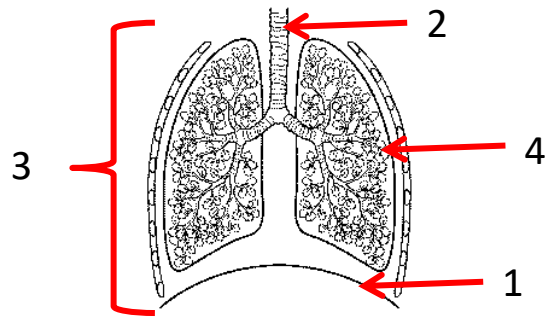


1. Key Words

1	Diaphragm	Flat muscle underneath the lungs that contracts and relaxes to cause breathing
2	Trachea	Tube containing rings of cartilage that allows air to move in and out of the lungs
3	Thorax	Air tight chest cavity containing the respiratory system and the heart.
4	Alveoli	Small blind ending sacs where gases are exchanged between the air and the blood



Inhaling

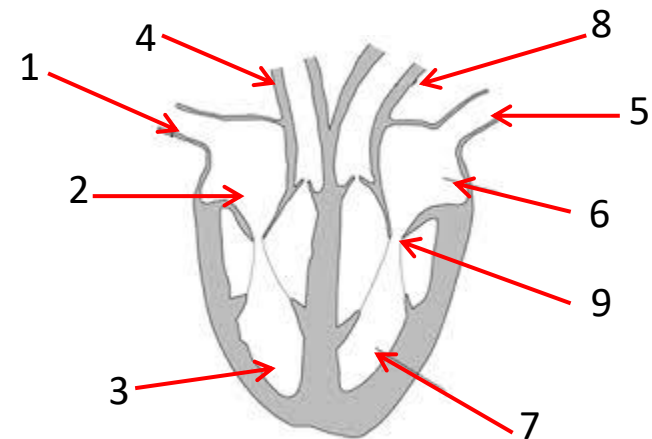
Exhaling

Diaphragm contracts	Diaphragm relaxes
Volume in the thorax increases	Volume in the thorax decreases
Pressure in the thorax decreases	Pressure in the thorax increases
Air is pulled into the lungs	Air is pushed out of the lungs

2. Circulatory system

	Key Word	Definition
1	Vena cava	Vein that brings deoxygenated blood back to the heart from the body
2	Right atrium	Pumps blood into the ventricle and where the pacemaker cells are located
3	Right ventricle	Pumps blood out of the heart to the lungs
4	Pulmonary artery	Takes deoxygenated blood to the lungs
5	Pulmonary vein	Brings oxygenated blood back to the heart from the lungs
6	Left atrium	Pumps blood to the left atrium
7	Left ventricle	Pumps blood out of the heart to the body. Has a large muscle wall to pump blood at a high pressure
8	Aorta	Artery that carries blood away from the heart to the body
9	Valves	These prevent the backflow of blood through the circulatory system

The blood flows through the heart in the order of 1 to 8



3. Non communicable diseases

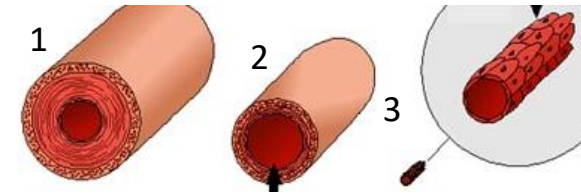
Non-communicable disease	Condition that is caused by lifestyle and is not spread by a pathogen
Risk Factor	Environmental or lifestyle factor that can increase the likelihood of developing a non-communicable disease
Coronary Heart Disease	Condition where fat (cholesterol) builds up in the coronary arteries, reducing blood flow to the heart muscles
Diabetes	Condition where the pancreas cannot make enough or does not make any insulin to control blood sugar levels
Deficiency disease	Condition caused by a lack of a specific nutrient, mineral or vitamin, e.g. anaemia or scurvy.

4. Treating Coronary Heart Disease

Treatment	How it works	Advantages	Disadvantages
Statins	Breaks down cholesterol in the body	Reduces risk of heart attack by up to 35%, reduces likelihood of developing CHD	Side effects include headaches, memory loss and liver damage
Aspirin or Warfarin	Thins the blood and prevents blood clots	Aspirin can be bought cheaply at supermarkets	Increased risk of strokes if a blood vessel bursts and it cannot clot
Stent	Metal mesh that widens the blood vessel to increase blood flow	Increases blood flow to the heart reducing the chance of heart attacks	Temporary solution as cholesterol can build up over the stent
Heart bypass	Blood vessels from the leg are grafted over a narrow or blocked blood vessel	Several blockages could be treated at once.	Risk of infections from surgery

5. Blood composition and Blood Vessels

	Blood Vessel	Structural Adaptations
1	Artery	Carries blood away from the heart Small lumen and thick muscular walls to withstand and maintain a high blood pressure
2	Vein	Carries blood to the heart Large lumen to increase the volume of blood in the blood vessel. Valves to prevent the back flow of blood
3	Capillary	Thin walls that are only 1 cell thick to decrease the diffusion pathway and speed up exchange of substances



Component of the blood	Function
Plasma	Carries dissolved substances around the body including CO ₂ , urea, glucose, minerals, hormones and amino acids
Red blood cell	Carry oxygen from the lungs to the body cells
White blood cells	Internal defence against infection
Platelets	Causes the blood to clot around a wound

6. Cancer

Benign tumour	Grows slowly inside a membrane and can be removed easily, does not invade other parts of the body
Malignant tumour	Grows rapidly and out of control. Cells can break off and travel in the blood to other parts of body to spread the cancer.