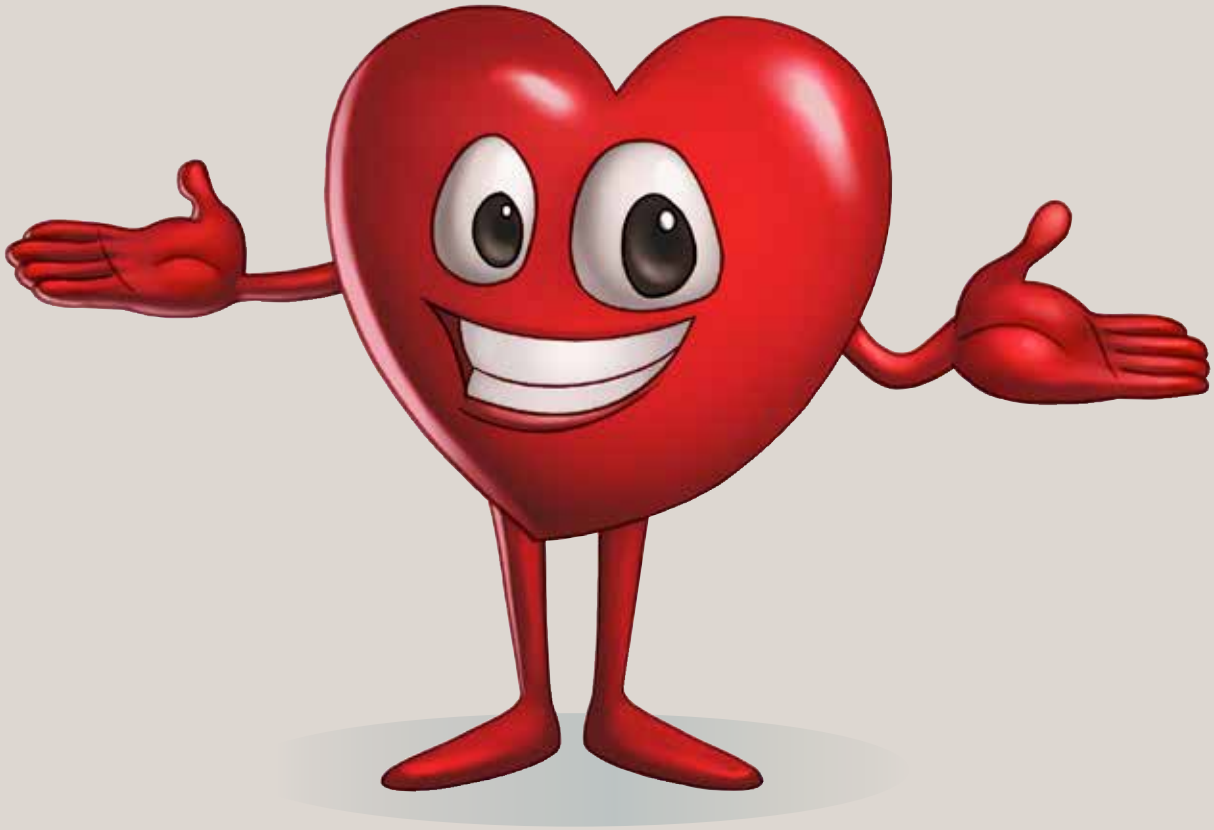
Heart smart mobstyle

Teacher's notes



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Foreword

The *Heart smart mobstyle* resource includes both *Teacher's notes* and a *Student activity booklet*. It targets stage 2 outcomes and indicators from the New South Wales Personal Development, Health and Physical Education syllabus and Science and Technology syllabus documents.

The *Teacher's notes* provide detailed lesson plans that cover heart health, healthy nutrition, physical activity and smoking cessation. The accompanying *Student activity booklet* is a fun take-home resource for students, which supports the skills and knowledge they build up through the delivery of the lesson sequence.

The *Heart smart mobstyle* resource is designed for all students to use, but specifically targets Aboriginal and Torres Strait Islander students through the inclusion of culturally relevant resources and learning experiences.

A healthy beginning is critical in preventing heart disease later in life, which is a risk for Aboriginal and Torres Strait Islander peoples. Educating children at a young age about the importance of good heart health has a long-term effect and decreases the number of people who will go on to develop cardiovascular disease in adult life.

This resource aims to:

- assist teachers to teach students about heart health, physical activity, good nutrition and the harmful effects of smoking
- improve the health and well-being of participating children as a result of greater physical activity and improved nutrition.

Through completing the quality learning experiences from the *Heart smart mobstyle Teacher's notes* and the activities in the *Student activity booklet*, students will gain powerful knowledge that could make a difference to the quality of their lives.

We wish you all the best in delivering this resource in the communities where you teach.

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Unit 1:

Getting to the heart of it

Lesson 1: Physical features of the heart

Time: 1 hour

Learning intention: To explore the physical features of the heart and identify its location in the human body

NSW syllabus links

Science and Technology

LTS2.3 Identifies and describes the structure and function of living things and ways in which living things interact with other living things and their environment.

PDHPE

INS2.3 Makes positive contributions in group activities.

- helps others to achieve set tasks

Teaching and learning activities

Introduction (25 minutes)

- **Prior knowledge:** In small groups, have students trace the outline of one member of their group, from the waist up, onto butcher's paper.
- Ask students to draw in any internal body parts or organs that they know. Ask them to think about the size, shape and location of these body parts as they draw them in position within the outline on their sheet of butcher's paper.
- Match each group up with another small group and have them share what they have drawn with their peers. Groups should discuss the name, size, shape, location and role of each body organ that they have drawn.
- Display each group's body outline in the room. Allow students to walk around and observe what other groups have drawn.

Body (20 minutes)

- As a whole class, use an enlarged version of **BLM 1 What's inside our bodies?** to display the outline of a body. Cut out the internal organs – brain, lungs, heart, kidneys, liver and stomach – from **BLM 2 Organs inside our bodies** and have students name each organ. Briefly explain the role of each organ as students identify them. Select students to stick the cut-out organs into the correct locations and ask students to describe each body part as it is placed onto the body outline.
- Draw students' attention to the heart. Display an image or model of a heart to the whole class. You can enlarge **BLM 3 The human heart** as a stimulus for this activity.
- Ask students to discuss:
  - the size of the heart
  - the shape of the heart
  - the location of the heart
  - the parts of the heart they can see.
- Tell students about the heart using the background information provided in this manual. Emphasise that your heart is a muscle that pumps blood to all parts of your body. The blood pumped by your heart provides your body with the oxygen and nutrients it needs to function. Your heart is about the size of your clenched fist. It lies in the middle of your chest, behind and slightly to the left of your breastbone. Your heart has a right and a left side separated by a wall.

Conclusion (15 minutes)

- Have students independently record the facts they have learnt about the heart using **BLM 4 My heart notes**.
- **Exit slips:** Have students choose one fact that they have learnt and record it on a sticky note. Students share this fact with a peer. All students must then place this fact on the door before exiting the classroom.

Lesson 2: How the heart works

Time: 1 hour 30 minutes

Learning intention: To examine how the heart works as part of the circulatory system to provide your body with the oxygen and nutrients it needs to function

NSW syllabus links

Science and Technology

LTS2.3 Identifies and describes the structure and function of living things and ways in which living things interact with other living things and their environment.

PDHPE

INS2.3 Makes positive contributions in group activities.

- helps others to achieve set tasks

Teaching and learning activities

Introduction (20 minutes)

- Watch the YouTube clip 'Learn human body – Cardiovascular System' at www.youtube.com/watch?v=Ukro0hZZTEg. Ask students to recall the key ideas from this animation about how the heart works:
  - The cardiovascular system is made up of the heart and blood vessels.
  - The main role of the system is to pump oxygenated blood to the rest of your body, while removing waste products such as carbon dioxide.
  - The heart is a muscle that is located to the left of the chest and is protected by your rib cage.
  - The heart pumps blood to the rest of your body through arteries and veins.
  - The heart has two sides (right and left) and four chambers. The right side of the heart receives oxygen-poor blood and sends it to the lungs to pick up oxygen. The left side of the heart receives oxygen-rich blood and pumps it to the rest of your body.

Body (50 minutes)

- Photocopy a class set of **BLM 5 The heart-inator at work**. Discuss that the text is a fact sheet that provides information about the role of the heart in the circulatory system. Read it as a class and discuss any vocabulary that is unfamiliar with students.
- Have students form small groups and provide each group with an enlarged A3 copy of **BLM 5 The heart-inator at work** and a highlighter. Students highlight three to five Very Important Points, or VIPs. These VIPs need to reflect the key ideas in this text.
- All groups then transfer each VIP that they have highlighted onto individual sticky notes. Encourage students to write the point in their own words.
- Place the following headings on a whiteboard or in hoops on the floor:
  - Physical features of the heart
  - The job of the circulatory system
  - The jobs of the left side and right side of the heart
  - Interesting facts about the heart
- Ask a group to share one of their VIPs with the whole class. Decide which heading reflects the key idea from this VIP. Place the group's sticky note under this heading. If other groups also had this VIP recorded on a sticky note, ask them to remove it from their list. Continue asking a variety of groups to read different VIPs until all of the group's ideas are represented under a heading.

Conclusion (20 minutes)

- Read out the sticky notes under each heading.
- As a class, jointly construct a paragraph that explains the function of the heart in the human body. Display this in the classroom.

Lesson 3: Modelling the circulatory system

Time: 1 hour 30 minutes

Learning intention: To identify how the heart uses blood vessels to circulate oxygen and nutrients throughout the body

NSW syllabus links

Science and Technology

LTS2.3 Identifies and describes the structure and function of living things and ways in which living things interact with other living things and their environment.

PDHPE

INS2.3 Makes positive contributions in group activities.

- helps others to achieve set tasks

Teaching and learning activities

Introduction (10 minutes)

- Show students a road map of the local area using an interactive whiteboard (IWB). Identify the following features on the map:
  - main roads
  - intersections
  - small side streets
  - circular roads
  - major intersections.
- As a class, discuss the following questions:
  - Why do we need roads? *For transportation and movement from one place to another.*
  - Why are there different types of roads? *The size of the road depends on the amount of traffic and the importance of the area it serves.*
  - What are the different types of vehicles using roads? *Cars, trucks, motorbikes, etc.*

Body (60 minutes)

- Show the class a chart of the body's transportation system: the circulatory system. Using simple terms, encourage students to find the main roads (arteries and veins), medium roads (arterioles and venules) and small roads (capillaries). Identify intersections where junctions of blood vessels meet. Introduce the terms 'artery', 'vein', 'capillary', 'blood vessels' and 'circulation'.
- Using the class list developed after watching the animation in Lesson 2, review how the circulatory system works. Jointly construct a diagram of the human body highlighting the role of the circulatory system. Ensure the diagram includes the heart, lungs and some blood vessels. Encourage students to recall how the right side of the heart receives oxygen-poor blood and sends it to the lungs to pick up oxygen. Show this movement using a blue marker. Now use a red marker to illustrate how the left side of the heart receives oxygen-rich blood and pumps it to the rest of your body.
- **Diagram of the circulatory system:** In small groups, provide students with a variety of blue and red materials such as coloured markers, plasticine, pipe cleaners, straws and wool. Allow students to construct diagrams of the circulatory system on butcher's paper or cardboard with the materials provided. The diagrams should show how the heart, lungs and blood vessels transport oxygen-rich blood to our bodies. The diagrams do not need to be totally accurate but rather should demonstrate students' understanding that the right side of the heart pumps oxygen-poor blood into the lungs to become oxygenated and that the left side of the heart pumps oxygen-rich blood to the body.

Conclusion (20 minutes)

- Choose a small group to share their model of the circulatory system with the class. Encourage the group to talk about how the heart is vital to supplying the body with oxygenated blood.
- Display these diagrams around the classroom.

Lesson 4: Keeping your heart healthy

Time: 1 hour 30 minutes

Learning intention: To recognise that most people are born with a healthy heart and to identify the risk factors that can lead to developing heart disease.

NSW syllabus links

Science and Technology

LTS2.3 Identifies and describes the structure and function of living things and ways in which living things interact with other living things and their environment.

PDHPE

GDS2.9 Describes life changes and associated feelings.

– recalls and reports about some situations, and feelings they experience as a result

PHS2.12 Discusses the factors influencing personal health choices.

Teaching and learning activities

Introduction (15 minutes)

- Discuss the idea that in everyday life we are all involved in some activities likely to cause personal harm. These can be high-risk or low-risk activities and are called 'risk factors'. Some activities affect not only the outside of our bodies but also the internal parts.
- Write a whole-class definition of the word 'risk'.
- Display a set of images that show a variety of activities, e.g. parachuting, sleeping, fishing, playing football, shaking a leg (dancing), playing with electricity, crossing the road, cooking, fighting, telling stories around a campfire or watching television. Ask students to discuss what is happening in each picture and to identify any risks associated with these activities.
- Have students put the images in order, from activities they consider to cause the most harm to those that cause the least. Encourage students to justify their choices by relating them to the risks associated with the activities.

Body (60 minutes)

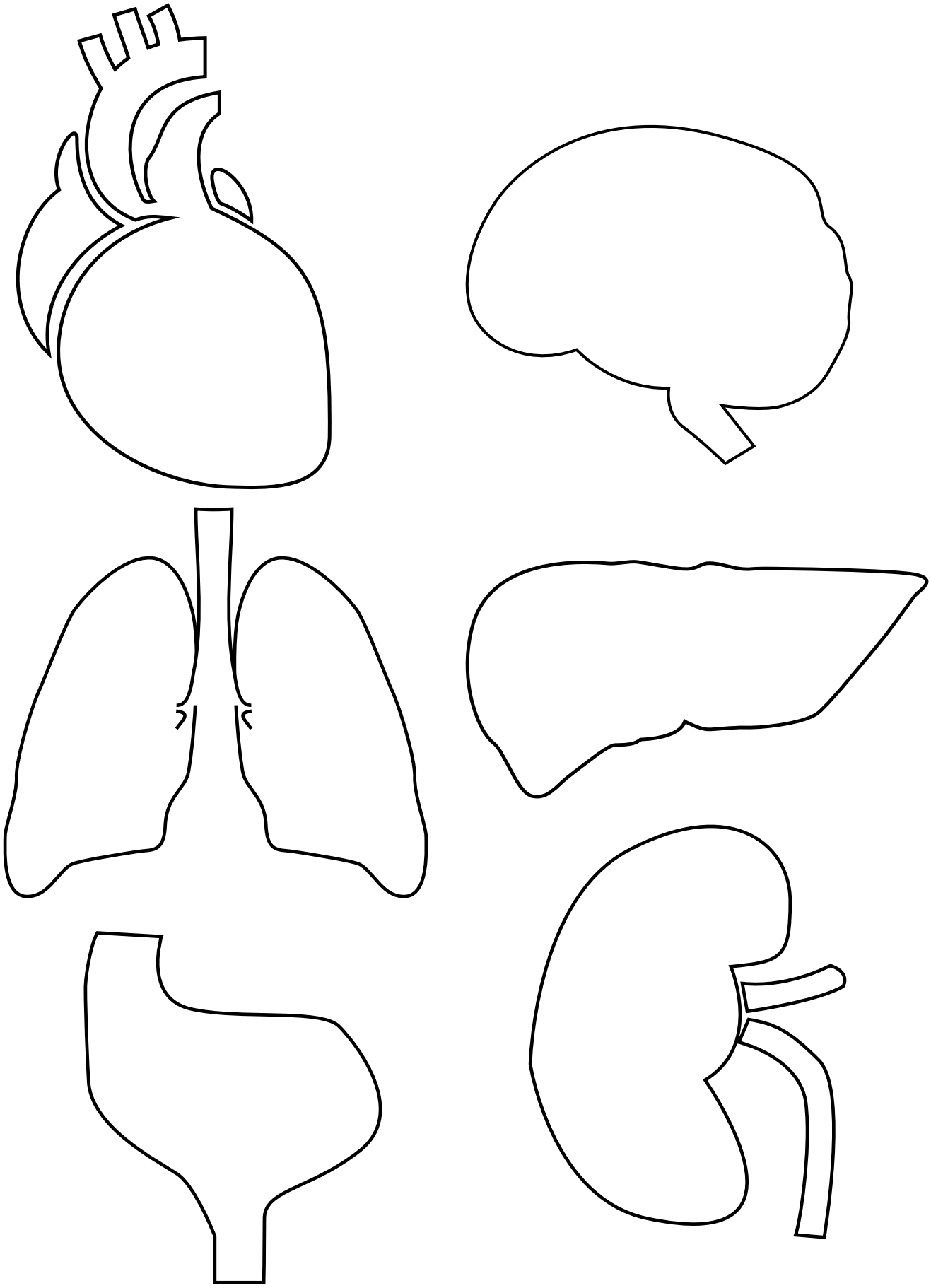
- In small groups, give students some butcher's paper and ask them to identify common risk-taking behaviour in their age category, for example riding a bike or scooter without a helmet, not crossing at a pedestrian crossing, smoking, swimming outside the flags or diving into a river. Have students list these activities as low-risk or high-risk on their butcher's paper.
- Allow groups to share their ideas with the class and create a whole class list of low-risk and high-risk activities for children aged 8 to 10.
- Introduce the idea that there are risk factors that can affect how well the heart works in our bodies. These include:
  - smoking
  - lack of exercise
  - poor nutrition
  - being overweight.
- Provide each small group with one of the above risk factors associated with heart disease. Provide students with books, pamphlets or internet sites that examine these risk factors. Students can use **BLM 6 Risk factor research** to help them record the information they find.

Conclusion (15 minutes)

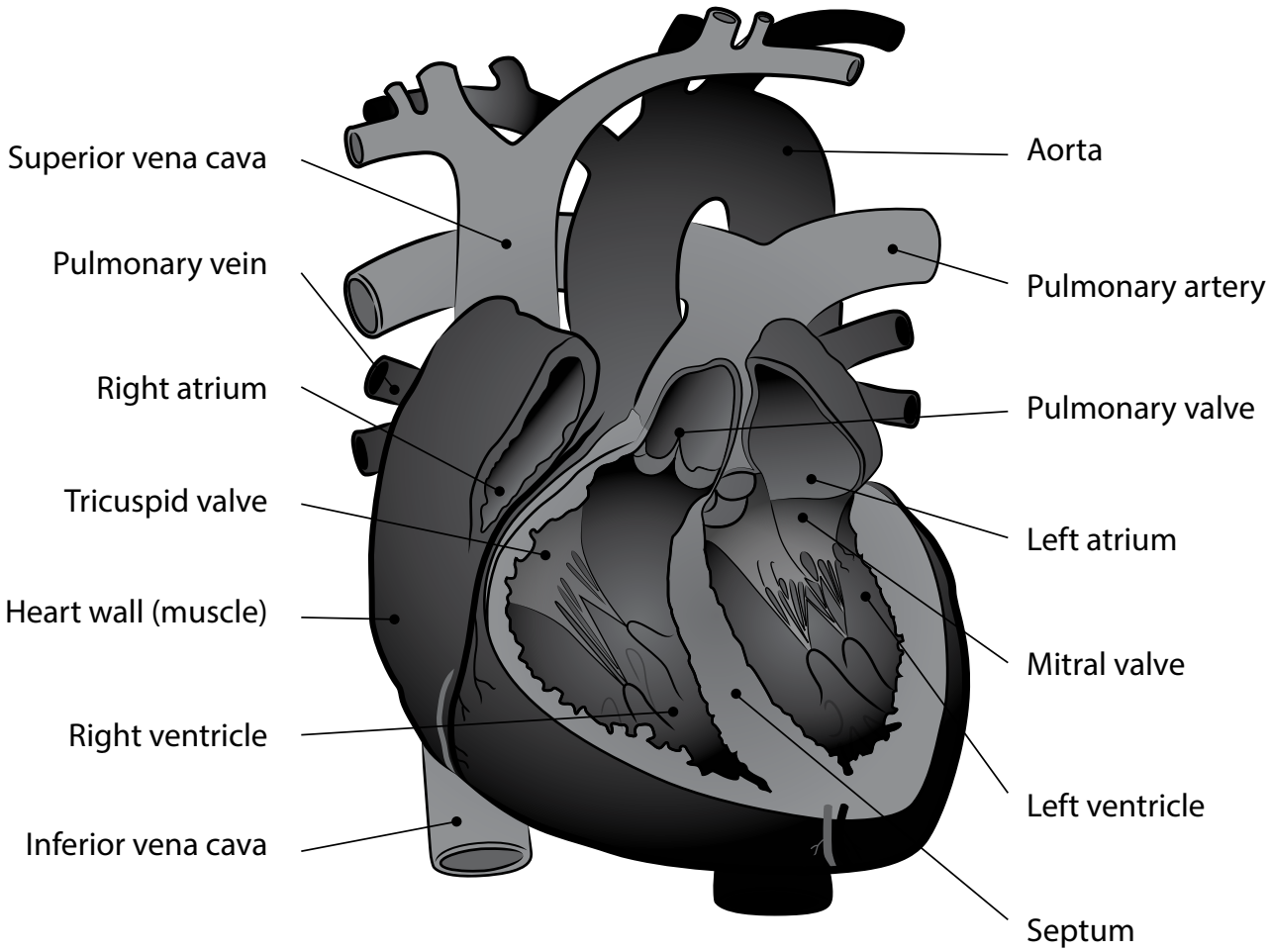
- Allow small groups to present their findings to the class. Encourage students to clearly state the risk factor they researched and to briefly explain how this factor can lead to heart disease.
- Have students independently complete **BLM 7 Keep your heart ticking**.

BLM 1 What's inside our bodies?

BLM 2 Organs inside our bodies



BLM 3 The human heart



BLM 4 My heart notes

Record the new things you have learnt about the heart in the special spaces below.

BLM 5 The heart-inator at work!

Your heart and how it works

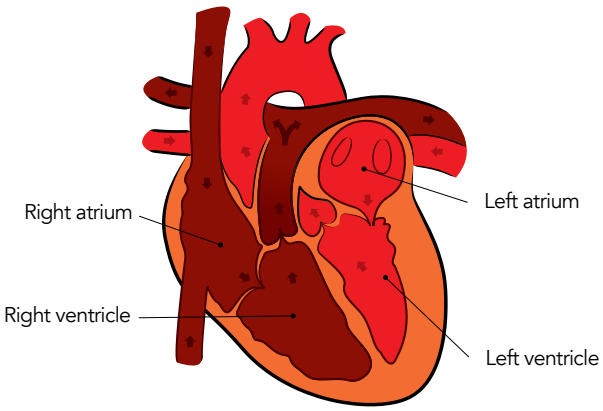
Your heart is an important organ. It is a muscle that pumps blood to all parts of your body. The blood pumped by your heart provides your body with the oxygen and nutrients it needs. If you are of average body weight and size, your body contains about five litres of blood, all of which passes through your heart every minute or so.

Size and position

Your heart is about the size of your clenched fist. It lies in the middle of your chest, behind and slightly to the left of your breastbone.

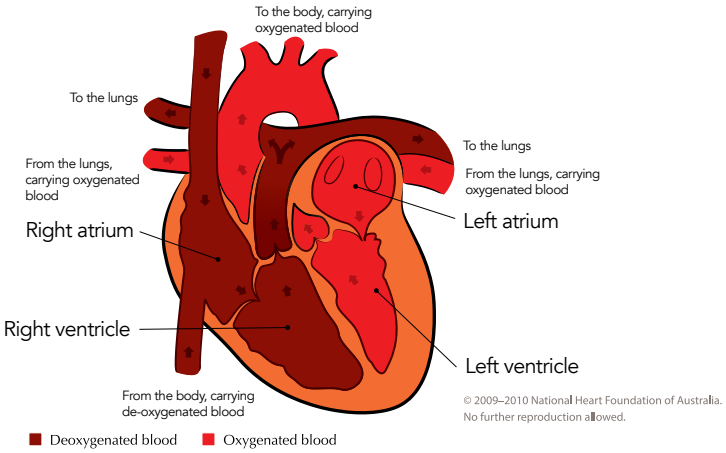
Structure

Your heart has a right and a left side, separated by a wall. Each side has a small collecting chamber called an atrium, which leads into a large pumping chamber called a ventricle. There are four chambers: the left atrium and right atrium (upper chambers), and the left ventricle and right ventricle (lower chambers).



How your heart pumps blood

The right side of your heart collects blood on its return from the rest of your body. The blood entering the right side of your heart is low in oxygen. This is because oxygen is removed from your blood as it circulates through your body. Your heart pumps the blood from the right side of your heart to your lungs so it can get more oxygen. Once it has received oxygen, the blood returns to the left side of your heart, which then pumps it out again to all parts of your body.



Circulation

Your body has a network of blood vessels called arteries, veins and capillaries, which carry the blood pumped by your heart. Your heart and these blood vessels make up your 'circulatory system'.

Arteries carry blood away from your heart. The largest artery in your body is called the 'aorta'. Smaller branch arteries feed into even smaller blood vessels called capillaries, which cannot be seen with the naked eye. Oxygen and nutrients pass into your body from your capillaries, and then veins carry blood back to your heart.

BLM 6 Risk factor research

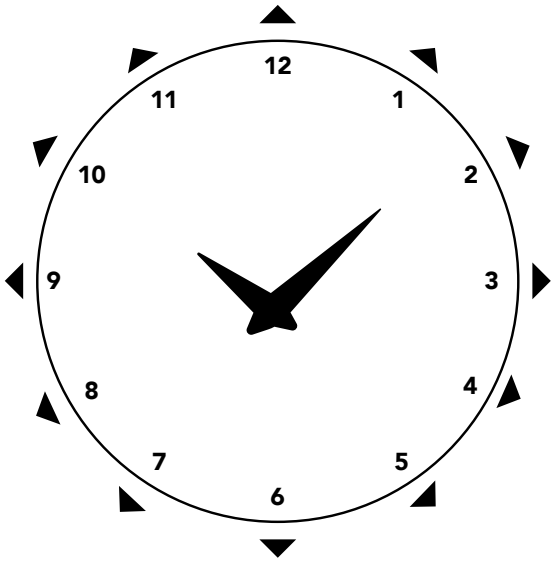
Name of risk factor:

What is the definition of this risk factor?

How does this risk factor harm our heart?

BLM 7 Keep your heart ticking

In each hourly box write a healthy suggestion that will keep your heart 'ticking'! It could be a menu for a healthy snack, walking the dog or playing sport. See how creative you can be!



Teacher background notes

About your heart

Your heart is a vital organ. It is a muscle that pumps blood to all parts of your body. The blood pumped by your heart provides your body with the oxygen and nutrients it needs to function. If you are of average body weight and size, your body contains about five litres of blood, all of which passes through your heart every minute or so. However, when necessary, such as during exercise, your heart can pump up to four times that amount per minute.

Size and position

Your heart is about the size of your clenched fist. It lies in the middle of your chest, behind and slightly to the left of your breastbone.

Structure

Heart chambers

Your heart has a right and a left side, separated by a wall. Each side has a small collecting chamber called an atrium, which leads into a large pumping chamber called a ventricle. There are four chambers: the left atrium and right atrium (upper chambers), and the left ventricle and right ventricle (lower chambers).

Heart valves

Heart valves are like one-way doors that guard the entrance and exit of your heart's chambers. They make sure that blood flows only in the right direction between the four chambers of your heart.

Your heart has four heart valves:

- the tricuspid valve, on the right side of the heart, which lets the blood flow from the right atrium to the right ventricle
- the mitral valve, on the left side of the heart, which lets the blood flow from the left atrium to the left ventricle
- the pulmonary valve, on the right side of the heart, which lets blood flow from the right ventricle to the pulmonary artery (the blood vessel that carries blood from the heart to the lungs)
- the aortic valve, on the left side of the heart, which lets the blood flow from the left ventricle to the aorta.

With each heartbeat, blood is squeezed from the atria into the ventricles and then out of the ventricles to the rest of your body. After each contraction of the atria or the ventricles, the inner flaps of the valves (often called 'cusps' or 'leaflets') come together to seal off the chambers of your heart and make sure that the blood does not flow backwards. They are forced open again by the normal pumping action of your heart to allow forward blood flow.

How your heart pumps blood

The right side of your heart collects blood on its return from the rest of your body. The blood entering the right side of your heart is low in oxygen. This is because oxygen is removed from your blood as it circulates through your body's organs and tissues. Your heart pumps the blood from the right side of your heart to your lungs so it can receive more oxygen. Once it has received oxygen, the blood returns directly to the left side of your heart, which then pumps it out again to all parts of your body, through the aorta. The movement of your heart contracting and pumping blood is called 'systole'. The movement of your heart relaxing so the chambers can refill with blood is called diastole. The left ventricle of your heart is larger and thicker than the right ventricle. This is because it has to pump the blood further around the body and against higher pressure, compared with the right ventricle.

Circulation

Your body has a network of blood vessels called arteries, veins and capillaries, which carry the blood pumped by your heart. Your heart and these blood vessels make up your circulatory system. Arteries carry blood away from your heart. The largest artery in your body is called the aorta. It has branches that carry blood to your head, arms and legs, and organs inside your chest and abdomen. The first branches of the aorta are the coronary arteries. These run back to the outside surface of your heart to form a network of smaller arteries that supply your heart muscle with oxygen and nutrients.

Smaller branch arteries feed into even smaller blood vessels called capillaries, which cannot be seen with the naked eye. Oxygen and nutrients pass into body tissues from your capillaries, and then veins carry blood back to your heart.

Electrical system

Normally, heartbeats are set off by tiny electrical signals that come from your heart's natural pacemaker – a small area of your heart called the sinus node, which is located in the top of the right atrium. These signals travel, which rapidly throughout the atria to make sure that all the heart muscle fibres contract at the same time, pushing blood into the ventricles. These same electrical signals are passed on to the ventricles via the atrioventricular (AV) node and cause the ventricles to contract a short time later, after they have been filled with blood from the atria. This normal heart rhythm is known as sinus rhythm, because it is controlled by the sinus node.

Heartbeat

At rest, your heart beats approximately 60 to 100 times a minute. A child's heart rate is higher than an adult's heart rate. In an average lifetime, a heart will beat around three billion times. When you are physically active, excited or ill, your heart rate can rise significantly. This is a natural response to these situations.

Pulse

Every heartbeat results in blood moving forward through your arteries. You can feel this movement as a pulse by placing two fingers over the artery at your wrist. Your pulse rate tells you how fast your heart is beating.

Cardiovascular disease

Cardiovascular disease (CVD) refers to heart, stroke and blood vessel diseases. CVD is usually caused by a gradual clogging of the arteries that supply blood to your heart, brain and other vital organs. Fatty material called plaque or atheroma slowly builds up on the inner walls of these arteries, causing them to become narrow. This process is called atherosclerosis. It can start when you are young and can be well advanced by middle age. You may not know you have atherosclerosis until you have a heart attack or stroke.

There is no single cause for CVD, but there are risk factors that increase your chance of developing it. There are modifiable risk factors (ones that you can change) and non-modifiable risk factors (ones that you can't change).

Modifiable risk factors include:

- smoking – both active smoking and being exposed to secondhand smoke
- high cholesterol
- high blood pressure
- diabetes
- being physically inactive
- being overweight
- depression, social isolation and a lack of quality social support.

Risk factors that you can't change include increasing age, being male, being an Aboriginal person or Torres Strait Islander and having a family history of heart disease. The good news is that you can reduce your overall risk of developing CVD by leading a healthy lifestyle.

Coronary heart disease

Coronary heart disease (CHD) is when your coronary arteries (the arteries that supply oxygen and nutrients to your heart muscle) become clogged with plaque. If your coronary arteries become too narrow, the blood supply to your heart muscle is reduced. This may lead to symptoms such as angina. If a blood clot forms in the narrowed artery and completely blocks the blood supply to part of your heart, it can cause a heart attack.

Angina

Angina is a temporary chest discomfort or pain that usually happens during physical activity or extreme emotion and goes away after a few minutes of rest. It happens when part of your heart muscle is temporarily not able to get enough oxygen and nutrients to meet its needs.

Angina does not mean that your heart muscle is damaged, so it is not the same as a heart attack. Many people who have angina live to a healthy old age without having a heart attack. However, if you have angina, your risk of having a heart attack increases. If not treated, angina can interfere with an active lifestyle.

Heart attack

A heart attack occurs when an area of your heart muscle is seriously deprived of its blood supply. This usually happens when an area of plaque within a coronary artery cracks. Blood cells and other parts of the blood stick over the damaged area and form a clot that suddenly and completely blocks the blood flow to your heart muscle. As a result, the part of your heart muscle that is not getting enough blood starts to die. It is important that you get emergency medical treatment to try to quickly restore the blood flow and minimise damage to your heart. Getting to hospital quickly can minimise the damage and increase your chance of surviving a heart attack. The risk of a heart attack increases for men and women with increasing age.

Heart attack warning signs

The warning signs of heart attack vary from person to person and usually last for at least 10 minutes. Symptoms may be severe, moderate or even mild. They may develop over minutes and get progressively worse, or come on suddenly. You may have just one symptom or a combination of them. Symptoms include tightness, pressure, heaviness or pain in one or more of your chest, neck, jaw, shoulder/s, back or arm/s. This pain or discomfort may start in your chest and spread to these other areas of your upper body.

You may not get chest pain at all but just feel pain or discomfort in one or more of these other areas. You may have a choking feeling in your throat. Your arms may feel heavy or useless. You may also feel short of breath, break out in a cold sweat, experience nausea, and/or feel dizzy or light-headed.

If you experience any of these warning signs, call Triple Zero (000) and ask for an ambulance.

Unit 2:

Healthy tucker

Lesson 1: What is healthy tucker?

Time: 1 hour 30 minutes

Learning intention: To recognise the need for a well-balanced diet to sustain a healthy lifestyle and heart; to identify the variety of foods that we need to eat as part of a healthy diet

NSW syllabus links

PDHPE

PHS2.12 Discusses the factors influencing personal health choices.

- explains the need for good health practices
- discusses food needs for growth and activity

DMS2.2 Makes decisions as an individual and as a group member.

- discusses advantages and disadvantages of options with friends when making decisions, e.g. decisions about smoking

Teaching and learning activities

Introduction (20 minutes)

- **Think–pair–share:** Ask students, in pairs, to discuss why we need food. Encourage students to share situations where or reasons why they feel the need to eat food, for example:
  - when participating in sport
  - when I am feeling hungry
  - when playing games with my friends and mob
  - to help me concentrate on my learning
  - to keep healthy and stay strong
  - so my body can keep growing
  - when my friends or mob are all eating.

Ask pairs to share with the whole class some of the reasons that they believe we need to eat food. Create a class list of reasons we need food.

- **Healthy or unhealthy?:** Place the words 'healthy' and 'unhealthy' in two different locations in the classroom. Read out a variety of foods and ask students to move to the matching area of the room. Select random students to justify their opinions about whether the food is healthy or unhealthy.

Body (50 minutes)

- Introduce to students the need for a balanced diet. Explain that enjoying a variety of foods gives you the energy and nutrients you need to stay healthy. Revisit the understanding that good nutrition is an important factor in maintaining a healthy heart. Display a copy of the Aboriginal and Torres Strait Islander guide to healthy eating food plate.
- Identify and discuss:
  - the six food groups
  - Which food group is the largest? Which group is the next largest?
  - Why are fruits and vegetables separate?
  - Which group should we eat in small amounts?
  - What is a healthy drink?
- **Food guide 'I spy':** As a class or in pairs, play a game of 'I spy' using the Aboriginal and Torres Strait Islander guide to healthy eating food plate. Students should give both the food group and the first letter of their selected food item as their clues. For example: 'I spy with my little eye, a meat starting with c.'
- Divide the class into small groups or pairs and provide them with an enlarged copy **BLM 8 My healthy food plate**. Students cut out pictures of various foods from magazines and supermarket catalogues. Students then decide where these food items belong and paste them in the appropriate sections of the guide. Ask groups to discuss:
  - where they have placed foods and why
  - whether there any foods that fit into more than one category
  - why some foods might fit into more than one category.

Display the finished food plates around the classroom.

Conclusion (20 minutes)

- Visit The Jimmy Little Foundation website at www.jlf.org.au/videos/ to watch video clips from the Thumbs Up! project. The Thumbs Up! team has been travelling around Australia over the past few years, especially to Remote Service Delivery communities and teaching more about how healthy tucker leads to a long life. The school children visited get together and work to make up a song that talks about how good food and water give you lots of energy and help keep you healthy.
- **Listen to our deadly mob:** Click on the video titled 'Eidsvold QLD'. Listen to the song written and recorded by Ebony Williams and Mark Ross and the kids at Eidsvold State School, Queensland. After watching the clip, ask students:
  - What messages does this song give us about healthy eating?
  - What foods do they say we should eat less of?
  - What should we drink?
  - Why do we need to eat healthy tucker?

Ensure students understand that eating a variety of foods and eating the right amounts of each food group is essential to maintaining a healthy heart. Encourage students to make the connection that eating too many fats, sugars and oils directly links to becoming overweight. Being overweight is one factor that increases the risk of heart disease.

Lesson 2: Healthy tucker, healthy heart!

Time: 1 hour 30 minutes

Learning intention: To recognise the importance of making healthy food choices to reduce the risk of heart disease

NSW syllabus links

PDHPE

PHS2.12 Discusses the factors influencing personal health choices.

- explains the need for good health practices

DMS2.2 Makes decisions as an individual and as a group member.

- discusses advantages and disadvantages of options with friends when making decisions, e.g. food choices

Teaching and learning activities

Introduction (15 minutes)

- As a class, make a list of 'sometimes' foods and 'every day' foods. Display this list in the classroom.
- Explain to students that 'sometimes' foods such as hot chips, potato crisps, fried foods, pies and sausage rolls can lead to heart disease if they are eaten too often. Explain how they are high in a type of fat called saturated fat, which is directly linked with a fatty substance called cholesterol. When our bodies have a high blood cholesterol level, we build up fatty deposits on the inside walls of our arteries over time. This narrows the arteries and can reduce the blood flow.
- **Model experiment:** Show students how water can easily flow through a plastic tube or a straw. Explain that this is like blood flowing through our arteries. Ask students to predict what they think will happen if pieces of plasticine are squeezed into the tube or straw. Demonstrate by pouring water through the tube a second time. Students should notice that the water does not flow through the tube as easily once plasticine is in it. Ask students to imagine that the plasticine is like the build up of cholesterol on the walls of the arteries. What effect would this have on the body?

Body (60 minutes)

- Explain to students that it is important we know how to make healthy choices when it comes to planning the food we eat each day. Ask students to suggest some places where they get to make choices about the foods they will eat, for example at home for family meals, in restaurants, at the school canteen, in food courts, in fast-food stores.
- Focus students' attention on the school canteen. Display posters or publication materials about the NSW Healthy School Canteen Strategy. These are available from the New South Wales Health website at www.health.nsw.gov.au/publichealth/healthpromotion/obesity/canteen_resources.asp. The Canteen Menu Planning Guide and presentation are support materials about the three food groups system used for healthy canteens.
- Display the presentation or a printed poster that discusses the three food groupings on an IWB. The three food groupings are:
  - RED 'Occasional'. Do not sell these foods on more than two occasions per term.
  - AMBER 'Select carefully'. Do not let these foods dominate the menu, and avoid large serving sizes.
  - GREEN 'Fill the menu'. Encourage and promote these foods in the canteen.
- Using the presentation or poster as a prompt, discuss which foods belong in the Red 'occasional', Amber 'select carefully' and Green 'fill the menu' groups. Have students connect these particular foods to the healthy food guide and identify where each would belong.
- In small groups, provide students with a copy of the school's or an example canteen menu. Have students identify 'occasional' foods using a red highlighter, 'select carefully' foods using an orange highlighter and 'every day' foods using a green highlighter. Have groups share why they highlighted foods as red, orange or green. Which food type was most represented and why? Which food type was least represented and why? How does this information compare to the guide for healthy eating?
- Provide students with **BLM 9 Healthy tucker canteen menu.** Students can work individually or in small groups to plan their own healthy canteen menus. Encourage students to follow the Canteen Menu Planning Guide.

Conclusion (15 minutes)

- Allow students to share some of the snacks, lunches and drinks they selected for their healthy tucker canteen menus.

Lesson 3: Coco-banana bites

Time: 1 hour 30 minutes

Learning intention: To use safe and hygienic methods of food preparation while cooking a healthy snack

NSW syllabus links

PDHPE

PHS2.12 Discusses the factors influencing personal health choices.

- explains the need for good health practices

Teaching and learning activities

Introduction (20 minutes)

- Hold a class discussion in preparation for practical cooking. Are kitchen safety rules different to classroom rules? How are they different? What are some hygiene practices that should be followed when handling food and why should we follow them?
- As a class, create a set of safety and hygiene rules for food preparation. Write these on poster paper and display them clearly in the classroom.

Body (50 minutes)

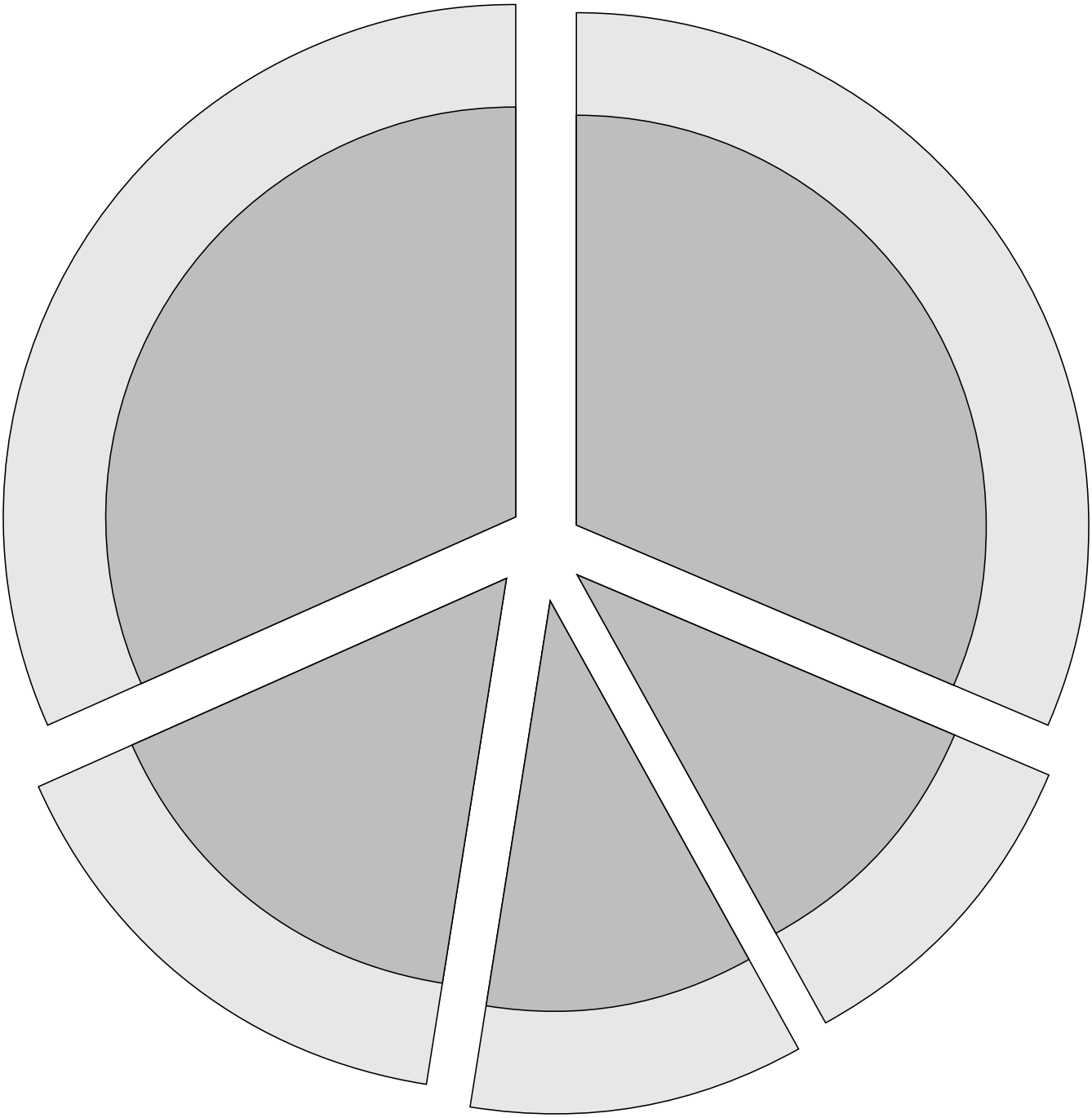
- As a class, read the recipe 'Coco-banana bites', available to download from the 'Kids in the kitchen' section of the Go for 2 & 5 website: www.gofor2and5.com.au/KidsOnly/KidsintheKitchen/tabid/208/Default.aspx. Discuss the ingredients and where they belong according to the Aboriginal and Torres Strait Islander guide to healthy eating. Identify the utensils required and, as a class, read through the steps of the procedure.
- In pairs, have students follow the recipe to make coco-banana bites. Take photographs of the process.

Conclusion (15 minutes)

- Explain to students the need to safely dispose of food waste and how to clean the food preparation area. Encourage students to all play a part in the clean up.
- **Follow-up literacy activity:** Use the photographs to jointly construct a procedural recount of making the coco-banana bites. Use the photographs to support the steps of the procedure. Alternatively, students could independently construct a procedural recount using these photographs as a scaffold.

BLM 8 My healthy food plate

Cut out pictures of different types of food. Glue them where you think they belong on the healthy food plate below.



BLM 9 Healthy tucker canteen menu

Plan a healthy canteen menu for your school. Remember to think about selling lots of Green foods, fewer Amber foods and only two or three Red foods.

Breakfast

Snacks

Lunchtime

Teacher background notes

These notes have been adapted from the Heart Foundation pamphlets *Get the good eating habit* and *Losing weight the healthy way.*

Why do I need 'the good eating habit'?

Healthy eating and drinking is an important part of looking after your health and reducing your risk of heart problems. Enjoying a variety of foods will give you the energy and nutrients you need to stay healthy.

How do I change what I eat?

Changing what you eat can be a lot easier than you think. Here are some tips to help you make changes and stick to them.

- Make a list. Write down all the changes you think you can make, and place this list somewhere handy, such as on your fridge.
- Start small. Make one or two changes to start with. For example, try reduced fat milk instead of full fat milk. When you are comfortable with one change, make another.
- Rally support. Tell your friends and family about the changes you are making and ask for their support. You could even encourage them to join you.

What is 'healthy eating'?

Enjoy a wide variety of foods. Eat a variety of foods, including:

- vegetables
- wholegrains
- lean meats
- oily fish
- fruit
- low, reduced or no fat dairy
- vegetable and seed oils.

Remember to also include nuts, seeds and legumes.

Choose healthier fats

- Fats are an important part of a healthy balanced diet and you shouldn't try to exclude them. However, choosing the right type of fats is really important. Choosing the healthier unsaturated fats instead of saturated and trans fats will reduce your risk of coronary heart disease. Choosing healthier fats is easier than you might think.
- Use margarines made from canola, sunflower or olive oil and dairy blends that have earned the Heart Foundation Tick instead of butter. Avocado or hommus can be used as alternatives to margarine two to three times a week.
- Choose from a variety of vegetable and seed oils when you are preparing food. Healthier choices include canola, sunflower, soybean, olive, sesame and peanut oils.
- Use salad dressings and mayonnaise made from canola, sunflower, soybean, olive, sesame and peanut oils.
- Eat two to three serves of oily fish a week. A serving size of fish is 150 grams or approximately the size of your whole hand. Use fish oil capsules and omega-3 enriched foods and drinks to supplement your intake of omega-3 fats.
- Select lean meat and poultry (meat trimmed of all visible fat and chicken without skin). Try to limit processed meats (such as sausages) and deli meats (such as salami). If available, choose deli meats that have earned the Heart Foundation Tick. Limit foods such as liver, kidneys and pâté.
- Try to limit take-away foods, such as pastries, pies, pizza, fried fish, hamburgers, hot chips and creamy pasta dishes to once a week. Healthier take-away choices include sushi or sashimi, Asian stir-fries, tomato-based pasta dishes, grilled fish, chicken and lean meat.

Eggs

The saturated and trans fats that we eat have more impact on our cholesterol than the cholesterol in foods. Therefore it is alright to include eggs as part of a healthy balanced diet.

A healthy balanced diet can include a serve of eggs (two eggs) in two to three meals a week.

Dairy foods

An easy way to reduce your saturated and trans fat intake is to choose reduced, low or no fat dairy foods or 'calcium added' non-dairy foods every day.

- Choose reduced, low or no fat milk, yoghurt, custard and desserts.
- Include small portions of cheese (one to two slices or 20–40 grams) up to four times a week. Lower fat cheeses, such as light tasty cheddar, ricotta, cottage and light mozzarella, are healthier choices.
- A healthy balanced diet can include a serve of plain ice-cream (1½ scoops or 50 grams) up to three times a week. Lower fat plain varieties are healthier choices.

Eat more bread, cereals, vegetables, fruit and legumes

Make plant-based foods the main part of each meal. Include vegetables, wholegrains, fruit, nuts and seeds every day.

- Include five serves of vegetables and two serves of fruit every day.
- Choose wholegrain breads and breakfast cereals, and include pasta, noodles and rice.
- Try to include legumes and pulses in at least two meals a week. Legumes and pulses include canned beans (e.g. baked beans, kidney beans and three bean mix), dried peas (e.g. split peas), dried beans (e.g. butter beans and broad beans), chickpeas and lentils.

Go easy on high salt foods

Most of us use much more salt than we need to. Eating less salt can help us to have healthier blood pressure.

- Go easy on high salt food, such as cured, canned or corned luncheon meat; salami; sausages; meat pasties; cheese; vegetable extracts; commercial sauces; and many take-away and snack foods.
- It's better not to add salt to food. If you want to add flavour use herbs and spices.
- When shopping choose foods labelled 'no added salt', 'low salt' or 'salt reduced' where possible.

Snack wisely

Everyone likes a snack sometimes. However, many snacks are high in saturated and trans fat, sugar and salt. To stay healthy, it's important that you choose the right kind of snack foods.

- Healthy snacks include sliced raw vegetables with hommus, a piece of fresh fruit, a handful of dried fruit, up to a cup of canned fruit or a handful (30 grams) of plain, unsalted nuts. Other choices can be rice cakes and non-confectionery bars, such as plain nut bars, seed bars and cereal bars that have earned the Heart Foundation Tick.
- Try to limit sugary, fatty and salty snack foods, such as crisps, cakes, pastries, biscuits, lollies and chocolate, to once a week.

Drinks

Plain water is by far the best option because it has no energy (kilojoules). It's also cheap and quenches your thirst. Other suitable choices to include in moderation are plain mineral water; soda water; reduced, low or no fat milk; herbal tea; and tea or coffee (if you have milk, use reduced, low or no fat varieties or 'added calcium' soy milk).

Watch your overall food and drink intake

It is easy to eat more than your body needs, so be aware of the amount of food and drinks (other than water) you are having. This isn't about starving yourself, skipping meals or going thirsty. It's about eating when you actually feel hungry rather than eating because of the clock or just because food is there.

If you feel hungry all the time or find yourself wanting to eat all the time, you probably need to visit your doctor and seek some guidance about why this may be the case. Your doctor may refer you to another health professional, such as an accredited practising dietitian, for specific advice.

When eating out or buying take-away food, be careful about how much food you order. In many cases you can buy a large meal or a meal pack for around the same price as a smaller meal or an individual item. The trap here is that you end up eating a larger serving or more food than you actually need.

Try to limit your intake of high energy (kilojoule) drinks, such as alcohol, soft drinks, fruit juices and cordials. Make plain water your main drink choice and drink plenty of this throughout the day to make sure you don't go thirsty. Only have high energy (kilojoule) drinks occasionally, and limit the amount.

Unit 3:

Get up, get moving!

Lesson 1: The effects of physical activity

Time: 1 hour 30 minutes

Learning intention: To list a variety of physical activities and observe the changes in the body before, during and after exercise

NSW syllabus links

PDHPE

COS2.1 Uses a variety of ways to communicate with and within groups.

- shares ideas, feelings and opinions with others about issues such as bullying, passive smoking

ALS2.6 Discusses the relationship between regular and varied physical activity and health.

- participates in regular physical activity and discusses progress
- identifies the activities people participate in to maintain an active lifestyle, e.g. bushwalking, sports

GSS2.8 Participates and uses equipment in a variety of games and modified sports.

- demonstrates fun ways of practising skills, e.g. partner, team
- practises and refines movement skills in a variety of games from a range of cultures
- demonstrates a range of skills in practices and modified games, e.g. throwing and catching in moving and stationary positions, striking or dribbling with hand, foot, stick or bat

Teaching and learning activities

Introduction (15 minutes)

- As a class, brainstorm a list of physical activities that people can be involved in, for example walking, jogging, playing in a sports team, fishing, rock climbing, dancing, gardening, handball or playing a chasing game.
- Choose five different physical activities from the class-produced list and write them on individual flashcards. Draw a diagonal line on the board that shows the words 'low impact' at the bottom and 'high impact (aerobic)' at the top. Discuss what these terms mean with the class. Ask students to arrange the activities along the diagonal line. Encourage them to justify the order of the activities and to talk about the amount of endurance, strength, flexibility and fitness you need to participate in these activities.

Body (60 minutes)

- Pose the question: What effect does physical activity have on our bodies? Allow students to offer some suggestions. Explain that they are going to be detail detectives and observe the changes they see and experience in their bodies during a circuit of physical activities. The circuit will consist of traditional Indigenous games.
- Using BLM 10 Physical activity detectives, allow students time to individually record what they observe about their body temperature, heart rate and breathing rate before starting the circuit of traditional Indigenous games.
- Set up three rotations of physical activities based on Yulunga Traditional Indigenous Games, which is available from the Australian Sports Commission: www.ausport.gov.au/participating/indigenous/resources/games_and_activities
- Click on the 'Yulunga: full resource' tab and download the games suitable for school years 4 to 6. The following are suggested games suitable for a circuit:

  'E-dor', whole class warm-up game, pages 102–3

  'Wa-na wa-na', bat hitting game, pages 47–8

  'Gorri', aiming at target, pages 136–7

  'Br-am-bahl', skipping game, pages 110–11
- At the conclusion of these rotations, ask students to notice the effect of playing these games on their body temperature, heart rate and breathing rate. Have students record these observations on **BLM 10 Physical activity detectives.**

- Allow students to get a drink and cool down. After five minutes of rest, students find a partner and discuss what changes they are observing in their bodies after a cool-down period. Have students record these changes on **BLM 10 Physical activity detectives** in the appropriate section.
- As a class, discuss what changes playing the traditional Indigenous games had on:
  - body temperatures (rise in temperature, sweating)
  - heart rate (increase in number of beats per minute, pumping harder)
  - breathing rate (increase in number of breaths, puffing, out of breath).

Discuss what happened to their bodies after having five minutes of rest time.

Conclusion (15 minutes)

- Explain to the class that there is a direct link between being physically active and maintaining a healthy heart. Discuss that regular physical activity for children improves their heart and blood vessel fitness, muscle strength and endurance, joint mobility, posture and physical coordination. Explain that children need at least one hour a day of physical activity to stay healthy.
- have students independently complete **BLM 11 Physical activity and me!** Students record a list of physical activities that they participate in regularly. Encourage them to reflect on the idea that they need one hour of activity each day. Are they meeting this goal? Do they need to be more active?

Lesson 2: Shake a leg! Pump up the beat!

Time: 1 hour

Learning intention: To recognise the effects of physical activity on the heart by observing resting heart rate, heart rate after exercise and measuring heart rate recovery after performing a dance sequence

NSW syllabus links

PDHPE

COS2.1 Uses a variety of ways to communicate with and within groups.

- shares ideas, feelings and opinions with others about issues such as bullying, passive smoking

ALS2.6 Discusses the relationship between regular and varied physical activity and health.

- participates in regular physical activity and discusses the link between maintaining a healthy heart
- identifies the activities people participate in to maintain an active lifestyle, e.g. bushwalking, sports

DAS2.7 Performs familiar movement patterns in a variety of dance situations.

- compares and practices basic movements of dance styles

Teaching and learning activities

Introduction (15 minutes)

- Revisit the understanding that the heart is a muscle and that regular physical activity strengthens the heart, improving overall fitness. When the body is physically active, the heart has to work harder to pump more oxygenated blood to the muscles in the body being used. Every heartbeat results in blood moving forward through your arteries. You can feel this movement as a pulse by placing two fingers over the artery of your wrist. Your pulse rate tells you how fast your heart is beating.
- Demonstrate to students how to measure their pulse rate at their wrists. Place the index, middle and second fingers on the palm side of the wrist, close to the thumb. Don't press too hard. Let students practise finding their pulse. Note: Do not use the thumb when measuring pulse rate, as there is a pulse in the thumb.

Body (60 minutes)

- Resting heart rate: Explain to students that they will be investigating the effect of a physical activity on their pulse rate. Using **BLM 12 Shake a leg!**, have students measure and record their resting pulse rate. Students can count the number of pulse beats in 15 seconds and multiply this by four to find the number of beats per minute. Note: A resting heart rate requires students to be seated quietly for 20 minutes before taking their pulse.
- Visit the website Move It Mob Style at www.vibe.com.au/moveitmobstyle. Click on the 'Learn dances' tab and select a dance from episode 1. Have students sit and watch the episode for the first viewing. On the second viewing, get students up to follow along with the hip-hop instructors.
- Encourage students to actively participate while learning the dance sequence. Perform the routine to a song for at least five minutes and ensure students are moving moderately to vigorously.
- **Heart rate after exercise:** Immediately after at least five minutes of moderate dance have the students record their pulse again, observing the increase in rate. Record this in the appropriate section of **BLM 12 Shake a leg!**.
- **Measuring heart recovery:** Have students measure and record their pulse every minute for the next four minutes on their worksheets.

Conclusion (10 minutes)

- Select one student's data from this experiment. As a class, graph the results of **BLM 12 Shake a leg!**. Ask students the following questions:
  - When was your pulse rate higher?
  - Why did it increase while we were dancing?
  - Does your blood flow faster or slower around your body when you exercise?
  - Why do your muscles need more blood during exercise? They need more oxygen because they are working harder.
  - Why does it take a while for your heart rate to slow down again after you have exercised? The heart rate can only return to normal after all the waste products from increased respiration, e.g. carbon dioxide, have been expelled from the body.

Extension activity

Allow students to play the interactive game 'Circulation' on the BBC KS2 Bitesize website at www.bbc.co.uk/bitesize/ks2/science/living_things/circulation/play/, to reinforce the ideas in this lesson.

Lesson 3: The benefits of physical activity

Time: 1 hour 30 minutes

Learning intention: To identify the benefits of regular physical activity and to recognise how individuals can make choices about the types of physical activities they participate in

NSW syllabus links

PDHPE

COS2.1 Uses a variety of ways to communicate with and within groups.

- shares ideas, feelings and opinions with others about issues such as bullying, passive smoking

DMS2.2 Makes decisions as an individual and as a group member.

- discusses advantages and disadvantages of options with friends when making decisions, e.g. decisions about smoking
- works towards developing realistic goals to support decisions made, e.g. participates in regular physical activity

ALS2.6 Discusses the relationship between regular and varied physical activity and health.

- identifies factors that influence participation in physical activity
- identifies the activities people participate in to maintain an active lifestyle, e.g. bushwalking, sports
- contributes to physical activity programs, e.g. peer leader/tutor, sharing equipment

Teaching and learning activities

Introduction (10 minutes)

- Brainstorm a definition of the word 'fitness'. List key words and phrases associated with fitness, such as feeling good, not getting puffed, being strong, exercising for longer periods, and having stamina. Arrive at a class definition of fitness. Compare the class definition to the one listed in a dictionary or to the following definition: 'the capacity to carry out everyday activities (work and play) without excessive fatigue and with enough energy in reserve for emergences'.

Body (50 minutes)

- Have students form small groups and give each group one of the following topics:
  - positive feelings towards physical activity
  - negative feelings towards physical activity.
- Have groups list reasons why people might have positive or negative feelings towards physical activity (depending on the statement they have been issued).
- Invite a speaker from each group to list the reasons they brainstormed under their statement. Record these ideas in a class table.
- Further discuss the reasons that people may have negative feelings towards physical activity, and come up with possible solutions to these concerns. For example:

Negative feeling	Possible solution
I don't have enough time to exercise.	Break the time up across the day.
I don't have enough money to join a gym.	Go for a walk or run in a local park.
I am embarrassed about being overweight.	Find a friend to exercise with you.
I don't like playing sport.	Try other activities such as dancing.

- Provide each small group with one scenario from **BLM 13 Help get me moving!**. In groups, have students work out a seven-day physical activity program that will motivate their character to get moving. Encourage students to look at the interests of the characters and the clues about things available to them in their local community. Have students consider:
  - the type of physical activity their character may enjoy
  - the availability of services in their community
  - time restrictions
  - exercising alone or with a buddy (family or friends).
- Have students present their seven-day physical activity program to the class.

Conclusion (30 minutes)

- Have students create their own poster about different ways kids in their community could get physically active. Use a computer program to publish the poster. Place some of the best posters around the school, in the school newsletter or on the school's website.

BLM 10 Physical activity detectives

Are you up to the challenge of being a physical activity detective? Your mission is to observe and record the changes to your breathing, heart rate and body temperature as you join in some fun games. Fill in the table below.

	Body temperature	Heart rate	Breathing rate
Before playing TIG			
Immediately after playing TIG			
After five minutes of cool down time			

Write some sentences that describe the changes you observed to your:

body temperature:

_____

_____

_____

_____

_____

heart rate:

_____

_____

_____

_____

_____

breathing rate:

_____

_____

_____

_____

_____

BLM 11 Physical activity and me!

How I stay physically active during the week:

Describe your physical activity pattern. Is it healthy or unhealthy? Remember you need to at least one hour of activity across each day.

_____

_____

_____

_____

_____

What types of physical activities do you like?

_____

_____

_____

_____

_____

What other physical activities would you like to try?

_____

_____

_____

_____

_____

_____

BLM 12 Shake a leg!

It's time to get up and move it mob style! It's up to you to observe and record the changes to your heart rate as you shake a leg.

Remember, you can find your pulse by placing your index and middle fingers on the palm side of your wrist.

Count the beats for 15 seconds then multiply it by four to find your pulse rate.

Number of beats in 15 seconds x 4 = Your pulse rate

Record your heart rate in the table below.

Resting heart rate	Heart rate after dancing	Heart rate after one minute rest	Heart rate after two minutes rest	Heart rate after three minutes rest

Describe what happened to your heart rate during physical activity.

_____

_____

_____

_____

_____

Why do you think your heart rate increased as you danced?

_____

_____

_____

_____

_____

_____

_____

BLM 13 Help get me moving!

Read the scenarios below and plan a weekly physical activity program for Kayla or Jayden.

Kayla

Kayla is nine years old. She doesn't do much sport because she's not good at things like soccer or netball. Kayla likes music and has one friend. She doesn't mind doing things alone either. Kayla lives near a park and has a dog.

Jayden

Jayden is 10 years old. He doesn't do much sport because he's scared that kids might tease him about being overweight. He likes throwing around a ball and playing outside. Jayden lives near a park with basketball courts and there are swimming pools in his neighbourhood. Lots of kids his age live on Jayden's street.

Seven-day physical activity plan for: _____

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

Teacher background notes

What is physical activity?

Physical activity is any form of bodily movement performed by our large muscle groups, for example going for a walk, cycling around the neighbourhood or mowing the lawn. Jogging and aerobics are high-intensity types of physical activity.

Why do I need to do physical activity?

At any age, physical activity provides a range of health benefits. And the good news is that it doesn't have to be strenuous – moderate-intensity physical activity, such as brisk walking, is great for your health.

Regular physical activity will:

- improve your long-term health
- reduce your risk of heart attack
- give you more energy
- help you to manage your weight
- help you to improve your cholesterol
- lower your blood pressure
- make your bones and muscles stronger
- make you feel more confident, happy and relaxed
- help you to sleep better.

How much physical activity should I do?

We recommend that you do at least 30 minutes of moderate-intensity physical activity, such as brisk walking, on most, if not all, days of the week. You can do this in smaller bouts, such as three 10-minute walks, if it is easier.

Some physical activity is better than none at all, and more is better than a little. Even if you have done no physical activity in the past, starting to do some can help to improve your health.

Moderate-intensity activities (energetic activities that don't make you breathless), such as brisk walking and cycling, are enough to give you health benefits.

How can I be more physically active?

The easiest way to be more physically active is to make activity part of your day. Even though our lives are very busy, there are lots of ways to fit physical activity into our daily routine. Think about how you can be active while doing something that has to be done anyway. Some of the following ideas may help to get you started.

At home

- Get off the couch and change the TV channel instead of using the remote.
- Get off the couch or off the chair – the more you sit, the less active you will be.
- Walk into the next room to speak to a family member rather than shouting through walls.
- Watch one less TV program each week and do something active during that time instead. You could go for a walk, do some housework or gardening, or play games with your kids.
- If you have a garden, look after it yourself. Weeding, planting, digging and mowing the lawn will all help to burn off extra kilos – and can be fun at the same time.
- Housework, such as ironing, vacuuming, dusting, hand washing clothes and polishing furniture, may not seem like fun but will burn up energy.
- Walk your dog if you have one – or offer to walk your friend's or neighbour's dog if you don't.
- Clean out your cupboards, storage areas, garage or shed.
- Wash the windows of your home – inside and out.
- Walk to a letterbox to post letters instead of driving.
- Get a hands-free phone and walk around while using it.

At work

- Walk over to speak to a colleague instead of phoning them or sending them an email.
- Take a break or use your lunch break to go for a walk – even 10 to 15 minutes is a good effort.
- If there are stairs, use them.
- If you sit at a desk all day, do some stretching exercises at least once a day.
- Stand up while you are on the phone, filing or even while you are working at your desk or having a meeting.
- Try to get away from your desk throughout the day.
- Do some filing.
- Organise lunchtime activities with colleagues, such as going for a walk, going to the gym or playing a sport.

Going places

- Walk, ride your bike or rollerblade instead of driving. If you can't do it all the way, at least do it part of the way.
- Park your car further away from where you need to be and walk the extra distance.
- Get off the bus/tram/train one or two stops earlier and walk the extra distance.

- If you can walk somewhere instead of driving your car, do it. Think about whether or not you really need to drive. The less you drive your car, the better it is for you and for the environment.
- Walk your children to school.

Socially

- Catch up with friends and family for a walk.
- Go on outings that encourage you to walk around, such as visiting the zoo, botanical gardens, fun parks, expos or historic sites.
- Visit your local park and take a picnic.
- Discover your local walking tracks.
- Meet up with friends to do active things, such as bowling, sailing, bike riding, tennis, rock climbing, dancing, swimming and bushwalking.
- Join a local community class, such as belly dancing, tai chi or yoga.
- Go hiking, rowing, bushwalking or camping on your next holiday.
- Try new activities, such as dancing, rock climbing, skipping, rollerblading, frisbee or hula hoop.
- Form your own sports team with friends or colleagues, or join an existing club.
- Organise a picnic for friends and family and include games such as cricket, soccer or frisbee.
- Enjoy social activities that include physical activity, such as going to street or park festivals and community walks or runs.

How can I stay motivated?

Some people might find it hard to stay motivated to do physical activity. There are simple things that you can do to overcome this and make being physically active every day achievable.

- Choose activities that you enjoy so that you are more likely to keep doing them.
- Vary the type of activity you do, so that you don't become bored by doing just one thing. This will increase your chance of staying active.
- Set yourself small, realistic goals for your activity, for example, 'Tomorrow I'll walk 15 minutes to the train station instead of driving there'.
- Buy a pedometer to measure how far you walk and set yourself targets to work towards. This will help to keep you motivated and will give you a sense of achievement.
- Set aside certain times of the day that suit you to be active – you're more likely to be committed if you schedule it into your routine.
- Be active with friends or your family so that you can motivate and encourage one another and have fun at the same time.
- Join a club or group and enjoy being physically active while socialising. The social support from being active with others may also improve your health.

Is physical activity safe?

Over a lifetime it's more dangerous to be sedentary than to be active regularly. However, it is important to follow a few sensible steps to stay safe while you are doing physical activity.

Make sure that you wear clothes and shoes to suit the activity and weather. If you are outside in sunny weather, use sunscreen and wear a hat.

If you feel discomfort, have chest pain, feel faint, have trouble breathing or your heartbeat becomes too fast or irregular, stop the physical activity immediately and seek medical advice.

High-intensity physical activity

If you've been inactive and want to begin high-intensity physical activity, there are a few important tips to remember.

- Always start slowly and at a low level. If you want to be active at a high level, build up gradually over a few weeks.
- Don't overdo it. If you do, you could become exhausted, injure yourself and even lose interest.
- You can lose a lot of fluids through sweating when you are active (even more so in summer). Drink plenty of water before, during and after high-intensity physical activity.

Unit 4:

No butts about it

Lesson 1: The harmful effects of smoking

Time: 1 hour 30 minutes

Learning intention: To list a variety of physical activities and observe the changes in the body before, during and after exercise

NSW syllabus links

PDHPE

COS2.1 Uses a variety of ways to communicate with and within groups.

- shares ideas, feelings and opinions with others about issues such as bullying, passive smoking

DMS2.2 Makes decisions as an individual and as a group member.

- discusses advantages and disadvantages of options with friends when making decisions, e.g. decisions about smoking
- gathers accurate information about drugs from reliable sources

INS2.3 Makes positive contributions in group activities.

- participates in group discussions to list the harms relating to tobacco and alcohol use

PSS2.5 Uses a range of problem-solving strategies.

- identifies ways that drug use can cause harm, eg medication, tobacco, alcohol

PHS2.12 Discusses the factors influencing personal health choices.

- discusses reasons why people use drugs for medical and non-medical purposes
- identifies major steps involved in making decisions in regard to drug use, e.g. tobacco and alcohol

Teaching and learning activities

Introduction (15 minutes)

- **Concept map:** As a class, create a concept map highlighting what students already know about cigarette smoking. Encourage students to think about:
  - the harmful effects of smoking on the body
  - the reasons people smoke
  - the reasons people shouldn't smoke
  - laws around smoking
  - what can influence a person's decision to smoke.

Display this in the classroom.

Body (45 minutes)

- Explain to students that smoking is one of the worst things for the heart and is a risk factor for heart disease.
- Enlarge the Smarter than Smoking fact sheet 'The effects of smoking on the body'. It can be downloaded free of charge from the OxyGen website at www.oxygen.org.au/resources/fact-sheets and displayed on an IWB. Using this fact sheet, discuss with students the effects that smoking has on the body. Unpack any technical language with the class to help them to understand these effects.
- Have students form pairs and provide each pair with an enlarged copy of **BLM 14 Human body outline** and a copy of **BLM 15 Effects of smoking clue cards**. Students need to cut out each card and decide which body part the clues are describing as being affected by smoking. Students then paste the card in the location of that particular body part on their outline of the human body. Display the results around the classroom.
- Introduce students to the idea of secondhand smoke. Explain that when you are around someone who is smoking you are probably breathing in smoke. This is known as 'secondhand smoking'. Explain that the amount of smoke a non-smoker breathes in depends on how close they are to the smoker(s), the size of the room, the number of smokers in the room and the number of cigarettes smoked. Opening a window does not protect you from smoke. Using ventilation, air conditioning, or a fan does not eliminate secondhand smoke. Discuss with students the fact that secondhand smoke can cause:
  - smelly clothes and hair
  - sore and/or watery eyes
  - sneezing and coughing
  - sore throat
  - breathing problems
  - respiratory problems such as pneumonia and bronchitis
  - slower lung growth and decreased lung function
  - increased risks of lung cancer and heart disease
  - asthmatics to experience wheezing and chest tightening
  - ear infections.

- In small groups, have students discuss ways that they could help protect themselves from secondhand smoke: for example, reminding family and friends who may smoke around you that it is bad for you too, moving away from people who are smoking, making your home or car a smoke-free zone, putting up smoke-free zone posters or stickers. Allow groups to report back the class.

Conclusion (30 minutes)

- Have students independently design a poster for a smoke-free zone. Encourage students to use visuals that show the negative effects of smoking and secondhand smoke on people around a smoker. They could include a slogan that gives people a clear, direct message about the harms of smoking. It could also include a paragraph explaining the harmful effects of smoking on your body.

Lesson 2: Kick smoking in the butt!

Time: 1 hour 30 minutes

Learning intention: To develop and practise the skills required for making healthy lifestyle choices about smoking

NSW syllabus links

PDHPE

COS2.1 Uses a variety of ways to communicate with and within groups.

- shares ideas, feelings and opinions with others about issues such as bullying, passive smoking

DMS2.2 Makes decisions as an individual and as a group member.

- discusses advantages and disadvantages of options with friends when making decisions, e.g. decisions about smoking
- gathers accurate information about drugs from reliable sources

INS2.3 Makes positive contributions in group activities.

- participates in group discussions to list the harms relating to tobacco and alcohol use

PSS2.5 Uses a range of problem-solving strategies.

- identifies ways that drug use can cause harm, e.g. medication, tobacco, alcohol

PHS2.12 Discusses the factors influencing personal health choices.

- discusses reasons why people use drugs for medical and non-medical purposes
- identifies major steps involved in making decisions in regard to drug use, e.g. tobacco and alcohol

Teaching and learning activities

Introduction (15 minutes)

- As a class, brainstorm a list a reasons that people may choose to start smoking. These may include:
  - having friends, parents or siblings who smoke
  - believing their parents don't mind either way whether they smoke or not
  - having easy access to cigarettes
  - peer pressure to smoke
  - thinking its cool and wanting to fit in
  - going along with what others are doing
  - curiosity
  - believing that smoking is not such a bad thing to do
  - problems in life, such as difficulties or stress.

Body (40 minutes)

- Have students recall some of the harmful effects of smoking on our bodies. Make the connection for students that if they are ever faced with the decision to try smoking, that they need to be able to have strategies to help them make a healthy choice not to smoke or to quit smoking if they already do.
- Visit the OxyGen website www.oxygen.org.au/games/Comebacks/index.asp to play the 'Comebacks' interactive activity. Click on the 'New Game' link. Listen to the ways the characters try to persuade their friend to try smoking. Before clicking on the main character, predict some ways that the character may try to say no to smoking. Discuss why these comebacks helped the character to make a healthy choice to say no to smoking.
- **Role-play:** In small groups, allow students to role-play some scenarios that involve peer pressure around smoking. Encourage students to practise comebacks that allow them to express the reasons they wouldn't want to smoke. Allow some students to present their role-plays to the whole class. Discuss the different comebacks that the class came up with and evaluate whether you think they would work. Make a class list of comebacks to kick smoking in the butt!

Conclusion (30 minutes)

- In small groups or pairs, have students design questions and answers for a class quiz. Students will need to create a set of question and answer cards related to the facts they have learnt about the effects of smoking on the body. Here are some possible questions:
  - Can you list three harmful effects of smoking on the body?
  - How does smoking damage our heart?
  - What does smoking do to our skin and hair?
  - What is secondhand smoke?
  - What are two comebacks to use when someone invites you to try a smoke?
  - What is one reason people might start smoking?
- Allow groups to swap their completed 'Smokes and Ladders' question and answer cards with another group. Teams can quiz each other to see who gets the most correct answers.

Culminating lesson: *Heart smart mobstyle* song

Time: 1 hour 30 minutes

Learning intention: To identify the healthy choices that individuals need to make to maintain a healthy heart through an active lifestyle, good nutrition and being smoke free

NSW syllabus links

PDHPE

COS2.1 Uses a variety of ways to communicate with and within groups.

- shares ideas, feelings and opinions with others about issues such as bullying, passive smoking

DMS2.2 Makes decisions as an individual and as a group member.

- considers feelings and needs of others in making decisions
- clarifies reasons for reaching a particular decision

INS2.3 Makes positive contributions in group activities.

- discusses personal strategies to deal with difficult situations

PSS2.5 Uses a range of problem-solving strategies.

- identifies ways that drug use can cause harm, e.g. medication, tobacco, alcohol

ALS2.6 Discusses the relationship between regular and varied physical activity and health.

- describes links between nutrition, exercise and performance

PHS2.12 Discusses the factors influencing personal health choices.

- explains the need for good health practices
- identifies and discusses family practices related to lifestyle that keep them healthy and safe, e.g. administration and storage of medicines

Teaching and learning activities

Introduction (15 minutes)

- As a class, review all of the displays around the classroom developed throughout this unit. In pairs, have students discuss the personal choices they can make to maintain a healthy heart. As a class, create a table with these headings:
  - Being physically active
  - Good nutrition
  - Smoke-free choices.

Under each heading, recall the positive health choices that people need to make to maintain a healthy heart.

Encourage students to think about the reasons they need to make these positive health choices. For example:

- We need to avoid fatty foods so that our arteries don't get blocked and blood can flow through easily to our bodies.
- We need to exercise for one hour every day so that our heart can stay strong to pump blood around our bodies.
- We need to say no to smoking so our heart and lungs stay healthy to keep oxygen and blood pumping through our bodies.

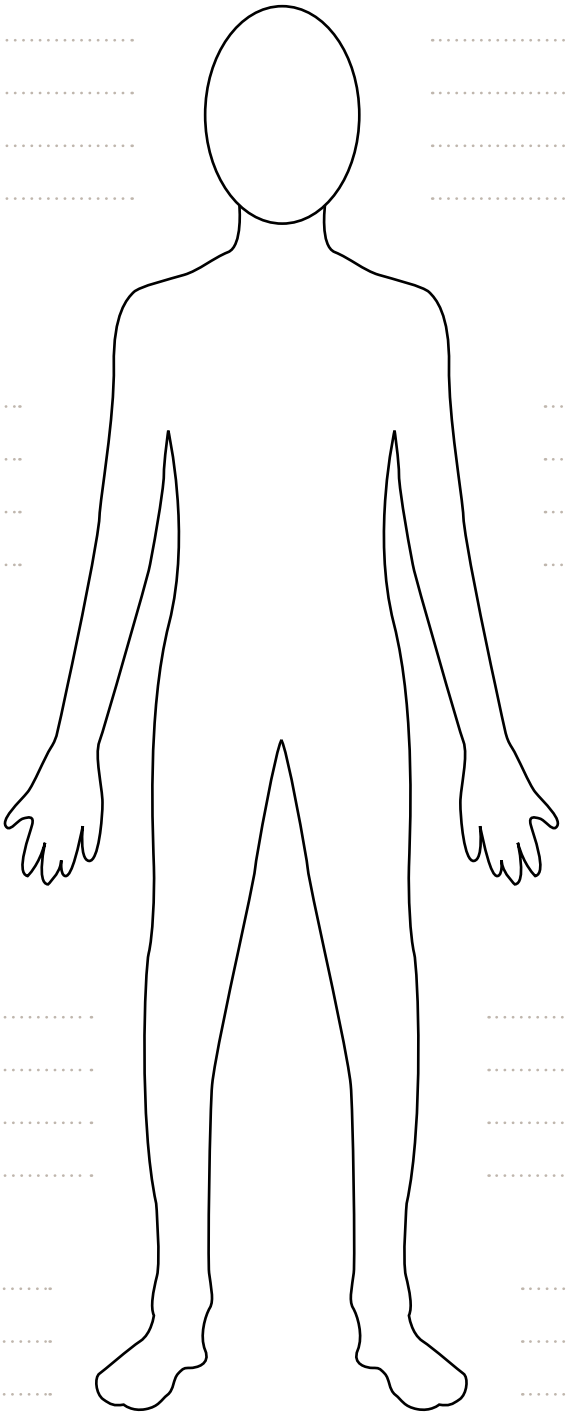
Body (55 minutes)

- Choose a popular song or rap that you can use as a basis for creating your own class song about being heart smart. Jointly construct a chorus that sends a clear and direct message that this song is about keeping our heart healthy.
- In small groups, have students compose three separate verses. Each verse should concentrate on delivering one of the key messages. For example, verse 1: being physically active; verse 2: good nutrition; and verse 3: being smoke-free. All groups will use the chorus that was jointly composed as a class. Provide small groups with a copy of **BLM 16 Heart smart song** to help them plan their verses.
- Allow students time to practise performing their song/rap in their small group.

Conclusion (20 minutes)

- Allow each group time to perform their heart smart song to the class. The lyrics can be used to assess students' understanding of the content and skills covered throughout the unit.

BLM 14 Human body outline



BLM 15 Effects of smoking clue cards

Instructions

1. Cut out each of the cards below.
2. Read the clue and decide which body part is being affected by smoking.
3. Paste the card on the outline of the human body in the correct spot or use labels.

Clue cards

I lose my shine and smell yucky.	My nasal hairs become damaged and I lose my sense of smell.	I can get ulcers and it makes it hard to digest my food.
I start to take shorter breaths and get less oxygen.	I become stained yellow where I hold cigarettes.	I have to beat faster and I may have a heart attack.
I become stained with a yellow colour and my gums bleed.	I become dry, discoloured and wrinkly.	A part of me can block up and get infections called glue ear.

BLM 16 Heart smart song

You have been asked to write a song or rap about keeping your heart healthy. Use the table below to help you plan your song.

Verse 1	Messages about being physically active
Chorus	
Verse 2	Messages about eating good tucker
Chorus	
Verse 3	Messages about being smoke-free
Chorus	

Teacher background notes

These notes have been adapted from the Heart Foundation pamphlet *Smoking and your health*.

Smoking and cardiovascular disease

Smoking kills more than 15,000 Australians a year. This means that more than 40 people a day die from smoking. Nearly 40% of all the people who die from smoking die from cardiovascular disease (heart, stroke and blood vessel disease).

Smoking is a major risk factor for cardiovascular disease (risk factors for cardiovascular disease are things that increase your chance of getting it).

Other risk factors include:

- high cholesterol
- high blood pressure
- physical inactivity
- being overweight
- diabetes
- depression, social isolation and a lack of quality social support.

If you have any of these risk factors and you smoke, your risk of cardiovascular disease is much higher than if you didn't smoke.

Why is smoking bad for my health?

Cardiovascular disease

As well as causing cancer, smoking affects the arteries that supply blood to your heart and other parts of your body. It reduces the amount of oxygen in your blood and damages your artery walls. Smoking increases your risk of heart attack, stroke and peripheral arterial disease (that can lead to gangrene and limb amputation).

- Smoking makes your blood 'stickier', causing blood cells to clump together. This slows blood flow through your arteries and makes blockages more common. Blockages may cause heart attack and stroke.
- It also makes your artery walls sticky, causing them to become clogged with fatty material called plaque or atheroma. The plaque slowly builds up on the inner wall of the arteries, causing them to become narrow. This process is called atherosclerosis. If your arteries become too narrow, the blood flow through the artery is reduced. Smokers often have cold hands or feet as a result of clogged arteries, which may also lead to serious problems such as gangrene. If the clogged artery is your coronary artery, it can cause angina. If a blood clot forms in the narrowed coronary artery and completely blocks the blood supply to a part of your heart, it can cause a heart attack.
- Within seconds of lighting a cigarette, thousands of chemicals enter your bloodstream. Some of these chemicals damage the delicate lining of your arteries. This can lead to clots that can suddenly block your arteries, causing heart attack or stroke.
- Smoking causes spasms in your coronary arteries, which can make your heartbeat irregular.

The risks

Smoking can:

- increase your risk of heart attack by two to six times
- increase your risk of stroke by three times
- increase your risk of peripheral arterial disease by more than five times
- increase the likelihood of an abdominal aortic aneurysm (swelling of the body's main artery in the abdomen, which may rupture) by six to seven times
- increase your risk of coronary heart disease if you are a woman using the oral contraceptive pill.

The damage to your arteries starts the day you start smoking. At 30 years of age, smokers can have three times the amount of fatty deposits in their aorta (the main artery from the heart) than that of a non-smoker the same age.

Other health problems

Smoking can also contribute to:

- cancer, including cancers of the throat, cervix, bladder and tongue
- bronchitis and emphysema
- male impotence
- low birth weight babies
- miscarriage, premature labour and stillbirth
- SIDS (sudden infant death syndrome).

Research has found that there is a link between smoking and diabetes and macular degeneration (that can cause blindness).

Cigarette smoke contains thousands of chemicals, including:

- nicotine – an addictive drug that affects brain and muscle activity and increases your blood pressure, making your heart work harder
- carbon monoxide – a poisonous gas that replaces oxygen in your blood, making your heart beat faster
- tar – a sticky substance that coats your lungs like soot in a chimney, making it harder for you to breathe, and that contains dozens of chemicals that cause cancer.

What about secondhand smoke?

Breathing other people's smoke (secondhand smoke) is harmful to smokers and non-smokers. Secondhand smoke can make asthma symptoms worse and can increase the risk of:

- coronary heart disease and lung cancer
- bronchitis, pneumonia and asthma in children
- SIDS (sudden infant death syndrome).

It is also associated with an increased risk of cardiovascular disease – about 30% in non-smokers. In a recent study it was as high as 60%.

How will quitting smoking help me?

Within one day of quitting smoking:

- your heart rate slows down and your blood pressure drops slightly
- carbon monoxide is out of your blood
- oxygen levels in your blood rise.

Within two to three months:

- your ability to smell and taste improves
- your lungs regain the ability to clean themselves, so you can cough up mucus
- the blood flow to your hands and feet improves, so they won't get so cold.

Within one year:

- your risk of heart attack has greatly reduced
- if you smoked a packet of 25 cigarettes a day, you have saved over $4,500.

Within two to six years:

- your risk of developing coronary heart disease returns to a similar level as that of a non-smoker.

Special benefits of quitting

Stopping smoking is especially important for people who have been diagnosed with coronary heart disease, stroke or peripheral arterial disease. Quitting reduces the risk of another heart attack by 50% or more, improves exercise tolerance and increases survival.

How do I quit smoking?

Quitting smoking can be hard at first but, like learning to ride a bike or drive a car, you can do it with planning, practice and help.

Planning

- Set a date for quitting.
- Begin to change habits.
- Learn how to handle stress and urges to smoke.
- Think about who and what can help you through the tough times.

Don't give up

Many people slip up after they have quit and start smoking again. Don't see this as a failure. Think about what made you smoke again. How will you deal with this situation next time? What worked and what didn't work? Learn from this and try quitting again.

Seek help

Consider nicotine replacement products (nicotine gums, patches or lozenges), or bupropion tablets. These products can double your chances of quitting successfully. Discuss quitting smoking with your doctor or pharmacist. They can tell you about the options available to help you to quit, and can help to check your progress.

- Talk to family members or friends and ask them for support and encouragement.
- Read self-help materials and attend quit smoking courses.
- Call the Quitline on 13 QUIT for information and advice about quitting smoking.

Notes…

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Heart Foundation®

For heart health information
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www.heartfoundation.org.au

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