) for yes or a cross (X) for no if the foods are still being preserved using these methods today on a regular basis or are being preserved by new methods.
3. After you fill in this chart hand your work to your teacher for grading.
4. Write a paragraph on each of the different methods: i.e. Short time, medium time and long time methods. Explain how these methods work and their value to the Sāmoan people and their way of life. Hand this in with your chart to the teacher for grading.

UNIT 1

The following is a table of food preservation methods used in the past and the present:

Food preservation method	Names of preserved foods	Used more than 50 years ago	Still used today or a new method
<p>Short Time Methods <input type="checkbox"/> for 2–7 days Wrapping food in leaves. Storing food in baskets. Baking food in umu. Storing food in water, or in moist sand. Any additional or new methods?</p>			
<p>Medium Time Methods <input type="checkbox"/> for 10–20 days Burying root crops. Cooking or roasting meat or fish. Any additional or new methods?</p>			
<p>Long Time Methods <input type="checkbox"/> for more than 30 days. Drying in the sun. Drying in an oven. Drying on a stove. Smoking foods. Fermented foods. Preserving foods in: sugar; or with spices; or with salt and acid. Canned and bottled foods. Frozen foods. Any additional or new methods?</p>	<p><i>Masi ulu</i></p>	<p>X</p>	<p>?</p>

Causes Of Food-borne Illnesses

The food we eat can make us sick if we are not careful to make sure it is safe to eat. There are two main ways that food can cause illness:

1. When foods themselves carrying different disease-causing agents such as bacteria, fungi (moulds or yeast), chemicals or parasites are taken into our bodies when we eat them.
2. When containers carrying foods or drinks are dirty or contaminated.

In Year 9 and Year 10 we discussed in some detail how food is spoiled by micro-organisms like bacteria, yeasts and moulds, and by enzymes. Food is a living thing while it is still growing on a plant or tree, or while it is a living animal or creature. Once it is picked off the plant or tree or an animal is killed for meat, it dies and starts to deteriorate.

Micro-organisms and enzymes are living things in the environment that we live in. They are the agents that cause food to spoil. If we do not eat the food while it is fresh, we have to do something to it to maintain its freshness or keep it in a state that is safe to eat. That is why we preserve or cook our food.

Food-borne illness refers to sickness or disease that is caused by something in the food that we eat or drink. The sickness or disease usually affects the stomach (gastrointestinal) and can cause symptoms such as diarrhoea and/or vomiting. Food-borne illness or disease is often called food poisoning and is usually caused by bacteria.

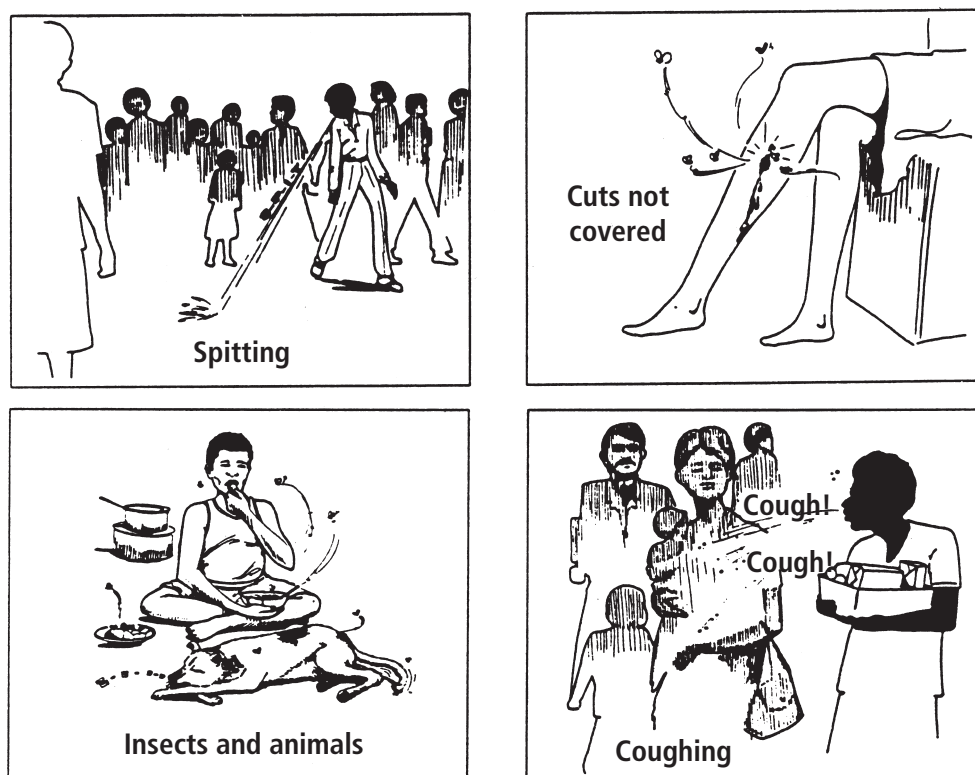


Diagram 1.5
How disease-causing agents are spread.

Activity 6**Recap On Disease-Causing Agents****Key Words:****Food-borne illness.****Bacteria.****Moulds.****Yeasts.****Chemicals.****Parasites.****Allergic.****Pesticides.**

Match up the riddle with the correct name for the disease-causing agents described. They are bacteria, moulds, yeast, enzymes and parasites.

1. I am found naturally in food and I assist with the ripening process. Many fruits go brown in colour because of me. Who am I?
2. You cannot see me with your own two eyes but I am in the air, on animals and insects, in the soil, on work benches and on raw food. I especially like to live in perishable foods like fish, chicken, soups, milk, cream and cooked rice. I multiply very quickly. Who am I?
3. I can only be seen through a microscope and, although my body is made up of single cells, I grow quickly when I am fed with my favourite food which is sugar. Who am I?
4. I am a tiny, tiny plant and I grow on food giving it a furry surface. I like damp food and humid conditions. Who am I?
5. I cannot survive on my own. I have to live in or on other living things, sharing their body and their food. My problem is I never ask permission and usually make people sick when I visit. Who am I?

There are also some non-living agents that can cause illness. These are things like:

Chemicals

Chemicals can be eaten or drunk by accident if they are stored in drink bottles. For example, paraquat (weed killer) and rat poison are dangerous chemicals that people might take by accident. It is important to label poisons properly and store them away from foods and drinks.

Chemicals may get into food by accident during harvesting, transporting, storage or preparation of agricultural produce. These chemicals can include pesticides, sprays used in vegetable growing, or sprays that kill household pests. It is important to wash all food thoroughly before cooking or eating.

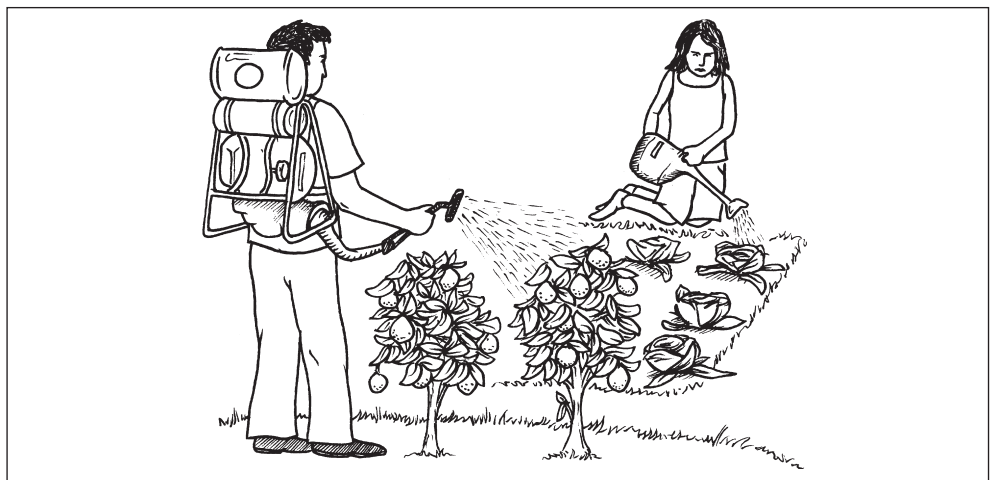


Diagram 1.6

Chemicals sprayed accidentally on food can cause sickness.

Metals

Metals from tins and cans that have been damaged can cause illness. Food should be removed from an opened can or tin and stored properly on a plate or in an airtight container. Heavy metals such as lead and mercury, contained in old batteries and other metal materials that are not disposed of properly, can cause problems when they leak into our fresh water supply or into the sea.

Radioactive or nuclear waste and rubbish

These materials can come from the testing of nuclear bombs or from machinery like old X-ray machines that were once used in hospitals. Radioactive materials can get into fish, meat, milk and plants and cause illness. Although there are no nuclear testing or nuclear power plants on Sāmoa it is important to be aware of these dangers as nuclear testing is still being carried out in other parts of the South Pacific.

Toxic food

There are also chemicals found in some types of food that can be toxic or poisonous to some people. For example, when potatoes are very young, or sometimes when they get too old, they go green in colour. We should not eat potatoes when they are like this as there is a chemical in them that makes people sick. A similar thing happens with peanuts. There is a mould that can grow on peanuts when they are not processed properly and it produces a toxin called aflatoxin which can make people quite sick. There are many people who are allergic to peanuts and cannot eat them. Do you know anyone who has this allergy?

One living agent we have not discussed before is parasites

Parasites are living things that get their food from 'living off' other living things. The ones that we are familiar with in Sāmoa are worms (tapeworms, roundworms, threadworms, hookworms), nits, lice and fleas. All these parasites can make people sick.

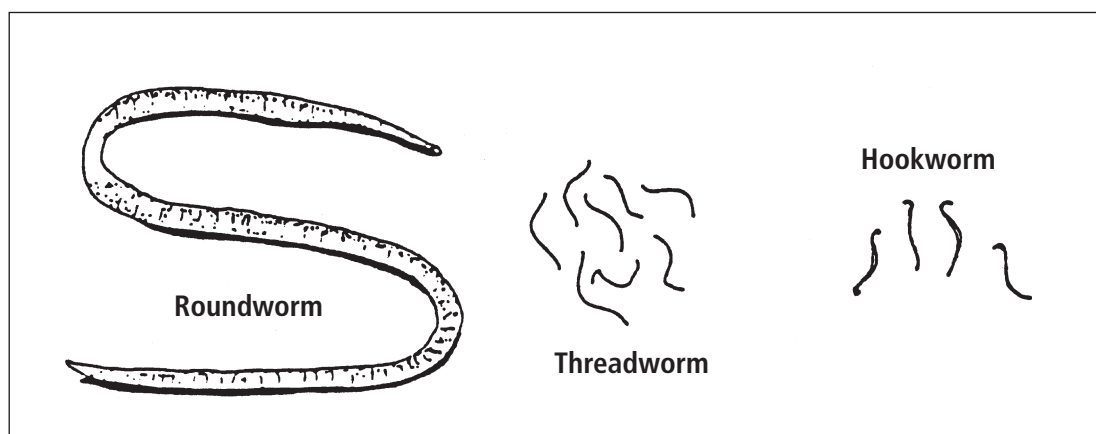


Diagram 1.7
Three kinds of worm.

The Health Department's Environmental and Public Health Sector are responsible for the monitoring and follow-up of any outbreaks of food-borne diseases or food poisoning cases in the country. Food poisoning can occur in places where food is served in large quantities or to a large number of people (*e.g. In restaurants, food stalls, boarding schools and hospitals*), but it can also occur at home. Food poisoning is most often due to the poor food preparation and hygiene practices of the people cooking and serving the food. The staff of the Public Health Department are very knowledgeable on this subject and are happy to give you more information on this subject. Are there any other people in your community that you can ask for more information on food-borne diseases?

Activity 7

Invite A Guest Speaker

1. Ask your teacher to arrange for a guest speaker to speak on the subject of food-borne illnesses or disease-causing agents. Your local health staff and biology or science teacher are good resources.
2. As you listen to the speaker, take some notes.
3. Write up a one page summary on the information that you have learnt from the speaker. Give your work a suitable title.
4. Hand your work to your teacher for marking.

The Role Of Food Additives In Commercially Produced Food

When we discussed the causes of food-borne diseases we mentioned the need to keep food fresh or in a state where it would remain suitable for eating. From the earliest of times people have added substances to food to prevent it from spoiling, improve its appearance or change its texture. As populations grew and became more urbanised, the need for more food and better ways to preserve, package and distribute it increased.

When people move to towns or cities, they actually move away from their source of food because most food is grown in rural areas where more land is available. Therefore, new technologies have been created to make food more readily available and easier to transport to people in the cities. That is why the food industry has become a lot more commercialised.



Diagram 1.8

The food industry has become very commercialised.

We can see the impact of this in Sāmoa with the number and variety of packaged and processed foods on display in our stores. This is not necessarily a bad thing as it provides variety to the diet and allows the introduction of new foods into a country. For example, here in Sāmoa our palusami is now being canned so it can be made available for Sāmoans overseas whenever they want it. It may not be exactly the same as palusami straight from the umu but it is now available for people who cannot make their own. One of the main concerns with the commercialisation of food is the monitoring and controlling of what goes into the products so that they remain safe for people to eat. This is a side of modern technology that we have to be aware of.

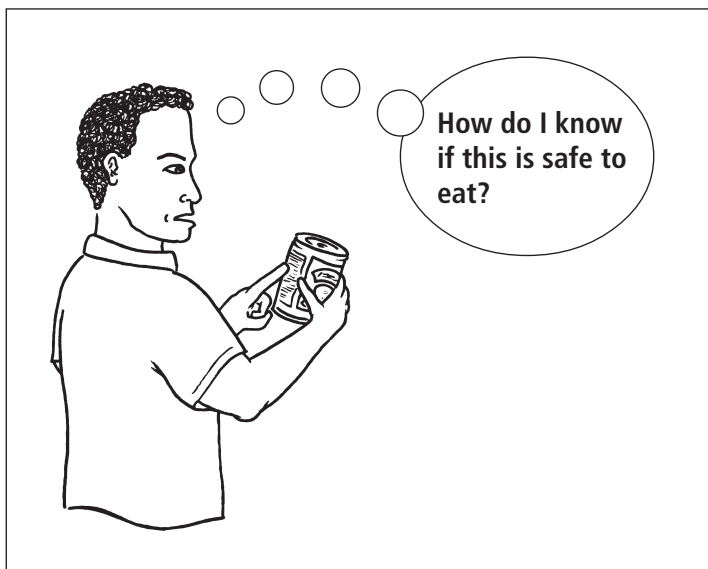


Diagram 1.9

How can you tell what is inside a can or package?

In most developed countries special Food Safety Laws and Regulations have been passed to make sure that additives are used in safe amounts, according to standards that are laid down to protect the consumer. This covers not only what is put into the food product but also the honest marketing of the product. That is, whether the label or package tells the true facts about what the product contains.

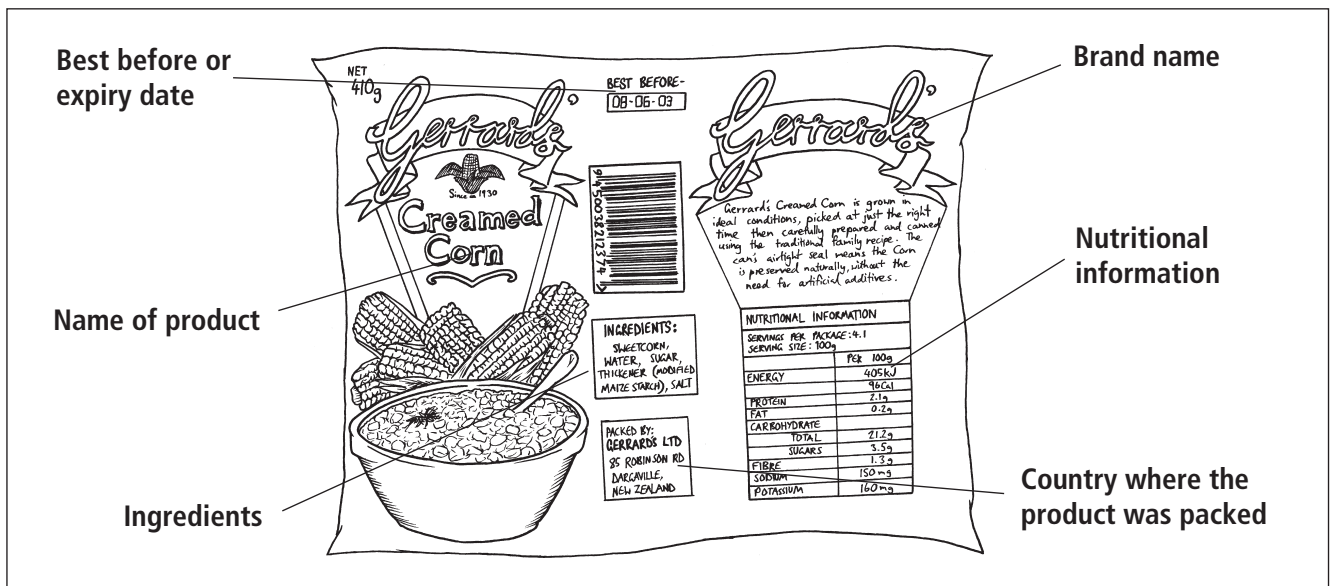


Diagram 1.10

The label on a food package should tell you what is inside the packet, can or bottle.

In overseas countries there are specific government agencies that monitor food products. There is the Food and Drug Administration (FDA) in the United States of America, the Department of National Health and Welfare in Canada, the New Zealand Food Safety Authority in New Zealand and similar agencies in Australia.

In Sāmoa, the safety of our food supply is currently covered in the Food and Drug Act (1967), the Health Ordinance (1959) and the Poisons Act (1968). It is the responsibility of the Health Department to enforce and monitor these laws.

What Is A Food Additive?

A food additive can be defined as any natural or artificial material, separate from the basic raw ingredients, used in the production of a food item to enhance or improve the final product in some way.

What do food additives do?

Food additives are basically used in food to:

- Maintain nutritional value.
- Improve its keeping quality.
- Make it attractive.
- Help in its processing, packaging and storage.

The following chart has been compiled to give you an idea of how food additives are used in the food industry and the types of additives and their functions. You are not expected to learn or understand everything that is in this chart. The purpose of the chart is to give you an idea of the many different chemicals and products that are in the foods you eat that you may not know are there. There are many more additives not included in the following chart.

Food Additive Chart

Purpose of the food additive	Types of additives used	Their functions	Examples of additives used	Some examples of foods that additives are used in
Maintain nutritional value	Preservatives	Used to prevent or delay undesirable spoilage in food, caused by microbial growth or enzyme or chemical actions. Anti-microbial agents prevent the growth of moulds, yeast or bacteria in foods. Antioxidants slow down the process of fats turning rancid and frozen fruits turning brown.	ascorbic acid (vit C), ascorbyl palmitate, ascorbyl stearate, butylated hydroxyanisole (BHT), sodium diacetate, sodium dithionite, calcium propionate, sodium ascorbate, sodium benzoate, sodium nitrate, sodium sorbate	bread, pie filling, cake mixes, potato chips, fruit juices, cheese, syrup, frozen and dried fruits, margarine and shortenings
	Flavour enhancers	To enhance the flavour of certain foods.	spices (cloves, ginger, cinnamon, etc.), citrus oils, amyl acetate, carvone, vanilla, monosodium glutamate, benzaldehyde	spice cake, gingerbread, icecream, candy, carbonated beverages, fruit flavoured gelatins, toppings, sausages
	Nutrient fortification	To improve the nutritional value of some foods.	thiamin, riboflavin, niacin, iron, vitamins A and D, ascorbic acid, potassium iodine	wheat, flour, bread, rolls, biscuits, breakfast cereals, macaroni, margarine, milk, iodised salt

UNIT 1

Purpose of the food additive	Types of additives used	Their functions	Examples of additives used	Some examples of foods that additives are used in
Improve its keeping quality	Anticaking agents	Keep powders free-running: <i>e.g. Salt would turn into a solid chunk in humid conditions without an anticaking agent.</i>	calcium, aluminum silicate, magnesium silicate, calcium phosphate, sodium ferrocyanide decahydrate	table salt, garlic and onion powder, frankfurters, sausages, dietetic foods
	Antifoaming agents	Prevent undesirable foaming during the manufacture of certain foods, like jam.	monoglycerides, and diglycerides	jam making
	Firming agents	Maintain the texture of certain foods such as processed or prepared fruits, vegetables, and fish products. These would otherwise go soft during processing. Also used to give firmness to the curd of some cheeses.	aluminum sulphate, calcium chloride, calcium gluconate calcium lactate	cheese, fish products, fruit and vegetable products
	Food enzymes	Promote desirable chemical reactions in food. Rennet for example is an enzyme used to form the curd in cheese.	bovine rennet, bromelain, catalase, cellulase	cheese, processed cheese products like spreads.
	Humectants	Keep food moist.	glycerol, glycerine	shredded coconut, marshmallows
	Texture-modifying agents	Help maintain the consistency desired in foods. These are emulsifying, gelling stabilising and thickening agents.	acacia gum, agar, algin, baker's yeast, glycan, calcium, carrageenan, furcelleran, gelatin, polysorbate	bakery products, noodles, cake mixes, salad dressings, frozen desserts, ice cream, chocolate milk, candy, beer

Purpose of the food additive	Types of additives used	Their functions	Examples of additives used	Some examples of foods that additives are used in
	pH-adjusting agents	Reduce, increase or maintain the acidity of food which can affect microbial quality, cooking results, flavour and texture. Some help to make baked products light and fluffy.	potassium bicarbonate, potassium sulphate, phosphoric acid, sodium potassium tartrate, sodium phosphate, sulphuric acid, citric acid, fumaric acid	cakes, cookies, biscuits, crackers, waffles, muffins, butter, processed cheese, cheese spreads, chocolates, carbonated beverages, confectionery
	Whipping agents	Assist in the production and maintenance of stable whipped products.	triethyl citrate, sodium hexameta phosphate, sodium lauryl sulphate	whipped cream, dessert products
Make it attractive	Colouring agents	Give foods an appetising appearance. Processing, storage and seasonal variation can result in unattractive colour. The word colour often appears on the label, but not the chemical or common name.	annato, carotene, beet red, chlorophyll, citrus red, fast green FCF	baked goods, candy, carbonated beverages, ice cream, jams, jellies, cheese, snack foods, meat products
	Glazing and polishing agents	Make food surfaces shiny and in some cases offer protection from spoiling.	beeswax, canauba wax	candy
	Sweeteners	Substances used to sweeten foods other than conventional sweeteners like sucrose, fructose or glucose. They often add sweetness without the extra calories.	mannitol, xylitol	diet food products like beverages, jellies, desserts, soft drinks

UNIT 1

Purpose of the food additive	Types of additives used	Their functions	Examples of additives used	Some examples of foods that additives are used in
Help in its processing, packaging and storage	Bleaching, maturing and dough-conditioning agents	Act on flour to produce a product of consistent quality and colour. Dough conditioners which modify the strength of the flour, improve the handling properties of the dough and reduce mixing time, resulting in better texture, volume and crumb evenness in bakery products.	acetone peroxide, ascorbic acid, calcium iodate, calcium peroxide, chlorine dioxide	wheat flour, bakery products, certain cheeses
	Pressure-dispensing agents	Act as propellants to dispense food like whipped toppings from aerosol cans.	adipic acid, ammonium bicarbonate, ammonium carbonate	canned whipped cream and toppings
	Miscellaneous agents	Include a variety of other food additives like carbonating agents in soft drinks, filtering and clarifying agents, deodorising agents in fats and oils, foaming agents, tableting aids	sucrose acetate isobutyrate (SAIB), talc, tannic acid, sodium-methyl sulphate, sodium silicate, sodium stearate, quillaia extract, mineral oil, L-Leucine, copper gluconate	carbonated soft drinks, other beverages, beer, fats and oils, tablets
	Yeast foods	Substances given as nutrients for yeasts such as those used in brewing of beer, and making bread.	manganese sulphate, sodium sulphate, urea, zinc sulphate, potassium chloride, potassium phosphate, phosphoric acid, ammonium chloride	bread and bakery products, beer

Activity 8**Checking Through The Food Additive Chart**


1. In small groups look through the food additive chart and see how many names of chemical compounds you recognise from your Science classes.
2. Did you know that sodium chloride is the chemical name for table salt? How many additives in the chart contain **sodium**? (Turn to the back of the book and find out if we have the same answer.)
3. When the doctor tells a patient to go on a low salt diet, do you think people know about these hidden sources of salt in the diet?

Activity 9**What Is Added To The Food I Like?**

For each of the snack foods and drinks listed on the next page:

- ▣ Draw a box and divide it into four parts.
- ▣ In the first box draw the picture of the food.
- ▣ In the second box write four words or phrases that describe the food.
- ▣ In the third box write four things you like about that food.
- ▣ In the fourth box name some additives you think were put into these foods to make them taste and look good.

An example has been given for you:

	<p>Phrases to describe the food</p> <ul style="list-style-type: none"> ▣ Round balls, shiny, attractive package. ▣ Unique flavour. ▣ Melts in your mouth. ▣ Crunchy.
<p>Things I like about it</p> <ul style="list-style-type: none"> ▣ Tastes salty. ▣ Colour — bright orange. ▣ Cool advertisement on TV. ▣ Tasty and crunchy. 	<p>Additives</p> <ul style="list-style-type: none"> ▣ Flavours. ▣ Colouring. ▣ Texture modifying agent. ▣ pH-adjusting agents.

Snack foods and drinks:

- Soft drinks.
- Cheese flavoured corn snacks.
- Noodles.
- Lollipops, candy.
- Doughnuts.
- Icecream, ice pops.
- Chips.

Activity 10 **Checking Food Labels**

Ask your teacher to arrange for your class to visit a supermarket or local food store for this activity.

1. Choose one processed food from each of the three food groups (**energy, body-building and protective foods**) to carry out your investigation, for example:

Energy food — *A packet of noodles or a bag of rice.*

Body-building food — *A tin of fish, a can of pisupo.*

Protective food — *A can of fruit or frozen mixed vegetables.*

2. Find out from the label the following information:
 - a. Name of the product.
 - b. Brand name or company that makes the product.
 - c. The country where the product is made.
 - d. The weight or volume of the food.
 - e. The use-by-date or expiry date.
 - f. Ingredients (what the package or product contains).
3. Note if the label does not have any of the above information.
4. Note if the list of ingredients contains additives.
5. Write up a one to two page report on your findings.
6. In one paragraph describe how additives have been used in the products you investigated.

Activity 11**Understanding Food Additives****Key words:****Commercialised.****Impact.****Rancid.****Usefulness.****Dangers.**

Write a one page essay about the usefulness and dangers of additives. Keep in mind that food additives are basically used in food processing to maintain nutritional value of food, improve its keeping quality, make it attractive, help in its processing, packaging and storage.

Topic 2**Food Nutrients And Their Application****The Inter-relationships Of Nutrients**

In Year 9 we talked about all the nutrients working in the body as a team similar to the way players work together in a rugby team. No *one* player in the team is greater than the other. Even though only one player takes the ball across the score line the whole team plays a part in getting the ball into the hands of the player who scored. When someone scores, he is not scoring on his own but as part of the team.



Diagram 1.11

Nutrients work together like players in a team do.

The same sort of teamwork takes place in our bodies when we eat food. When we eat, we all know that our bodies break down (digest) the food so that we can make use of the different nutrients that are contained in that food. These nutrients have specific functions or jobs that they carry out in our body. In addition to their main function, they may also be needed by other nutrients to enable them to function properly.

This teamwork can start any time from the beginning of digestion in the mouth right up to the time the nutrients are used in the body. A good example of teamwork (or inter-relationship) in the body is shown in the way nutrients help in the absorption of the mineral iron. We will look closely at the absorption of iron in this unit so you can understand this inter-relationship better. First of all, let's do a recap of the functions of the nutrients. Do you remember what the six nutrients are and their functions in the body?

Activity 12**Nutrients And Their Functions In The Body**

1. The functions of the nutrients are given in the following table: a) Fill in the names of the nutrients; b) give two examples of food sources for these nutrients; and c) name the food group that the foods belong to. You can carry this out as a group competition. Divide the class into groups and see which group completes the table first.

Name of nutrient	Function(s) in the body	Name of food it is found in	Food group these foods belong to
	Builds new cells: <i>e.g. Muscles and hair.</i> Repairs body tissues.		
	Provides heat and energy. Satisfies hunger.		
	Provides heat and energy (sugars and starches). Prevents constipation. Keeps the bowels functioning daily.		
	Prevents diseases that are caused by a lack of vitamins. Protects the body from infections.		
	Iron is needed for healthy blood that can carry oxygen around the body. Calcium is needed for bones and teeth. Iodine is needed for proper functioning of the thyroid gland.		
	Regulates the body temperature. Gets rid of wastes. Carries nutrients in the blood.		

Exploring How The Body Obtains And Uses Iron

When we see the nutrients and their various functions in our bodies outlined in a chart, we tend to think of them as working by themselves. But as we said earlier, each nutrient works as part of a team and functions in the body by interacting with the others. A good example of this is in the absorption of the mineral iron (see also the section 'Iron' on page 28).

Iron is an important mineral that our body needs to function properly. Iron is needed for the formation of red blood cells in our blood. The red blood cells are used to carry oxygen from the lungs to the muscles and other parts of the body. Our bodies need minerals and vitamins in small amounts but if we do not get enough of them, our bodies cannot perform very well and will become tired or sick more easily. Minerals are found naturally in the soil, rocks, sea and the river-bed. Plants absorb minerals from the ground during growth. People and animals get their minerals through eating plants and from their water supply. We can also get minerals from the animals we eat. When food is broken down during digestion the minerals are separated from the food and absorbed into the blood stream.

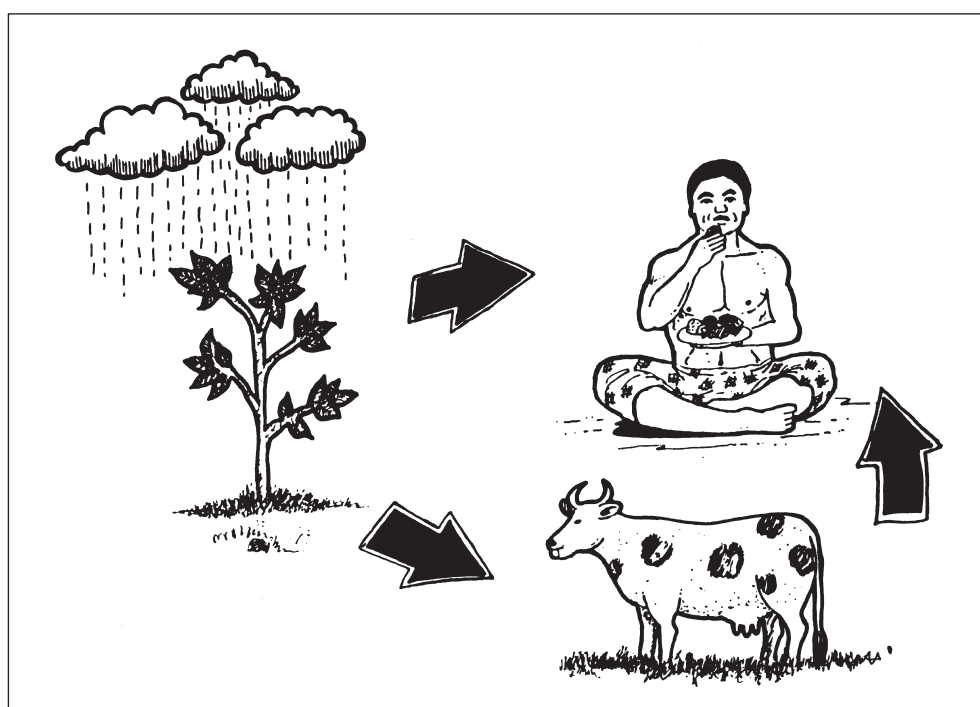


Diagram 1.12

Minerals are taken into the body from plants and animals.

Other important minerals the body needs are calcium and phosphorus for bone-building, iodine for a healthy thyroid gland, fluorine for healthy teeth and sodium chloride for our body fluids. There are other minerals we only require in small amounts, such as copper, potassium, magnesium, sulphur, sodium carbonate, phosphate and zinc. These minerals are used by the body to build new tissue or to maintain the chemical content of many types of bodily fluids.

Activity 13**Minerals And Their Functions**

Complete the following table by filling in the correct name of the mineral with its function and food sources. Use the information on the previous page to help you.

Nutrient (minerals)	Function	Food sources
	For healthy teeth and bones.	Green leaves, milk, bananas.
	An important part of red blood cells; helps carry oxygen.	Liver, beef, chicken, fish, green leafy vegetables, dried beans, avocado.
	For healthy teeth.	Fluoridated water
	Needed for proper functioning of the thyroid gland.	Seafoods, iodised salt.
	For building body tissues, to maintain gland secretions and body fluids.	All vegetables, all fruits, a mixed diet.

Iron

Iron is needed by the body to make blood. It combines with protein to form haemoglobin, giving blood its red colour. The haemoglobin transports or carries oxygen in the blood to the tissues. This means the iron in the blood enables the body to carry oxygen from our lungs to the tissues and cells of our body. A lack of iron in our diet can result in a deficiency disease called iron deficiency anaemia. This lack of iron causes the blood to lose its ability to carry oxygen to the body. People who get sick with anaemia look pale, feel weak and get tired more easily.

The main way we lose iron from the body is when we bleed, therefore, anaemia is a problem seen more in women than men because women lose blood on a regular basis with their monthly periods. Groups most at risk of iron deficiency anaemia are children under two years of age, teenage girls, pregnant women and the elderly. Anaemia is a worldwide concern for pregnant and breastfeeding women because of their extra need for dietary iron. That is why most countries give pregnant women iron tablets to take during pregnancy.

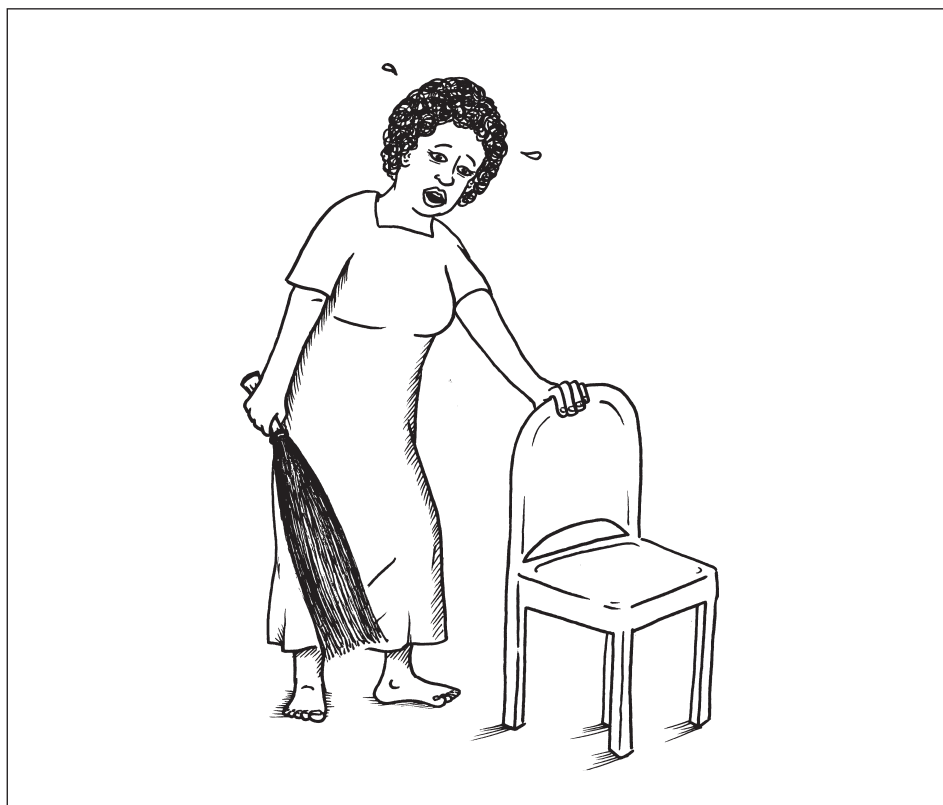


Diagram 1.13

People with iron deficiency anaemia look pale, they feel weak and get tired easily.

Iron is found in both animal and plant sources of food. The best sources of iron are animal proteins: i.e. Liver, shellfish, kidney, heart, lean meat, poultry and fish. Dried beans and vegetables are the best plant sources. Studies show that although iron is available in these foods, the body can only absorb between two and ten per cent (2–10%) from plant sources, and between 10 and 30 per cent (10–30%) from animal sources.

It is interesting to note that studies have found that the body can absorb iron better in combination with other nutrients. Vitamin C (ascorbic acid) is the most helpful nutrient for the absorption of iron. It has also been found that protein from beef, pork, veal, lamb, liver, fish and chicken enhances or improves the absorption of iron. Proteins from cows' milk, cheese and eggs do not enhance absorption. This is the teamwork factor of nutrients that we talked about before.

Activity 14**Exploring Iron In The Diet**

Read through the information on the mineral iron again and complete the following sentences:

1. Iron is necessary for our bodies because _____.
2. Not getting enough iron in my diet can be dangerous because _____.
3. Girls and women are more at risk of anaemia because _____.
4. Having fresh fruit juice with a meal can increase my iron intake because _____.

Activity 15**Food Sources Of Iron**

1. From the information given, draw or make your own poster entitled 'Good Food Sources of Iron in the Sāmoan Diet'.
2. What do you think would be the main difference in the food sources for iron in a rural area compared to Apia?

Nutritional Requirements Of Different People

A person starts their life at birth. They grow into a child, a teenager, an adult and then become an elderly person. At each stage in our life we require different amounts of food and different kinds of food depending on our age and the stage of physical development we are at.

Our nutritional requirements are the foods we need to eat for good health (our food needs). Whenever we see the word 'nutritional' it usually refers to food. It can also mean that we are going to look closely or specifically at the nutrients or the substances in the food.

The amount and the type of food a person needs to eat depends on these factors:

- Age of the person.
- The gender of the person (male or female).
- The size of the person (stage of physical development).
- The type of activities the person does.
- Whether the person, if a woman, is pregnant or breastfeeding.



Diagram 1.14
People at different stages of life.

Activity 16

Food Needs

Key Words:

Inter-relationship.

Concept.

Transportation.

Deficiency.

Anaemia.

Enhance.

Stage.

Physical development.

Relaxation.

Dentures.

Compare.

Contrast.

Variation.

1. Look at the photos of different groups of people. There are children, teenagers, adults and the elderly.
2. Think about the activities that people in these age groups may be involved in and answer these questions. (Children of ages 1–11 years, teenagers 12–19 years, adults 20–69 years, elderly 70+ years.) Write your answers in your exercise book or brainstorm as a class.
 - a. How old is the person?
 - b. Are they male or female?
 - c. How big are they?
 - d. What do they do for work or play?
 - e. Are they pregnant or breastfeeding women?
3. Did you find many differences in these groups?
4. How do you think these differences will affect their nutritional requirements or food needs?

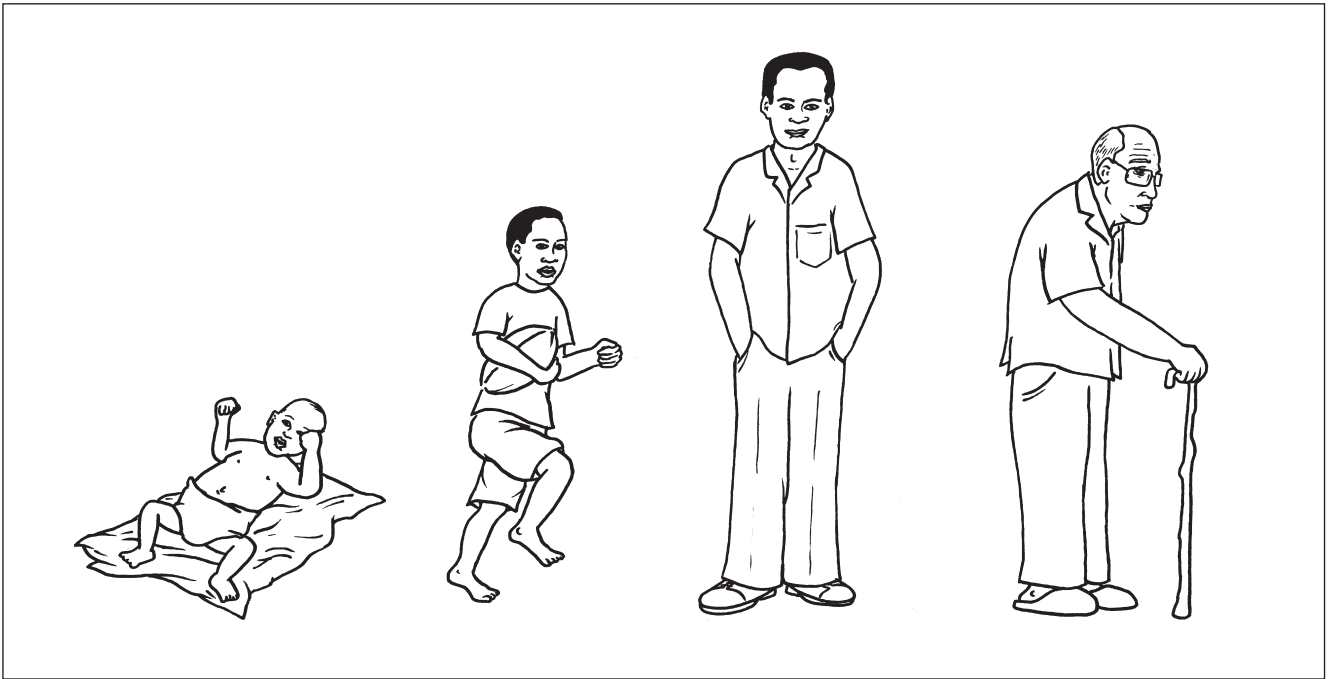


Diagram 1.15
People grow and develop from a baby to an adult.

Nutritional Requirements For Different Age Groups

Food needs of a baby

- First food is breast milk. Breast milk alone is enough for the first six months of life. It contains all the nutrients a baby needs for good health and growth.
- Mothers who need to use breast milk substitutes or milk formulas can get advice from health staff for safe ways to feed babies and the different products available.
- Soft foods can be introduced after six months and continue breastfeeding up to two years of age. Good first foods are mashed fruits or fruit juice like pawpaw, ripe banana, soft flesh of green coconut, mashed cooked vegetables like pumpkin.
- Baby food needs to be soft or mashed. From seven months to one year they can start to have food from all of the three food groups either made into soups or mashed.
- After one year, baby food can be prepared from family meals but still needs to be mashed. You can continue breastfeeding or give other milk if they are not breastfed.
- As the child grows and gets teeth the food given will become more solid until they can eat what the rest of the family are eating.

Food needs of children 1–5 years of age

- By one to two years of age, the child should be eating all kinds of food.
- They need three meals a day from a variety of food sources.
- They may need encouragement to eat.
- They are growing fast so they also need food between their main meals. This is important because they have small stomachs and can't eat a lot in one meal.
- They are learning lots of new things. This is the best time for children to learn about eating a variety of food, learning good manners and good food habits.
- It is a good idea to introduce new foods to babies and continue during this age group so that they get used to different food tastes, textures and flavours.
- Parents should try to give a variety of foods to babies and children and not just the foods the parents like to eat.
- Snacks are very important as they are always hungry. Provide healthy snacks to prevent early loss of baby teeth.
- Children need lots of fruit and vegetables to build resistance to infectious diseases like coughs, colds, sores and skin problems. Parents should find fun and interesting ways to encourage them to eat fruit and vegetables.
- This is an important time of life to teach, develop and maintain good food habits in children.

Food needs of school children 5–12 years of age

- Still growing but not as fast as one to five year olds.
- Very active and use up a lot of energy.
- Eat a balanced diet to grow and develop well.
- Cannot concentrate and do well at school if they do not eat enough or don't get the right kinds of food.
- Hungry children get bored easily and don't do well.
- Must have something to eat before going to school.
- Need to eat as much food as an adult eats in a day but need to eat more often because they have smaller stomachs.
- Good choices of snack foods like fruit are very important.

Food needs of adolescents or teenagers

- Stage of rapid growth.
- Developing into adults physically, emotionally, mentally and spiritually.
- Have special food needs because they are still growing.
- Need to develop good eating habits for good health.
- Teenagers like trying out new and exciting things which include food but often develop poor eating habits.
- Many worry about being too thin, too fat, dieting, prone to different illnesses.
- Need food with plenty of iron, especially the girls.
- Need to eat fresh locally produced food and eat a variety of food and snacks from the three food groups.

Food needs of adults

- An adult man and woman stop growing in height from about 20 years of age.
- Need to take care of themselves to stay healthy for the next 50 or more years.
- Need to eat a variety of fresh food daily from the three food groups.
- Should avoid the use of alcohol, tobacco and other drugs.
- Important to drink plenty of water.
- Snacks are not necessary but when eaten they should choose healthy types.
- Getting overweight is a major problem with adults and the quicker they prevent this from happening the better.
- Need to take care not to eat too much sugar, fat and salt if they are not living an active life. This is important to prevent non-communicable diseases like obesity, diabetes, hypertension, gout, and cancer.

Food needs for the elderly

- Not as active as younger adults, therefore, they need to reduce the amount of energy food eaten but maintain body-building and protective foods.
- Need to eat less fatty or fried foods, sweet foods like cakes and biscuits and starchy foods like rice and bread.
- Their bones break more easily. They need to eat foods that are high in calcium, such as fish, seafood, milk and green leafy vegetables.
- Their regular toilet habits slow down.
- Need to eat foods that supply fibre like fresh fruits and vegetables and local root crops and starch fruits like breadfruit.
- Need to be encouraged to drink water.
- They have problems with their teeth and dentures and it may hurt some to eat.
- May need to cut up food or mash it.
- Usually they have small appetites and need small meals spread out during the day.
- Some may need help with feeding or need to be supervised while eating.
- Some may lose their appetite and need encouragement to eat.

Food needs for handicapped or physically disabled people

- The food needs are the same for whichever age group given earlier. However, they may need to reduce their energy food intake if not as active as others: *e.g. Using a wheelchair.*
- Need to eat a variety of food from the three food groups.
- Handicapped children need the same kinds of food as given in Food Needs for Children because they are still growing.
- Mentally retarded adults and children need the same foods as described earlier.
- They may need help and lots of encouragement to eat properly and make sure they get a balanced diet.

Activity 17**Variation In Food Needs**

1. Divide your class into seven groups. Each group is to take one of the groups listed on pages 33–35 (babies, children one to five years of age, school children, teenagers, adults, elderly and handicapped or disabled) and carry out the following exercises:
 - a. Do a role play or act out some things that people in this age group usually do: *e.g. Babies drink and sleep, children play games etc.*
 - b. Tell the rest of the class what foods they like to eat.
 - c. Explain some of the problems regarding food that this group might have.
 - d. How can this group make sure they get all their nutritional requirements.
2. After preparation, each group should perform and report to the rest of the class.

Activity 18**Compare And Contrast The Food Needs Of Adults And Adolescents**

1. Using the information that has been given, write a one to two page essay to compare and contrast the nutritional needs of:
 - An adolescent boy and adult man.
 - An adolescent girl and adult woman.Remember to comment on the need for iron in girls and women. Hand your work to your teacher.

Meal Planning To Meet Nutritional Needs

In Year 9 we learnt that the type of meal a family usually eats depends on several factors which include: the money available to spend on food; the number of people in the household; where you live (urban or rural); whether you grow some of your own food or not. It is also important in meal planning to:

- Plan meals ahead of time.
- Use food when it is freshest and most nutritious.
- Make economical food choices.

Good meal planning also includes making sure that everyone in the family gets enough of the right kind of foods to meet their nutritional needs.

In every family we have people whom the Health Department calls **nutritionally vulnerable groups**. These are people who have extra nutritional or food needs at certain times of their lives or are at risk of not getting enough food during a certain time of their life to keep them healthy. The vulnerable groups are children under three years old and pregnant and/or breastfeeding women. This includes teenage girls who become pregnant. Sometimes elderly people are considered vulnerable groups too.

Think about it. The Macquarie Dictionary meaning of the word vulnerable means 'susceptible to being wounded; liable to be physically hurt'. The Oxford Minidictionary says vulnerable means 'able to be hurt or injured; exposed to danger or criticism'. So if a person is in a vulnerable situation it means that that person is in danger of getting hurt, right?

How can a person be nutritionally vulnerable? How are they exposed to danger or how can they get hurt because of the food they eat?

Activity 19

Nutritionally Vulnerable Groups

1. On the left-hand side of the following boxes are situations where a person may be vulnerable or exposed to danger in their life. In the right-hand boxes are written some situations where the person is nutritionally vulnerable or at risk of getting hurt because of the food situations in their life. The first one is done for you. Complete the boxes.
2. Circle true or false after the sentence that is written out under each box.

A baby who is five months old

<p>A baby is vulnerable or a baby's life is at risk when:</p> <ul style="list-style-type: none"> ■ They are left on their own for long periods. ■ They are not given love and attention. ■ They are exposed to very hot or very cold conditions. ■ They are dropped. 	<p>A baby is nutritionally vulnerable or at risk of being hurt food-wise when:</p> <ul style="list-style-type: none"> ■ The mother can't breastfeed. ■ They are given milk to drink in a dirty bottle. ■ No-one feeds him/her. ■ They are given only solid foods to eat but no milk.
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A baby is nutritionally vulnerable because he/she depends on someone else for food. *True/False.*

A pregnant woman

<p>A pregnant woman is vulnerable or her life is at risk when:</p> <ul style="list-style-type: none"> ■ She has too many babies one after another. ■ She has a fall during pregnancy. ■ ■ 	<p>A pregnant woman is nutritionally vulnerable or at risk of being hurt food-wise when:</p> <ul style="list-style-type: none"> ■ She doesn't get enough to eat. ■ She only eats body-building food (mea lelei) once a week. ■ ■
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A pregnant woman is nutritionally vulnerable because she has to eat enough food for both herself and the new baby growing inside her. *True/False.*

A pregnant teenage girl

<p>A pregnant teenager is vulnerable or her life is at risk when:</p> <ul style="list-style-type: none"> ■ The pregnancy is unplanned. ■ Her shame and embarrassment lead her to do something harmful to herself. ■ ■ 	<p>A pregnant teenager is nutritionally vulnerable or at risk of being hurt food-wise when:</p> <ul style="list-style-type: none"> ■ She loses her appetite and doesn't want to eat. ■ She continues to eat junk food and not change her diet. ■ ■
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A pregnant teenager is nutritionally vulnerable because she is still growing herself but now has to eat for another person too. *True/False.*

An elderly person

<p>An elderly person is vulnerable or their life is at risk when:</p> <ul style="list-style-type: none"> ■ They can't move around much and live on their own. ■ They have to walk up stairs every day. ■ They slip or fall. ■ 	<p>An elderly person is nutritionally vulnerable or at risk of being hurt food-wise when:</p> <ul style="list-style-type: none"> ■ They don't have the energy to cook or eat. ■ They have no teeth. ■ They lose their appetite. ■
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An elderly person is nutritionally vulnerable because people in Sāmoa love them and take good care of them. *True/False.*

Activity 20**Planning Meals For A Family With A Pregnant Woman**

We are going to use the information you have been given about the different age groups in the different stages of life and what you have learnt about nutritionally vulnerable groups so that you can plan family meals.



Diagram 1.16

Planning meals for a family with a pregnant woman.

1. Write out a one week meal plan for this family.
 - They live in a village near the sea and have a plantation.
 - They have about \$50 to spend on food each week.
 - Father is a fisherman. He goes fishing every night and sells his catch for money.
 - The mother is six months pregnant and stays at home during the day.
 - The man's mother (62 years old) lives with them.
 - They have a three-year-old son.

2. Write a paragraph on the amounts of food each member of the family should be eating.
3. Identify who the nutritionally vulnerable people are in this family.

Activity 21

Planning Meals For A Family With Children

Key Words:
Labourer.
Tea lady.
Appetite.

This is a family of six living in Apia. A father, mother and their four children. There is a two-year-old girl, a five-year-old boy, a 10-year-old boy and a 15-year-old girl. The family usually has turkey tails (pipi) or mutton flaps (mamoe) cooked in a stew or soup plus saka talo or fai (cooked taro or bananas) at night. The father works as a labourer and his wife is a tea lady.

How can they be sure all their food needs are met from this type of meal?

1. In groups, write up a recipe for a nutritious mutton flap soup for this family.
2. Cook the mutton flap soup.
3. Explain to the rest of the class how you can meet the special needs of the two nutritionally vulnerable members of this family (the two-year-old and the 15-year-old) from this one pot meal.
4. Suggest some more nutritious body-building foods that are just as cheap that can be used for the soup instead of the fatty turkey tails and mutton flaps (you can substitute the mutton flaps with a less fatty body-building food for your recipe).

Activity 22

Planning Meals For A Family With An Elderly Member

This family is made up of a widowed woman, her two children and her elderly mother (70 years old). The eldest daughter is 25 years old and is working. She is the one who supports the family financially. Her younger child is a 17-year-old boy who stays home to take care of the family chores and cook their food. The grandmother has lost most of her teeth and doesn't have much of an appetite.

1. In groups, make a list of the types of meals that you could make for the elderly 70-year-old lady. Remember to include food from each of the three food groups.
2. Discuss and write down ways you could bring back the grandmother's appetite and encourage her to eat.
3. You have been asked to explain to her 17-year-old grandson what he needs to do to improve the meals he cooks for his grandmother and how he presents her food. Write up a plan of your talk and what you would tell him.
4. In your groups, present your lesson to the rest of the class.

Topic 3

Food Budgeting

Comparing The Cost Of Locally Processed And Imported Foods

In the past, when we talked about processed foods, we always meant foods that were imported into the country. Today there are many processed foods made locally in Sāmoa.

What is processed food? Any food that has been changed from its original state by some treatment or preparation, or has undergone a series of manufacturing processes: *e.g. Tinned fish.*

- Processed foods are manufactured goods that come in cans, packets, bottles or in containers of some sort: *e.g. Potato chips.*
- An example of a processed food is white flour. Wheat from a plant is processed and the product (flour) looks completely different from the original plant. The same thing happens to sugarcane when it is processed to make the sugar we use in our tea.
- Preservation is a form of food processing that helps to keep food for longer: *e.g. Meat with salt and nitrate added to keep it longer as we see in povi masima or salt beef.* The food is still recognisable as meat but isn't the same as fresh meat. Other preserved foods we know are dried foods, fermented foods, jams, ice-cream and many other frozen foods.
- Taro or banana chips sold on the roadside are also processed.

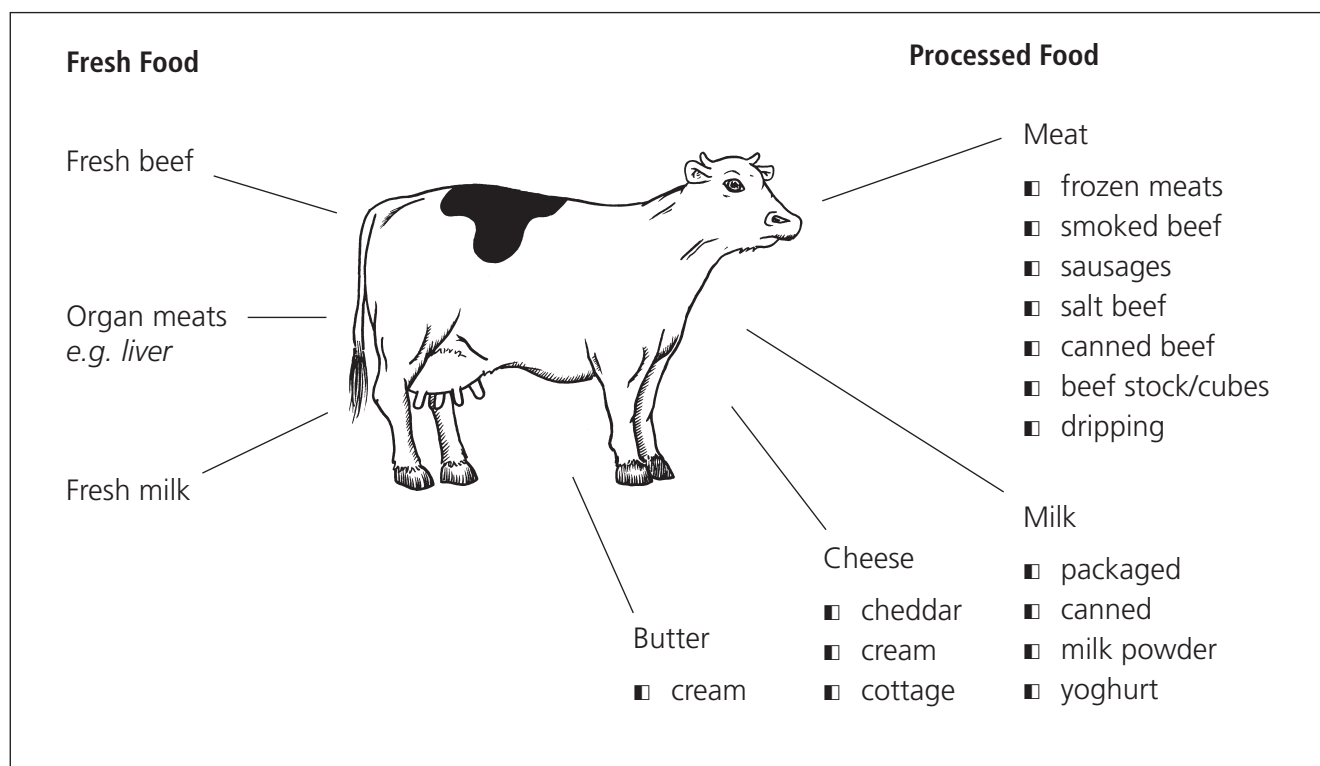


Diagram 1.17

Examples of fresh and processed food from a cow.

Activity 23**Fresh And Processed Food From A Cow**

Look at Diagram 1.17 showing the different processed foods from a cow.

1. How many different kinds of processed food come from this one food source? Can you think of any other foods that come from the cow that are not included here?
2. Write an essay (one page) on the advantages and disadvantages of having processed food.

The diagram illustrates or shows us how technology enables us to make better use of the food resources that are available to us. Food processing is the part of food technology that has helped increase the types and varieties of food items available for consumers today.

One of the concerns regarding processed food that we mentioned earlier was the poor labelling or lack of labels on locally processed food. There are many soft drink manufacturers in Sāmoa but the only information we get from the labels is the name of the product. Cola-flavoured soft drink is one drink that young people really enjoy. Even though we know water is better for us, many people still prefer to drink soft drinks. I wonder whether you would continue to drink soft drinks if you knew exactly what was in them?

Read the following information on water and cola-flavoured soft drinks. You may change your mind about drinking soft drinks after you read this.

Water vs Cola-flavoured soft drinks

Water

1. 75% of Americans are chronically dehydrated. (This probably applies to half the world population.)
2. In 37% of Americans, the thirst mechanism is so weak that it is often mistaken for hunger.
3. Even mild dehydration will slow down one's metabolism as much as 3%.
4. One glass of water shuts down midnight hunger pangs for almost 100% of the dieters studied in a University of Washington study.
5. Lack of water is the number one trigger of daytime fatigue.
6. Preliminary research indicates that eight to 10 glasses of water a day could significantly ease back and joint pain for up to 80% of sufferers.
7. A mere 2% drop in body water can trigger fuzzy short-term memory, trouble with basic maths, and difficulty focusing on the computer screen or on a printed page.
8. Drinking five glasses of water daily decreases the risk of colon cancer by 45%, plus it can slash the risk of breast cancer by 79%, and one is 50% less likely to develop bladder cancer. Are you drinking the amount of water you should every day?

Cola-flavoured soft drinks

1. In many states (in the USA) the highway patrol carries two gallons of these soft drinks in the trunk to remove blood from the highway after a car accident.
2. You can put a T-bone steak in a bowl of cola and it will be gone in two days.
3. To clean a toilet: Pour a can of cola-flavoured soft drink into the toilet bowl and let it sit for one hour, then flush clean. The citric acid in these drinks removes stains from vitreous china.
4. To remove rust spots from chrome car bumpers: Rub the bumper with a crumpled-up piece of aluminum foil dipped in cola.
5. To clean corrosion from car battery terminals pour a can of cola-flavoured soft drink over the terminals to bubble away the corrosion.
6. To bake a moist ham: empty a can of cola-flavoured soft drink into the baking pan, wrap the ham in aluminum foil, and bake. Thirty minutes before the ham is finished, remove the foil, allowing the drippings to mix with the cola for a sumptuous brown gravy.

7. To loosen a rusted bolt, apply a cloth soaked in cola-flavoured soft drink to the rusted bolt for several minutes.
8. To remove grease from clothes empty a can of cola into a load of greasy clothes, add detergent and run through a regular cycle. It will help loosen grease stains. It will also clean road haze from your windshield.

FYI

1. The active ingredient in a popular cola-flavoured soft drink is phosphoric acid. Its pH is 2.8. It will dissolve a nail in about four days.
2. To carry cola-flavoured syrup (the concentrate) the commercial truck must use the hazardous material placards reserved for highly corrosive materials.
3. The distributors of cola soft drinks have been using them to clean the engines of their trucks for about 20 years. Still want to drink up?

Activity 24**Water And Cola**

Read through the article again and let's pick up some important points about water and cola.

Water

Check whether these statements based on the article are true or false:

1. Many people (75% of Americans) around the world are not drinking enough water. *True/False*
2. When you feel hungry in the middle of the night, having a glass of water is probably what you need. *True/False*
3. When you feel tired during the day, it could mean you need to drink more water. *True/False*
4. People who suffer from back and joint pains have been helped by drinking eight to 10 cups of water a day. *True/False*
5. If you don't drink enough water, you may develop a poor short term memory: *e.g. Can't remember what you did a few hours ago. True/False*
6. If you are having problems with basic maths, focusing on the computer screen or on a book you may need to drink more water. *True/False*
7. When you drink your recommended water requirement every day you actually reduce your risk of getting medical problems like colon cancer, breast cancer and bladder cancer. *True/False*

Cola

Fill the spaces with words or information from the article.

1. The active ingredient in a popular cola-flavoured soft drink is _____.
 2. Name three ways you can use cola as a cleaning agent:
 - a. _____
 - b. _____
 - c. _____
 3. Cola can be used to bubble away _____ from car battery terminals.
 4. Cola can be used in washing a load of _____.
 5. Cola can be used for cleaning car _____.
- Has your opinion of cola-flavoured soft drinks changed after reading this article? Which drink will you make your first choice?

Activity 25**Water And Cola**

In class, ask the teacher to try out an experiment to see whether the information in the article is true or not.

1. Take a bottle of cola and pour it into a glass. Place a nail into it and leave it there for four days. At the end of the four days, check to see what has happened to the nail.
2. At home try out the idea of using cola to clean stains from the toilet.
3. Report your findings to the class.

PS — Don't try out the experiment with a T-bone steak in case you get into trouble with your mother!

Activity 26**Compare The Cost Of Locally Processed Food With Similar Imported Foods**

Carry out a simple survey to compare the cost of locally processed food with similar imported food. You can do this as a group activity.

1. From your lists of food in Activity 5 choose four varieties of food that are available in your local shop. Choose foods you know are available in local and imported varieties:

e.g. Pisupo, ice cream, bongoes/twisties type snacks and sausages.

2. Ask for the costs of each product and check the information that is written on the labels.

3. Find out from the label the following information:
 - a. The country where the product is made.
 - b. The weight or volume of the food.
 - c. The use-by-date or expiry date.
 - d. Ingredients (what the package or product contains).
4. Write down if the label does not have any of the above information.
5. Write down if the list of ingredients contains additives. Write an individual summary report on your findings (one page) to hand to the teacher. As a group, report your findings to your class. You may present your report as a role play or any other method you wish.
6. Discuss in class the issue of labelling. How well were the products you surveyed labelled? Which products had better labelling — local or imported processed food?

Comparing The Prices Of Similar Types Of Food

An important aspect of meal planning and food budgeting is getting the best value for your money. This often means shopping around and finding out where certain foods are the cheapest. If you are buying a tin of canned fish and you find that the same can costs 50 sene less at another shop, which shop would you buy the fish from? What are some of the factors that you would consider in making the choice to buy the more expensive item or go for the cheaper one? The choices of where to shop are different in rural and urban areas. In some villages there might be only one shop so you have no choice. One of your relatives might have a shop and you feel obligated to shop there even though their shop is more expensive. In many situations the reasons why we shop where we do is not always because of price. Is that your experience?

Activity 27

Factors That Affect Our Purchasing Choices

1. In class, brainstorm some of the factors that influence your choice of where to shop.
2. Rank the following list of factors (from 1–12) according to how important they are to your decision about where you choose to shop in an urban and rural situation.

Factors that affect where to shop

- Price.
- Type of food needed.
- Distance from home.
- Whether you have your own car.
- Whether you can use the bus or have to walk.
- The bus stops at that shop.

- A relative owns the shop.
 - Supermarket (has all types of food).
 - Shopping for one item only.
 - Doing the weekly shopping.
 - The shop has credit.
 - The shop has freezer goods.
3. Discuss in class the main differences seen in the shopping habits of people in rural and urban areas.
 4. Write a paragraph or two about your own shopping experience and why you shop at certain shops. Is the price of food or other items the main reason why you shop where you do?

Activity 28

Comparing The Prices Of Similar Foods

Key words:
Food processing.
Resources.
Technology.
Corrosion.

While you are carrying out your comparison of processed foods (in Activity 26) note down the prices or costs of those products. Take a walk around your area and visit at least four different food outlets (or shops) and note down the prices of the same products.

1. Use a form like the one below to summarise your findings. Hand this to your teacher for marking.
2. Write a half-page report on your findings. Were the prices similar or different? Which is the cheapest shop in your village? What response did you get from the shop keeper?

Price Comparison Chart

Food item	Shop 1 – prices	Shop 2 – prices	Shop 3 – prices	Shop 4 – prices
Locally processed				
Four foods 1 2 3 4				
Imported processed				
Four foods 1 2 3 4				

Unit 2: CARING FOR THE FAMILY

Topic 1

The Changing Nature Of The Family

Roles And Expectations That Exist In Sāmoa For Different Members Of The Family

Key Words:

Roles.

Expectations.

Exist.

Specific.

Realistic.

Unrealistic.

Responsibilities.

Each one of us belongs to a family. We all have a role to play, and duties and responsibilities that we are expected to carry out as a member of that family.

Our role is the part we play or the usual or customary function we perform in our family. You could also say that your role is the way you are expected to behave according to your position in the family. For example, the role of a seven-year-old boy in a family might be to pick up the rubbish and clean the yard in the morning before going to school and also in the evening before he has a shower and prepares for evening prayers. The role of a girl aged 15 might be to help with the cooking and serving of family meals.



Diagram 2.1

One role that children play in their family is picking up the leaves and other rubbish around the house.

Our **responsibilities** refer to the duties or chores (feau) we are expected to carry out in our family, which our parents trust us to do. We are accountable or answerable for these duties.

Activity 1 Individual Roles In The Family

Get together in small groups to work through the following exercises:

1. Each one is to write down the roles that he/she carries out in their family.
2. Write up these roles on newsprint in the form of a diagram as outlined below.

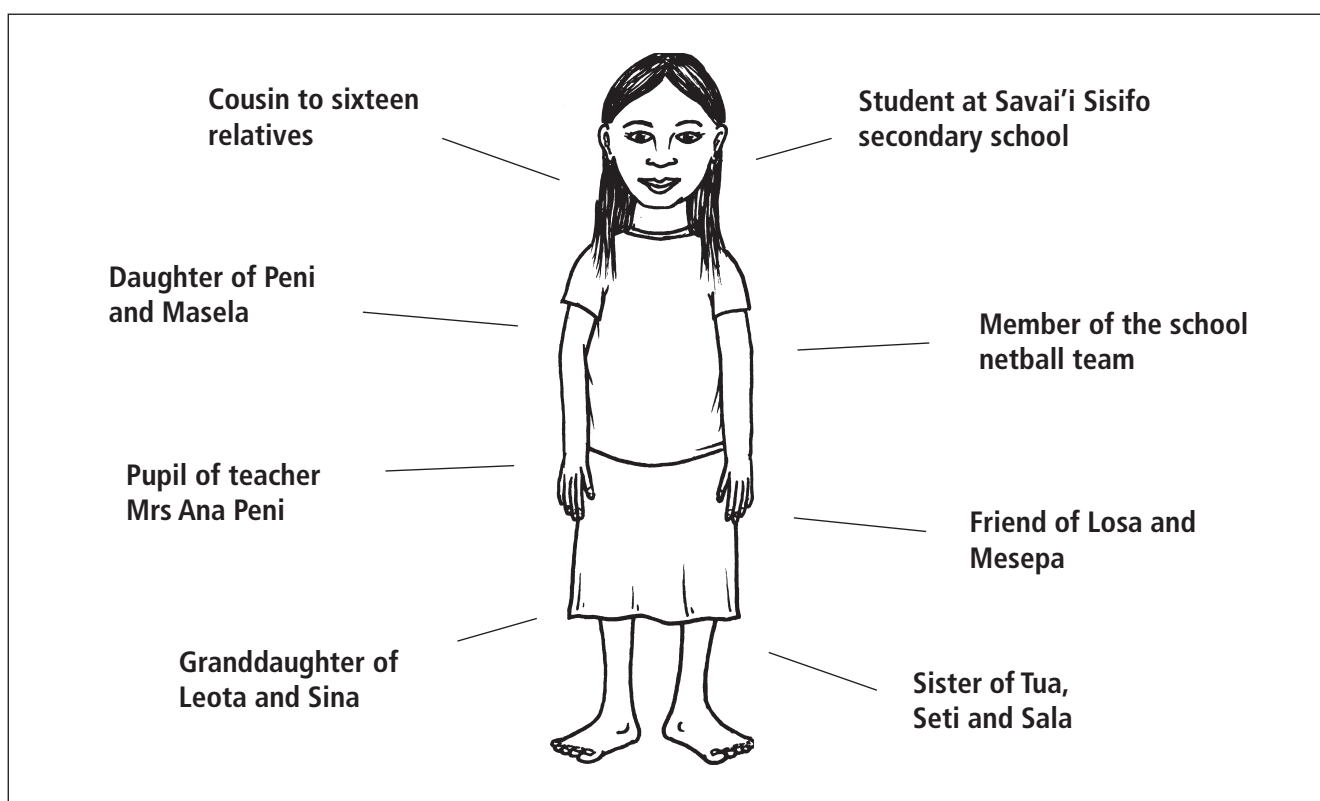


Diagram 2.2

Maria has different roles at home and at school.

3. Compare the roles. Are they similar? Are they different? What are the main differences?
4. Discuss in your groups what you think are the main reasons for these differences: *e.g. Things like the number of children in a family and where you live.*
5. Write a report on the results of your activity and discuss your findings with the class. Do most students of your age group do similar things at home or are they very different?
6. Do you think there is a big difference in the roles of teenagers living in Apia compared to those living in rural areas?

Expectations Are Things That Are Regarded As Likely To Happen

Parents have specific expectations of their children. These are things they want to see happening in their children's lives. Many parents feel sure that their children will do certain things because they have told them to or have shown them how they want things done. Some of the main expectations Sāmoan parents have of their children are based on cultural values. For example, parents expect their children to be well behaved when they go to other people's homes, to be quiet and respectful in church, to bend down and say 'tulou' or 'excuse me' when they walk in front of other people and to be respectful and not answer back when their parents or other adults talk to them.



Diagram 2.3

Children are expected to be respectful and quiet in church.

Expectations can sometimes be realistic or unrealistic. Realistic expectations are occurrences or behaviours we can expect to happen because they are easy to carry out. For example, most children aged five years and upwards can sit still and be quiet in church. Most children under five years will not be quiet or sit still in church so it is unrealistic to expect them to do so. They will have to be taken outside the church, from time to time, when they are too noisy. Another example of an unrealistic expectation is when parents expect their son to become an accountant but he is terrible at mathematics.

What are some realistic or unrealistic expectations you can think of?

Activity 2**Realistic And Unrealistic Expectations**

1. Fill in the box below with two realistic expectations and two unrealistic expectations that your parents have of you and say why they are realistic or unrealistic. Is it a long term or short term expectation?
2. Discuss in class whether living in the city or in rural areas would make a difference to your parents' expectations of you.

Realistic expectation	Unrealistic expectation
Why is it realistic?	Why is it unrealistic?
Is it long term or short term?	Is it long term or short term?

There are many roles and expectations for different members of the family. There are also differences in these roles and expectations from one family to another and there are even more differences between roles and expectations of people living in Apia compared to those living in the rural areas.

One major difference is that in rural villages there is a curfew, or Sa, in the evenings where everyone is expected to be in their home for evening prayers when the conch shell is blown. In Apia, there is no set curfew and the expectation to have evening prayers is dependent on each individual family.

Activity 3**Roles And Expectations Of Families**

1. Use the format given on page 52 to do a survey of your own family and find out what their roles are and what your parents' expectations are of each member of your family. Examples are given as guidelines to help you. Hand this form to the teacher for marking.
2. Do you know what your parents' expectations are of you? Ask your parents what their expectations are for your life. Are these similar to your own expectations?

Do you know that the expectations your parents have of your brothers and sisters can be different from your own expectations of them?

Family Roles And Expectations

Name of family member	Roles	Family expectation for them
Father (put in actual name)	Head of family, makes decisions, drives car, provides for the family and leads family prayers.	Makes enough money to supply the family needs, disciplines the children when naughty, has a good answer for everything and protects the family.
Mother	Keeps the household in order, budgets the money and buys the food.	Cleans and irons the clothes, cooks the food, looks after the family when they are sick, helps them whenever they need help and knows everything about everything.
Older brother/sister		
Other brother/sister		
Grandfather		
Cousin (nofo aoga)		

Strategies For Coping With Changing Roles

From the last activity you will have learnt a lot about the roles and expectations of the people in your family. There may have been new things you learnt that you had never thought of before. As we grow up we become more and more aware of the things that our parents expect us to do or carry out. Our roles in the family and the expectations that our parents have of us actually keep changing as we grow older. As different things happen in our lives and in the lives of members of our family we have to change the way we do things to cope with these changes.

Here are some examples of situations where you have to change the roles you carry out in your family:

- Your older brother or sister gets an opportunity to go overseas for education or work. Suddenly you, as the next oldest child, have to step into their shoes and do all the things they did.
- The father of the family passes away or leaves the home. The mother has to cope financially by getting a job or looking for other means of support. The children also have to change their roles and lifestyles to cope with this situation.

- You get the opportunity to attend a secondary college in Apia and your parents send you to live with an uncle and aunt there. You have to adjust to a new lifestyle and also have to cope with four younger cousins that you are expected to babysit almost every day after school.
- You used to live with your grandparents in the village but your family has shifted to live in Apia. Your mother is a single parent who goes to work every day. You go to a secondary school and you have a brother in primary school. Everyday, you come home, do the housework and cook dinner. Most nights you are too tired to do your homework and assignments.

Activity 4

Identifying And Coping With Changing Roles

1. Divide the class into groups. Each group will be assigned one of the last three examples of changing roles given above.
2. Discuss in your groups the sample situation so you are familiar with it.
3. For each sample situation write out the answers to these questions:
 - a. What is the new situation that the student is faced with?
 - b. What was the situation in the past?
 - c. What are the main changes in the role this student has to play in the new situation?
 - d. How has this change affected the life of the student?
 - e. Has the change made a positive or negative impact on the student?
 - f. What are the benefits of the change for the family? Do all members of the family benefit?
 - g. How can the negative aspects of the new situation be changed around so they can become positive for the student?
4. Fill in the following box for every role change in the sample situation. Fill in the gaps with the appropriate answers. An example has been given for you.

Situation	Role in the family	Positive or negative effects of role change
Old situation Had an older sibling to guide and direct him.	Was a younger sibling and just did what was told to do.	No real pressures. Just did what had to be done. Enjoyed life.
New situation Older sister has gone overseas. Now he has to take over her role.	Now the eldest in the family. Has to do the cooking, direct and guide the other siblings.	Negative Short term — puts pressure on him. It is extra work and responsibility. Not enough time to spend with friends. Positive Long term — he develops leadership skills.

There are many more changes affecting the lives of young people today than there were during their parents' or grandparents' time. With the breakdown of family relationships there is sometimes a reversal of the roles of parents (*e.g. Mothers working and fathers staying home with the children*). There are changes in our food habits (*e.g. People eat out more often because there are more takeaways and restaurants in Apia today than in the past*). Children have access to many more different forms of information technology than in the past (*e.g. Video and TV, many radio stations, Internet and email, books and other printed material, movies and telephones*). People today, especially in the Apia area, live busy lives. In most families both parents work and the children are often left on their own, with relatives or with employees. Communication and family fellowship time is not considered a priority in modern Sāmoan families. These changes can often put a lot of pressure or stress on young people, especially those who have to sit national exams. Many young people today are bombarded with questions that they do not have time to answer. They experience different emotions and feelings they cannot understand or describe. How can teenagers cope with these?

Activity 5

Identifying And Coping With Changing Roles

Key words:
Strategy.
Behaviour.
Reaction.
Grudges.
Nuggets.

Fill in the spaces with words from the previous section on changes in the roles of families.

1. There are more _____ affecting the lives of young people today than in the _____.
2. Changes in our families include the _____ of family relationships and _____ of the parents' _____.
3. More people eat _____ today than in the past.
4. Children have access to modern information technology like _____ and _____.
5. Working parents leave their children _____ a lot.
6. Family fellowship times are not considered a _____ in modern families.
7. A lot of _____ is placed on young people today.
8. Changes can be stressful for those sitting national _____.
9. Teenagers have many questions but they do not have the _____ to answer them.
10. They _____ different emotions they don't _____.

How Can Young People Cope With The Changing Roles In Their Families?

It always helps to have a plan or a strategy that you can try out or use to encourage yourself to keep going. A **strategy** is a method or an approach you can use to carry out something. As you were doing the activity you would have come across some ideas on how to help those young people cope with the changes in their lives. The way we cope with situations has a lot to do with our upbringing and the things that our parents have taught us. We also learn things from school that help us. Mostly, learning to cope with and experiencing changes makes us stronger and wiser. Every person will have a different reaction and way of coping with change. We also react and cope differently in different situations. All our lives we are continually faced with changing situations and roles. Therefore, we need to deal with each change differently. We need to have the attitude that change is not necessarily a bad thing but a part of growing up and experiencing new things.

Activity 6

How Can Young People Cope With The Changing Roles In Their Families?

Answer true or false to the following statements:

1. The way you deal with changes is to have a plan or strategy.
True/False
2. Your approach or strategy will be different from someone else.
True/False
3. You should copy what other people do rather than do what you believe is best. *True/False*
4. Your strategy for coping with change will depend on your upbringing. *True/False*
5. Experiencing change can make you stronger and wiser. *True/False*
6. Your approach or strategy may change with every new situation.
True/False
7. Change is not necessarily a bad thing. *True/False*

Your reaction to change will depend on things you believe in and the things you have learnt throughout your lifetime. It will also depend on how old you are and your ability to reason and work out strategies for coping.

Here are some common 'nuggets of wisdom' based on the beliefs and experiences of Sāmoans which you could use to help plan a strategy for change.

- Love your neighbour as you love yourself.
- Fesili mulimai ia muamai. (Those who come last should ask for help or seek guidance from those who came first or those with experience in that area.)
- Forgive and forget.

- E sili atu le e foai nai lo le e talia. (It is far better to give than to receive.)
- Don't let the sun go down on your anger.
- E le sili le tai i lo le tapuai. (The player in the team or someone sent on a specific mission is no more important than those who stay behind and give moral support.)
- Ask and you shall be given — ask for answers to your questions; you will not get something that you want if you have not asked for it.
- O matua o a tatou faiaoga muamua. (Parents are our first teachers, discuss issues and problems with them.)
- E leai seisi e vale na fai e le Alii. (God did not make fools.)
- What you sow is what you reap — what goes round comes around.
- O le ala i le pule o le tautua. (The way to leadership is through service.)

Here are some steps to follow to help you cope with changing roles

1. Identify what the change in role is.
2. Decide what or who the source of the change is. Is it a new situation, is it your parents, yourself or another person?
3. Acknowledge how you view the change. Do you see it as positive or negative?
4. If negative, ask yourself, 'What are the reasons why they are negative to me?' Write these down on a piece of paper.
5. Look at the list of 'nuggets of wisdom' above and see if any can help you work out the negative aspects of the change.
6. **Talk to someone you trust** (God, parents, a teacher, faifeau or close friend) about your feelings regarding the role change. It often helps just to pray and talk about it to someone who will listen to you.
7. Re-examine the role change. Evaluate the possible benefits this change may have for you. Look at the short term and long term impacts.
8. Decide in your heart that this change is good for you. Say it out loud that you will accept the new roles you are expected to carry out.
9. Accept your new role(s). As you carry them out do not hold any grudges towards anyone. If someone has hurt you it is important to forgive him or her and move forward with your life. Do not hang on to the things that hurt you. They will turn into anger and bitterness and cause problems later in your life. Just forgive and let go.
10. Remember, how you act towards others will affect how they act towards you. Be nice to the members of your family and they'll do the same for you. Show people that you love and care for them and the same will come back to you.

Activity 7**Steps For Coping With Changing Roles**

1. In pairs, discuss some of the changing roles that are affecting your life.
2. Choose one change that is causing pressure in your life and **go through the steps for coping** with change outlined above.
3. Ask yourself, 'How do I view the change now? Has the pressure been relieved? Do I feel better about the change or not?' If not, go through the steps once again and really be serious about it.
4. In small groups or pairs, discuss the value of forgiving and letting go of hurts.
5. Ask yourself whether there are any people in your family or at school who have hurt you and that you have not yet forgiven: *e.g. In the things they said or negative words spoken to you.*
6. Imagine they are in front of you now. Tell them how you feel, tell them the things they did to hurt you. Now say to them I forgive you for hurting me.
7. How do you feel now? Speaking out or bringing things out in the open often helps to relieve pressure.

Note: Sometimes there are some hurts that are very deep and things happen to us that we find very difficult to cope with. In these situations, you should go and talk to an adult that you trust, who will listen to you and who can help you.

Causes And Symptoms Of Non-Communicable Diseases (NCDs)

These are diseases or sicknesses that are not caused by living things like germs and worms but by the way we live and the food we eat. They are sometimes called lifestyle diseases. For example, if we do not eat a balanced diet over a long period of time and do not get enough exercise we can become very overweight and get sick easily. When we choose to drink a lot of alcohol, take drugs, smoke cigarettes or marijuana we put ourselves at risk of getting NCDs.

A combination of factors such as poor diet, stress or worry, alcohol abuse, smoking and exposure to harmful substances all contribute to NCDs. These diseases have become some of the main health problems in the Pacific, including Sāmoa. These diseases include diabetes mellitus, heart disease, hypertension or high blood pressure, gout, obesity and some cancers. You cannot pass these diseases from one person to another (non-communicable). A person with a NCD will develop it as a consequence of the choices they make and the way they live their own life.

It is possible for children to develop the same NCD later in life that their parents had. This is mainly due to the children following the same food habits and lifestyles as their parents. Therefore, it is possible to prevent getting the same NCD as your parents by changing the way you eat, by exercising regularly and by cutting out bad habits such as smoking, taking drugs and drinking too much alcohol. In general, NCDs cannot be passed down from one generation to the next. However, if one or both of your parents have a NCD you may be more susceptible to developing one yourself. They can be prevented by developing a healthy and active lifestyle. However, there have been some rare cases of cancers that were found to be genetic. There are also some heart problems that are caused from (congenital) birth defects.



Diagram 2.4

NCDs can be prevented by developing a healthy and active lifestyle.

Communicable diseases or infectious diseases are sicknesses that are spread from person to person or from animals to people. These diseases are spread or caused by viruses, bacteria, fungi or parasites. The germs or agents that carry disease can be passed on by either direct person-to-person contact or by touching things that an infected person has been in contact with. Diseases can also be carried in the air around us. Some infectious diseases include: diarrhoea, leprosy, typhoid, measles, scabies, tinea, hepatitis and HIV. Sometimes the germs or agents that cause sickness can be in the food we eat or drink.

Reasons For The Increase Of NCDs

The National Food and Nutrition Policy for Sāmoa, which was prepared by the National Food and Nutrition Council in October 1995, states that

‘NCDs such as diabetes, hypertension and cancer have replaced infectious diseases as the main health problems. In 1992, six of the ten leading causes of hospital mortality were nutrition-related diseases. (refer to Table 1). The development of these NCDs is related, in part, to the consumption of processed and high-fat foods such as white bread, white flour products, white rice, canned meat and fish, high-fat meats (turkey tails and mutton flaps), sugar, salt, soft drinks and alcoholic beverages. Excessive consumption of these foods results in a diet high in fat, sugar and salt and low in dietary fibre, vitamins and minerals. Stress, cigarette smoking and a lack of exercise are additional factors associated with the development of NCDs.’

Table 1: Ten Leading Causes Of Hospital Mortality In 1992

Disease	Rate/10 000
Heart Disease	14
Cancer	11
Cerebrovascular Disease	8
Injury and Poisoning	8
Pneumonia	6
Septicaemia	6
Diabetes	4
Intestinal Infections	2
Hypertensive Disease	2
Chronic Liver Disease	2

Activity 8

NCDs

Key Words:
Contributing.
Labour intensive.
Addictive habit.

- List five factors related to food consumption that are contributing to the increase in NCDs in Sāmoa.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____

- List three factors that are not related to food consumption that are contributing to the increase in NCDs.
 1. _____
 2. _____
 3. _____

Studies carried out by the Health Department in the period between 1978 to 1991 show that there had been an increase in the percentage of people with NCDs. A study carried out in 1991 recorded high levels of diabetes and hypertension (National Food and Nutrition Policy 1995) among Sāmoan adults. A comparison of results from a previous study in 1978 compared to the 1991 study showed that the levels of diabetes had gone up a lot in both men and women and for adults in both rural and urban areas (see Diagrams 2.5 and 2.6). One of the main risk factors for NCDs, obesity, was also shown by these studies to be on the increase in both women and men (see Diagrams 2.7 and 2.8).

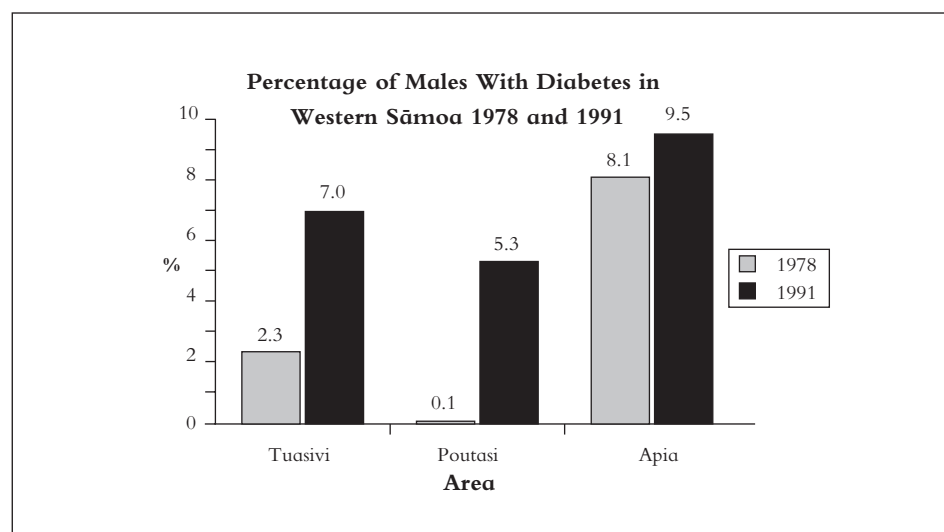


Diagram 2.5
 Diabetes in males in Sāmoa.

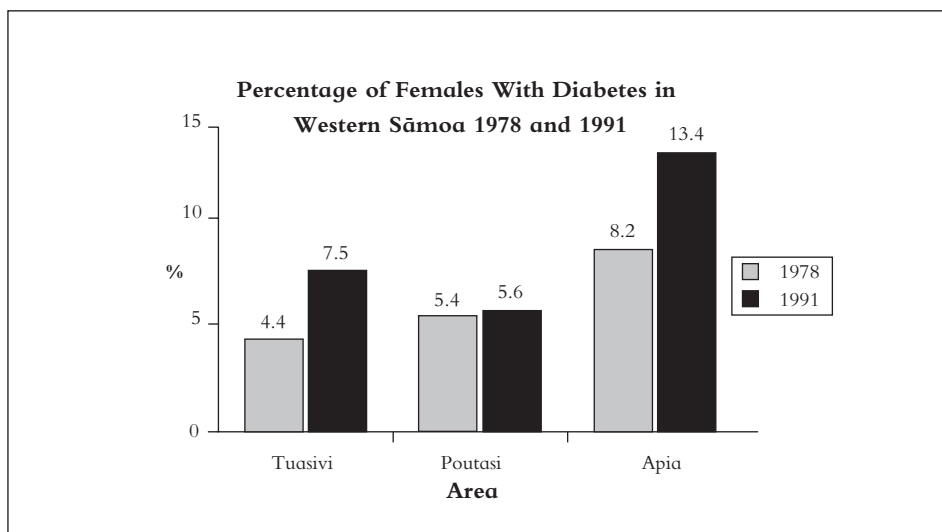


Diagram 2.6
Diabetes in females in Sāmoa.

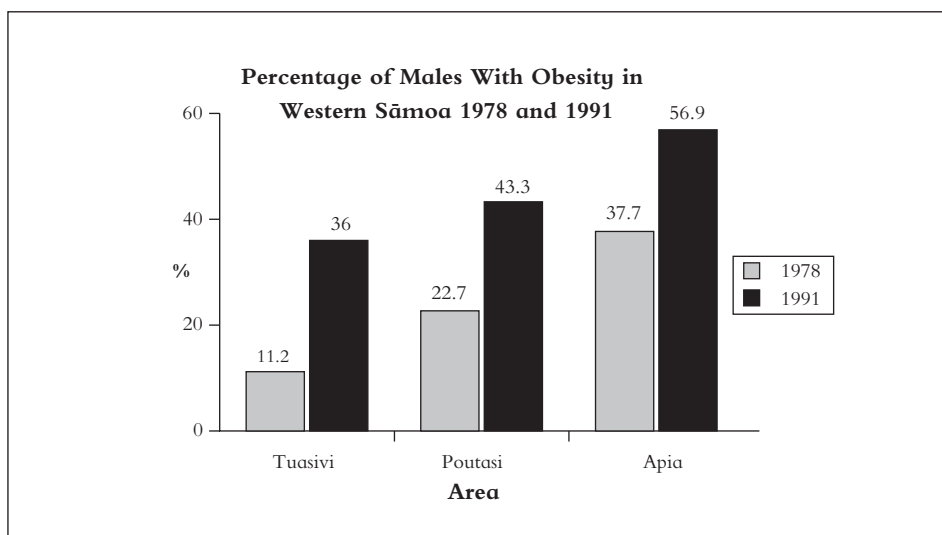


Diagram 2.7
Obesity in males in Sāmoa.

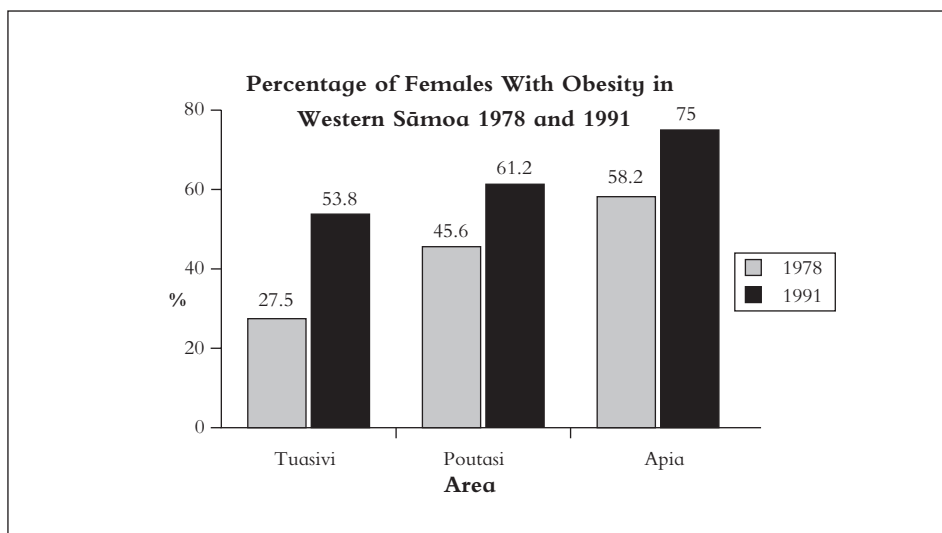


Diagram 2.8
Obesity in females in Sāmoa.

How A Family Can Reduce Risk Factors Associated With NCDs

People live and eat together as families. As we learnt from the National Food and Nutrition Policy report, many of the contributing factors for NCDs are related to food consumption and lifestyles. Therefore, it is possible for people to make changes together as a family to improve their lifestyles, their eating habits, and support each other in cutting down or stopping the intake of alcohol, cigarettes and drugs.

These are the main factors that have been identified as being risk factors for NCDs.

- ❑ **A lifestyle with less physical work:** *e.g. Working in offices, shops and factories rather than in plantations or in labour intensive activities. Travelling in cars rather than walking.*
- ❑ **Introduction of new foods.** There are so many new processed and convenience foods on the market. Not only do they have little or no dietary fibre, they also take less energy to prepare.
- ❑ **A change from a traditional diet** of root crops, fish, shellfish, vegetables and fruits to one with processed foods such as white rice, white flour, white bread, fatter meats, more sugar, more salt, tinned meat and biscuits.

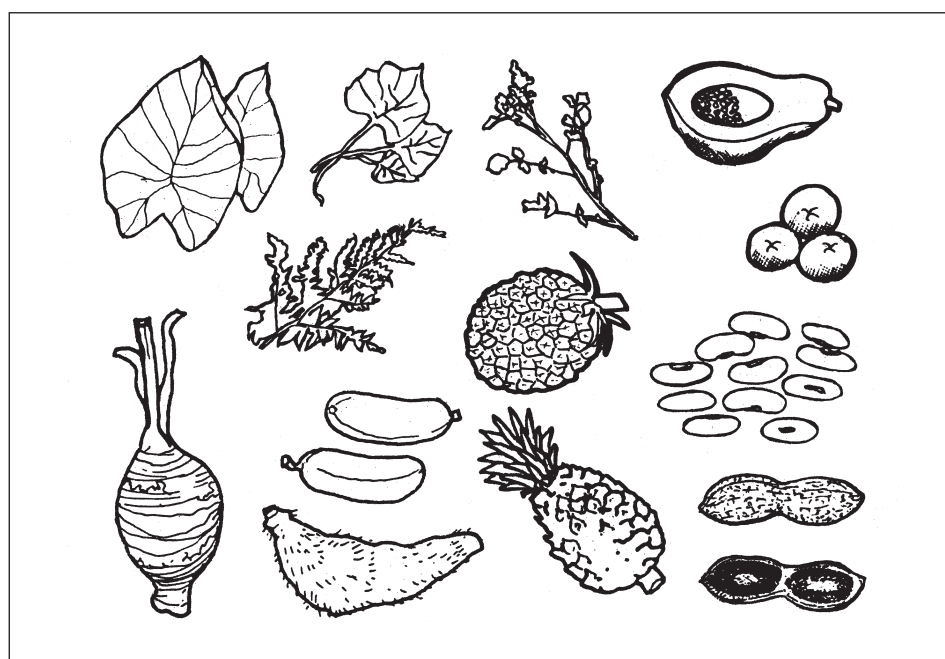


Diagram 2.9

Traditional food has more dietary fibre than processed food.

- **Increase in the salt content of the diet.** Processed foods like corned meat, ham, sausages, hamburgers, and snack foods have a lot of added salt.
- **Decreased dietary fibre in the diet.** Dietary fibre refers to the parts of plants that are not digested by the body but are needed by the body to make our bowels and intestines work properly. This protects us from illnesses such as bowel cancer, diabetes and heart disease. People eating a more traditional diet usually have more dietary fibre than those eating more processed foods.
- **Increase in alcohol intake.** Drinking too much alcohol can lead to many health and nutritional problems. People who have too much alcohol may suffer from diseases of the liver, brain, heart and kidneys and can also become very overweight.
- **Being overweight.** This is a big problem in Sāmoa and is on the increase. When people eat more food than the body needs each day the extra food is stored in various parts of the body as fat. When we say a person is overweight we mean that they have too much fat or are too heavy for the height of their body. The body of an overweight person has to work harder to keep all its various parts working normally. It adds extra work to the organs like the heart and also puts extra stress on bones and joints.
- **Lack of exercise.** Exercise helps to keep the body parts working properly. When we don't get enough exercise our muscles, joints, lungs, heart and other parts are not fully used and do not work as well as they should. If we haven't been doing much exercise and suddenly we do a lot of physical work, most of us will start to get aches and pains in parts of our body we did not even realise we had. We need to stretch and move our muscles on a regular basis to keep fit and healthy. Otherwise we get stiff and rusty, just like a machine that is left out in the rain for a long time and never used. People living in rural areas tend to have more active lifestyles compared to those living in urban areas. For example, more people in Apia do a lot of travelling around in buses and cars. Many people work in offices and use labour-saving devices such as washing machines, refrigerators and stoves. It is important for people in Apia to take time out for walks, playing sports or going to a gymnasium. Not getting enough exercise is a risk factor for developing NCDs like diabetes, high blood pressure and heart disease.



Diagram 2.10
Being overweight can lead to many problems.

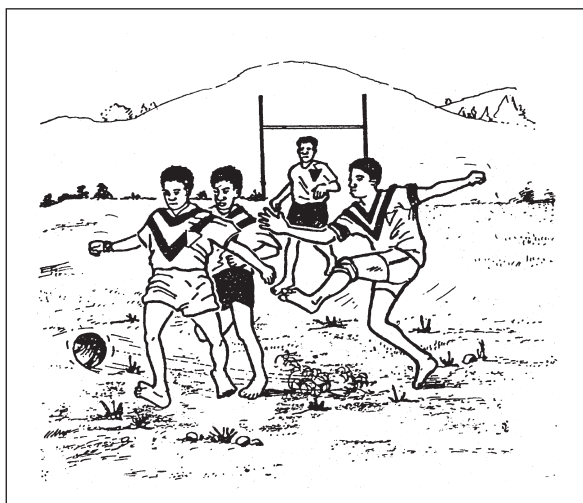


Diagram 2.11
Exercise helps people to live longer and enjoy life.

■ **Stress.** This is usually related to worry. People worry about their jobs, not getting enough money to pay for bills, about where to get the next meal from, about family members who are sick and many other things. Teenagers may worry about not passing exams, whether their friends like them or whether they're wearing the right clothes. People worry about many different things. Worry has been found to be a risk factor for people developing NCDs.

■ **Smoking.** Smoking tobacco can be dangerous to the health of both the person smoking and also to the people around them. Studies have shown that the substances in cigarettes (nicotine and tar) can harm various parts of the body including: the lungs, the blood vessels, mouth, heart and testes. Smoking is a factor that is related to diseases like cancer, stroke, hypertension and heart disease. A pregnant mother who smokes can also harm her unborn child. Smoking is a dangerous addictive habit, and it is best not to even try it.

Activity 9

Factors Related To The Development Of NCDs

1. In small groups discuss the factors that are related to the development of NCDs.
2. Do you have relatives suffering from NCDs? Do you see a relationship between the factors given and the lifestyles of these relatives?
3. Write a one page essay on how you can reduce some of these factors in your own family to reduce the possibility of members getting NCDs.

Activity 10

Design Brief On Lifestyle And NCDs

You are expected to carry out all the steps outlined in this design brief. Your teacher will help you complete this activity. You may use the information given in this Unit to help you with this activity but you are also expected to carry out some research of your own using other sources.

Step 1 The Brief

Maria's mother, Susana, is 52 years old and is overweight. She had a boil on her leg last month and it took a long time to heal. When they went to the hospital the doctor told Susana that she had diabetes. She must watch what she eats and take tablets twice a day before her meals. The doctor told Susana that she had to lose some weight. Maria was really sorry for her mother. She decided to find out all she could about diabetes so that she could help prepare the right food for her mother and to help her to lose weight through exercise.

Step 2 Investigating

Students need to identify the key words in the brief and decide how they will research the information they need to know. They will find out the signs and symptoms of diabetes. They will research the causes and symptoms of one of the main NCDs prevalent in Sāmoa (diabetes, hypertension, gout, heart disease, obesity). They can gather information from books, reports, interviews with health staff and people with these conditions. Analyse the reasons for the increase of NCDs in Sāmoa. Students can make recommendations about what part the family can play in reducing the risk factors associated with the different NCDs.

Step 3 Recording Ideas

Students record all their findings, make labelled drawings or graphs, collect pictures and information. Jot down ideas and useful comments from interviews. You should write up this information as a report to be handed in to the teacher.

Step 4 Development

The students will write out a one-week meal plan that is suitable for someone with diabetes. They need to make sure that the person eats at least three healthy meals a day. They will list the foods that are not suitable for a diabetic and explain why. They will also compose or put together an exercise-to-music programme (jazzercise routine) that is suitable for overweight, middle-aged people.

Step 5 Evaluating

This is an ongoing step throughout the design process. The student can check with the teacher and with the other students as she/he writes out the meal plan and the exercise programme. The student needs to refer back to the brief to ensure that all requirements are being met. They will need to write about how well the solution meets the brief.

Step 6 Final Solution to the Brief

Students will present a report on their investigations regarding NCDs. They will give a list of recommendations on how a family can help reduce the risk of NCDs amongst their members. They will present a meal plan for a diabetic with supporting information: *e.g. Description, reason for the choice of foods, nutritional value of meals, and the benefits for a diabetic of such meals.* They will also present to the class the exercise programme or jazzercise routine. Other students are to evaluate suitability of the exercise for the audience given.



Diagram 2.12

Dancing is fun and a good way to lose weight.

Topic 3

Responsibilities That Family Members Have To Each Other

Family Members With Specific Needs

Key words:
Self-respect.
Responsibility.

One of the great things that Sāmoan people are known for is their love and respect for the elderly. It is always a blessing to see how people rush to help an older or elderly person to a seat or get them something to drink or eat at gatherings. People also listen with respect and patience when an elder speaks because the elderly have wisdom that comes from a lifetime of experience.



Diagram 2.13

Ninety-one-year-old Sofia Vito with her sister's great-granddaughter who is also named Sofia. Sāmoans are known for their love and respect of the elderly.

It is sometimes sad when the young people of today do not appreciate the value of having elderly relatives or grandparents to talk to and learn from. Many young people, as they learn new things, start to think they are more clever than their elders. They see them as old-fashioned or stupid and think that the elderly do not understand what is happening in the world today. Is that how you see the elderly? When was the last time you spoke to an older person to find out how they feel about things that are happening in our country today?

Other people in our community that some young people today do not have much time for are those with special needs. These are people with physical, mental or emotional disabilities. They include the blind, the deaf, the mute, those who can't walk and those who have mental problems.

All these people are part of our families and it is our responsibility to help take care of them. Sometimes we live very busy lives. We go to school, come home, do our chores and homework, go to sleep, wake up and begin all over again. It is quite possible not to know who our neighbours are or even any of the people living in the same street as us. In rural areas and villages people tend to know most of the other people living close by. Today in Apia it is possible not to know all of your neighbours, especially if you live in one of the new residential areas on freehold property.

- Name the two groups of people that young people today might not spend much time with:

1. _____

2. _____

- Do you know if there are any elderly people in your neighbourhood who live alone?

As people get older they increasingly need more of our help. They are not as strong as they used to be. Often, they do things slower and take their time to complete tasks or make choices. They also like to do things in their own way. Have you noticed this? Sometimes we are tempted to tell them what to do or what we think they should do. Sometimes we try to rush them. However, we need to remember that just because they are slower than before it does not mean that they are stupid. They must be given the honour and respect that they deserve. We must be willing to help them in areas where they need help without taking away their self-respect. You will get the opportunity to find out about the elderly in your own village or street in the following activities.

Activity 11**Comparisons Between The Abilities Of An Adult And An Elder**

In the box below, fill in the changes that we see in the elderly compared to a man or woman in their forties or fifties. Use the information from previous sections to help you.

Adults 40–60 years of age	Adults in their late 70s–100 years of age
<ul style="list-style-type: none"> ■ Strong and can move independently. ■ Able to eat without difficulty. ■ Eyesight good, may need reading glasses. ■ Quick to make decisions and take action. ■ Will make changes when needed. ■ Good memory. ■ Have good appetite and eat a varied diet. ■ Lead active lifestyles, may have a regular exercise programme. ■ Drink and eat enough water and food daily. 	

Activity 12**Survey Of The Elderly In Your Village**

Diagram 2.14

The elderly are valuable members of our community.

1. Visit 10 households that are close to your house in your street or in your village to collect information:
2. Use the questionnaire outline given to help you collect the information.
3. After your survey, write up a report on your findings and hand it to your teacher.
4. Use the questions as paragraph headings and summarise your findings under these.
5. Make graphs to present any interesting information you wish to emphasise.

Questionnaire Form

Household Number (1-10): _____ Village: _____ Date: _____

1. Are there any elderly people living in the household? Anyone above 70 years of age?
2. If yes, are they male or female?
3. What was their occupation? (e.g. *Retired nurse, etc.*)
4. Do they live in their own house or with other members of the family?
5. If with other members, who?
6. What are some of the modern food preparation techniques and cooking equipment that they have available to help care for them.
7. What type of food do they like to eat?
8. Who cooks their food and does the housework?
9. Is there easy access to toilet and shower facilities?
10. Observe and write down any interesting information you hear or things you see.

Case Studies

Read through the following case studies that talk about the lives of three elderly women who live on their own. The stories are true but their names have been changed.

Masina

Masina is 73 years old. She lives on her own in Apia. She is a retired teacher and is a widow. She has seven children who are all grown up and have their own families. All her children are overseas except one who lives in her own house in another part of Apia. She likes to have her own things around her and sleep in her own bed. She is used to her own house because she has lived there for 50 years. She gets lonely at times but can't force her children to come and live with her because she feels they need to live their own lives, and she doesn't want to live with them anyway. She likes to visit them but prefers to come home to Sāmoa. There's no place like home. Her daughter sometimes spends the weekends with her. She also has a relative who often stays with her during the week. To make things easy for her, Masina's children have provided her with all the modern equipment she might want to use. She has a refrigerator, a freezer, an electric oven, a three-burner gas stove, a microwave oven, a toaster, a food blender, an electric frying pan, an electric jug and a washing machine. She has a car to drive to the shops and visit her friends and relatives. Although she has diabetes, she keeps it under control by taking her tablets, watching her diet and exercising regularly. Masina walks on the sea wall three to four times a week. She keeps as active as she can but she can't do all the things she used to do. She finds she has to take more naps and feels more aches and pains in her body than before. She loves having a fofo and someone to tuitui her legs especially on a cold night.

Laoso

Laoso is 78 years old. She and her husband split up when her children were still young and she has lived on her own most of her life. She has a taro plantation, chickens and cows. Her children are grown up with their own families. They are all overseas except for one daughter who lives in Apia with her husband and family. Laoso has been active all her life. She worked hard on the plantation and is well known in her district on the eastern side of Upolu. She is used to living on her own and when she needs to, she travels to Apia on the bus or when her family comes to pick her up. Her family visits on a regular basis to check on her and bring her food supplies. When she feels unwell or wants to visit Apia she will go and stay with her daughter. She lives on her own by choice. Laoso has been so independent all her life, she'd find it too hard to have other people take care of her. She often has problems with arthritis in her hands and feet but she says she won't give up her lifestyle, even if she has to crawl around. Laoso has workers who come and help her to take care of her plantation and cows. She has a gas stove, a toaster, an electric jug, a refrigerator with a freezer compartment and an electric frying pan which helps to make cooking a lot easier.

Lototele

Lototele is 84 years old and is a widow. She lives with one of her married daughters in Aleipata with her two grandchildren. Her other children are married and have families too. One daughter lives in Savai'i with her family. Her son and his family are in Australia. She has her own Sāmoan-style house behind her daughter's fale palagi. Close by is the house of her brother who is a Matai in the village. Lototele can still walk to church and do a few chores around the house. Her daughter works in Apia and her grandchildren go to school in Apia too. They fix her food and leave it there for her to help herself when she is hungry. When they come home in the evening they eat together and her daughter and granddaughter sleep with her. Her grandson sleeps in another fale with his boy cousins. Lototele has a two-burner gas stove that she uses to heat up her food and she also has an electric jug to make tea. She has a refrigerator with a freezer compartment to keep her food and water cold. She is happy to have her own house and enjoys the company of her brother and other people from the village who come to visit her during the day. She does not get lonely and her daughter takes care of all her needs. She likes eating Sāmoan food more than any other foods.

Activity 13**Studying The Case Studies**

Read through the case studies again. Answer these questions in paragraph format and hand this to the teacher.

1. What are the similarities between the three women in the case studies?
2. What are the differences?
3. How are they able to live on their own? What sort of help has their family given them to achieve this?
4. Do these women stay alone because they want to or because they have to?
5. Write down three special needs of the elderly and explain how these are met in each of these case studies.
6. As you read through their stories, do you have any concerns or questions regarding their safety or ability to meet specific needs?
7. How do these women compare with the elderly in your village? Write a paragraph to explain what you see as the main differences or similarities between the elderly in your village and these three women.
8. Are there more elderly women alive than men? Why do you think this is so? Perhaps your social science or geography teacher can help you answer this question.

Safe Use Of Available Time- And Labour-Saving Appliances

Key Words:
Appliances.
Convenient.
Element.

The use of convenient time- and labour-saving appliances are part of the modern lifestyles that people live today. In many homes in Sāmoa these appliances are a necessity. Appliances like the electric jug have made it possible for most children to have a hot drink with breakfast before they go to school. In the past, someone had to get up early to light the outdoor fire to boil water. Today, many families have an electric jug. Does your family have one?

Activity 14**Time- And Labour-Saving Appliances**

1. Read through the case studies again and make a list of all the types of appliances and equipment that are used in the kitchen.
2. Using the form on the next page, fill in information from your survey about the elderly in your village.
3. Fill in the last column with information from your own home (one row has been completed for you as an example).
4. Which appliances are the most common ones being used in these households?
5. Do you believe this is true for most of Sāmoa?
6. Discuss your findings in class and hand your results to your teacher.

Name of appliance	Appliances from case Studies	Appliances from the Survey	Appliances in your own home	Total No. of appliances
1. Electric jug 2. Toaster 3. Electric frying pan 4. Refrigerator 5. Freezer 6. etc	3	6	1	10

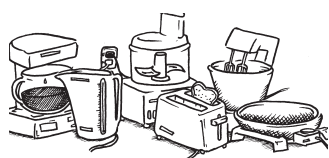


Diagram 2.15
Household Appliances.

Appliances help us to save time and energy. However, if they are not used or taken care of properly, they can be very dangerous. All appliances come with instructions and safety rules. It is very important that these be read thoroughly before you use any appliance. Aren't you glad that you can read in English so you will know how to follow these instructions properly?

Here are examples of incidences that actually happened because people did not read the instructions or were not careful when using the appliance.

- They turned on the jug without putting water in it and the element burned out.
- While they were filling the jug with water, its cord became wet. When the jug was turned on there was an electrical short which burnt a fuse causing all of the lights in the house to go out.
- They put eggs in the jug to boil and forgot about them. The water ran dry and the eggs burned on the element causing the whole house to smell.
- They did not put the lid of the food blender on properly and the food flew out all over the place when it was turned on.

Have any of these things happened in your home or to people you know?

Activity 15

Demonstrating The Safe Use Of Available Appliances

1. You are going to choose one appliance that you have in your home and will demonstrate to your class the safe way to use it. You can choose any time- and labour-saving appliance or device that you have at home.
2. Write up the instructions on how to use the appliance in the form of a poster for the class to see.
3. Go through step by step and show the class how to use the appliance.
4. Explain to the class what the appliance is used for.
5. What are some of the safety rules that you need to stress, especially in homes where there are young children?

If you cannot get hold of an appliance perhaps your teacher can arrange to have some available for you to use for this activity.

ANSWERS

Unit 1

Activity 3: The Fermentation Process

True and False

- | | | | | |
|------|------|------|------|-------|
| 1. T | 2. T | 3. F | 4. F | 5. T |
| 6. F | 7. T | 8. F | 9. T | 10. F |

Unit 1

Activity 6: Recap On Disease-Causing Agents

Matching up the riddles with the disease-causing agent.

1. Enzymes.
2. Bacteria.
3. Yeast.
4. Mould.
5. Parasite.

Unit 1

Activity 8: Checking The Food Additive Chart

The number of times sodium is found in food additives is 16.

Unit 1**Activity 12: Nutrients And Their Functions In The Body**

Name of nutrient	Function(s) in the body	Name of food it is found in	Food group these foods belong to
Protein	Builds new cells: <i>e.g. muscles and hair repair body tissues.</i>	All edible animal flesh, fish, shell fish. Plant foods like beans, peas, legumes, nuts and peanuts.	Body building
Fats and Oils	Provides heat and energy. Satisfies hunger.	All animal, vegetable oils and fats, oil in different nuts.	Energy
Carbohydrate	Provides heat and energy (sugars and starches). Prevents constipation. Keeps the bowels functioning daily.	Root crops, bananas, breadfruit, cereals like rice, flour, breakfast cereals and noodles, all baked products made from flour, masoa Sāmoa, sago, sugar, sweets, chocolates etc.	Energy
Vitamins	Prevents diseases that are caused by a lack of vitamins. Protects the body from infections.	All fruit and vegetables, milk.	Health and protective
Minerals	Iron is needed for healthy blood that can carry oxygen around the body. Calcium is needed for bones and teeth. Iodine is needed for proper functioning of the thyroid gland.	Plant food and animal products like red meat, milk, cheese and butter.	Health and protective
Water	Regulates body temperature. Gets rid of wastes. Carries nutrients in the blood.	All fruits and vegetables, rain and water supply system.	In most foods, so all three groups.

Unit 1**Activity 13: Minerals And Their Functions**

The minerals in the table should include:

Calcium, iron, fluoride, iodine, any or all of these (copper, potassium, magnesium, sulphur, sodium carbonate, phosphate and zinc).

YEAR 11 GLOSSARY

Word/Phrase	Meaning
Absorption	Is the process where the nutrients from the food we eat are taken into the blood stream.
Acidic	Something that has become acid or sour in taste.
Addictive habit	A habit or something that you do that you feel you cannot stop and when you stop, you have a craving for it.
Allergic	Hypersensitive to certain things like pollens, food, fruit, etc, which are normally harmless.
Anaemia	Condition caused by the lack of the mineral iron that forms haemoglobin in the blood.
Anaerobic	Condition where there is no oxygen or air present.
Appetite	Desire for food or drink.
Appliances	An instrument or device, especially one operated by electricity, designed for household use.
Bacteria	Tiny organisms that can cause disease.
Behaviour	The certain way we act and do things that are expected of us by our culture or upbringing.
Chemicals	Substances obtained by or used in a chemical process.
Commercialised	Capability to market and sell products in large numbers.
Compare	Looking for similarities between two different items, situations or places.
Concept	A thought or idea that includes all that is associated with a word or other symbol.
Consistency	How liquid or how solid a food is.
Contrast	Looking for things that are different when comparing two different items, situations or places.
Contributing	To give for a common purpose, to add to something.
Convenient	At hand, easily accessible.
Corrosion	Refers to metal being corroded or destroyed gradually by chemical action.
Dangers	Exposures to harm, injury, risk or peril.
Deficiency	Lack or shortage of a certain nutrient in the diet.
Dentures	Set of artificial teeth.
Element	The heating unit of an electrical domestic appliance like a hot water jug.
Enhance	Increase the quality or power of something.

YEAR 11 GLOSSARY

Word/Phrase	Meaning
Exist	To have actual life, to live.
Expectation	Expectations are things that are regarded as likely to happen. Parents have specific expectations for their children. These are things they want to see happening in your life.
Fermentation	A process that causes food to change in taste and structure through the action of special kinds of micro-organisms like yeasts or bacteria.
Fermented	A food that has been through the fermentation process.
Food-borne illness	Refers to sickness or disease that is caused by something in the food that we eat or drink.
Grudges	Negative feelings or resentment towards someone because of a personal injury or insult.
Impact	Influence or effect exerted by a new idea or concept.
Inter-relationship	Relationship between two or more things where one cannot function well without the other taking part or being involved.
Labour intensive	Physical activity that involves a lot of work.
Labourer	Employed at a job where the work carried out is achieved by using one's own strength.
Micro-organisms	Small organisms that cannot be seen by the naked eye.
Moulds	Furry growth of tiny fungi on a damp substance.
Nuggets	Refers to information that is of special value.
Nutritional value	Related to good nutrition and the nutrients found in a specific food, the value of a food to the needs of the body or an individual.
Parasite	An animal or plant which lives on or in an organism of another species.
Pesticides	Chemical substances for destroying pests such as mosquitoes, flies or agricultural pests like weeds, insects and bugs.
Physical development	Related to the growth of the body as the person gets bigger or more mature.
Preference	Something preferred or favoured.
Preservation	The preservation of food is a process used to prevent food from going bad. It slows down the natural aging process of food so the food can be kept for a long period of time.
Processed	Food that has been through a series of operations used in making or manufacturing something.
Rancid	Having an unpleasant stale smell or taste. Especially noticeable in foods high in fats and oils.
Reaction	How something acts in response to a situation or event.

YEAR 11 GLOSSARY

Word/Phrase	Meaning
Realistic	The way things really are; real; believable; it can happen.
Relaxation	Resting from work, being involved in activities that make you feel calm and peaceful.
Resources	Materials, things or people that are available and can be used to help you.
Responsibilities	Responsibilities refer to the duties or chores (feau) we are expected to carry out in our family which our parents trust us to do.
Roles	Roles are the parts we play, or the usual, customary functions we perform, in our family. You could also say that your role is the way you are expected to behave according to your position in your family.
Self respect	What you believe about yourself and your character and how you want people to see you. Proper esteem or regard for the dignity of one's character.
Significance	The meaning or the importance of something.
Specific	Particular things your parents want to see happening in your life.
Stage	A point reached in a process or journey.
Strategy	A strategy is the method or the approach you can use to carry out something.
Tea lady	Employed to make and serve refreshments for staff at an office site.
Technology	Use of equipment and machinery to benefit society.
Transportation	Process of transporting; convey from one place to another.
Unrealistic	Difficult to achieve or make happen.
Usefulness	Usable for a practical purpose, ability to produce good results.
Variation	The differences or changes that occur due to a process.
Yeasts	A type of fungi that enables the fermentation of sugar.

Key Vocabulary

Vocabulary	Useful words that go with the key word	Other words
absorption	absorption of . . .	absorb
access	access to . . .	accessibility; accessible
acknowledge		acknowledgement
additives	food additives	add
addictive	addictive habit	an addict
agents	disease causing agents	
allergic	allergic to . . .	allergy
aware	aware of . . .	awareness
commercial	commercially produced	commercialised; commercialisation
contamination	food contamination	contaminate
consumption	food consumption; excessive consumption	consume; consumer
consistency	soft in consistency	
contributing	contributing to . . .	contribution
convenience	convenience foods	convenient
cope	cope with . . .	coping
deficiency	iron deficiency	deficient
dietary	dietary fibre	diet
deteriorate		deterioration
enhance	enhance the flavour	
factor	risk factor, contributing factors	
fermentation	the fermentation process, the fermentation preservation method, pit fermentation	fermented; ferments
impact	impact on, impact of positive impact, negative impact	
intake	intake of alcohol	
inter-relationship	inter-relationship of, inter-relationship between	
nutritional	nutritional value, nutritional problems, nutritional requirements, nutritionally vulnerable groups	nutrition; nutritionally; nutrients
perishable	perishable foods	perish
preferences	food preferences	prefer
preservation	food preservation, (food) preservation methods	preserve; preserved
prevent	prevent against, prevent from	prevention
provides	provides . . . with	
regulates	regulates body temperature	
risk	the risk of . . .	
scarcity	scarcity of . . .	scarce
significance	the significance of . . .	significant
specific	specific needs	specifically
strategy	strategy for . . .	

KEY VOCABULARY

Topic specific vocabulary

acidic
 aflatoxin
 anaerobic
 diarrhoea
 food-borne illness
 food poisoning
 poor food handling
 poor hygiene practices
 labour saving appliances
 rancid
 a reversal of roles
 seasonal fruit
 in season
 transportation

Classes of things and examples

Chemicals	Paraquat (weed killer), rat poison and pesticides.
Metals	Lead and mercury.
Parasites	Tapeworms, roundworms, threadworms, hookworms, nits, lice, and fleas.
Micro-organisms	Bacteria, yeasts, moulds and enzymes.
Processed food	Packaged food, canned food and frozen food.
Non-communicable diseases	Anaemia, colon cancer, breast cancer and bladder cancer.

Useful structures

Ways of defining

Fermentation is a process that . . .
 Food preservation is a practice that . . .
 Communicable diseases or infectious diseases are sicknesses that . . .

Ways of giving examples

Good sources of iron are liver, shellfish, kidney, heart, lean meat, poultry and fish.

Ways of expressing cause and effect

These parasites cause disease.
 The micro-organisms cause the food to go bad.
 Some germs make the milk sour.
 These organisms produce an acid that makes the breadfruit ferment.
 Excessive consumption of these foods results in a diet high in fat, sugar and salt and low in dietary fibre, vitamins and minerals.

Using passives

Food is spoiled by . . .
 The nutritional value of the food is maintained by . . .

Using passives to express functions

Certain moulds and bacteria are used to produce a specific flavour in cheese.
 Food additives are basically used in food to maintain nutritional value, to improve its keeping quality, to . . .
 Certain minerals are needed by other nutrients to enable them to function properly.
 The iron in the blood enables the body to carry oxygen from our lungs to . . .

Expressing things in a different way

Food-borne illness or disease is often called food poisoning.
 Non Communicable Diseases are sometimes called life style diseases.
 Non communicable diseases (NCDs).

Ways of talking about causes or factors

NCDs are caused by a combination of factors like, a poor diet . . .
 The main factors that have been identified as being risk factors for NCDs, are . . .
 Stress has been found to be a risk factor for people developing NCDs.
 The development of these NCDs is related in part to the consumption of processed and high fat foods.
 Smoking is a factor related to diseases like cancer.
 The type of meal a family usually eats depends on several factors.
 A lack of iron can result in anaemia.

