

# Staying Alive

## Revision Guide

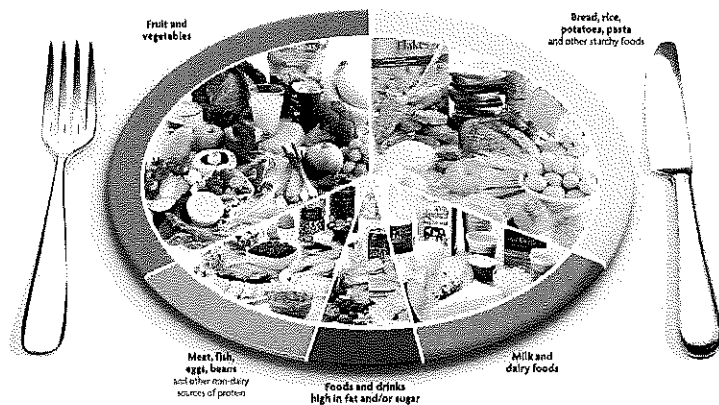
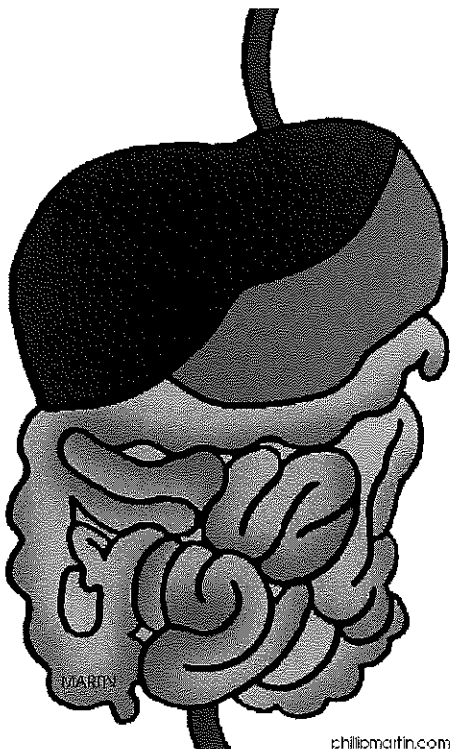
Name: \_\_\_\_\_

**Read** all the information before attempting to answer the questions.




**Highlight** key words. You could then turn these into flash cards.

**Make a revision resource** after you have done the tasks. This could be *flash cards, mind maps, or question and answer cards.*

Your teacher will look at your work if you take it to them.



Read through each specification and decide whether you feel confident, a little confident or not confident. Highlight target areas which you feel you need to focus on.

Specification question				Description	Target area?
What is a microscope and what is it used for?					
What are all living things made from?					
Can you describe the parts inside a plant and animal cell?					
What is the structure of an amoeba and a Euglena?					
How can cells become specialised for a particular job and can you name some examples?					
What features of a human help it to function (can you describe each)?					
How do the muscles within the body function?					
What are the main food groups needed by the body? Describe why each is needed.					
How can we test for each food group?					
What organs are involved in digestion and how does each one work?					
Why do we need lungs in the body and how are they structured?					
How do we breathe?					
What are drugs and how do they effect the body?					

## Key Words

Key word	Definition
Microscope	
Lens	
Magnification	
Microscopic	
Cell	
Nucleus	
Cytoplasm	
Cell membrane	
Vacuole	
Chloroplast	
Cell wall	
Starch grain	
Mitochondria	
Bacteria	
Ameoba	
Euglena	
Specialised cell	
Skeleton	
Muscle	
Tissue	
Organ	
Organ system	
Biomechanics	

<b>Carbohydrates (starch)</b>	
<b>Fats</b>	
<b>Protein</b>	
<b>Vitamins</b>	
<b>Minerals</b>	
<b>Fibre</b>	
<b>Digestion</b>	
<b>Digestive Bacteria</b>	
<b>Enzymes</b>	
<b>Oesophagus</b>	
<b>Stomach</b>	
<b>Small intestine</b>	
<b>Large intestine</b>	
<b>Pancreas</b>	
<b>Stomach acid</b>	
<b>Lungs</b>	
<b>Trachea</b>	
<b>Bronchus</b>	
<b>Bronchiole</b>	
<b>Alveoli</b>	
<b>Drugs</b>	
<b>Human life cycle</b>	

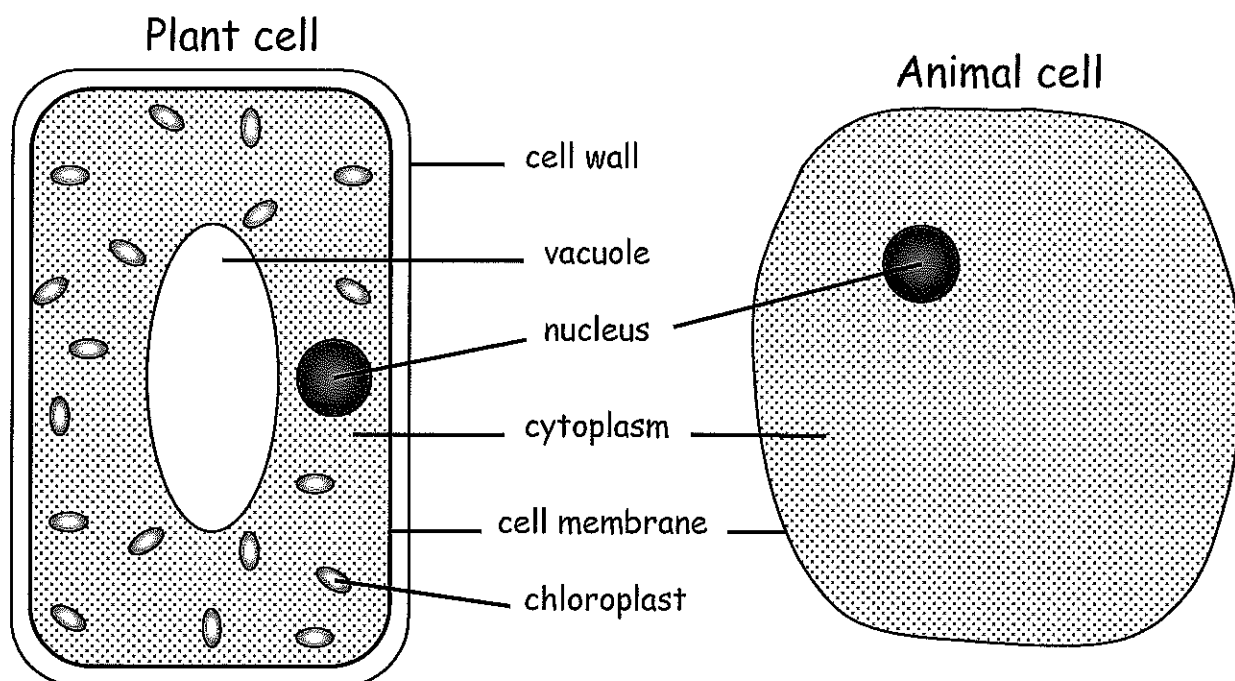
**W.S.3. Animal and plant cells.**

Name .....

**Exercise 1** - Fill in the missing words in the passage below.

The bodies of all plants and ..... are made up of tiny living units called ..... Some microscopic organisms consist of only a ..... cell but the bodies of most plants and animals are made up of ..... of cells. There are many different ..... of plant and animal cells. The diagrams below show the ..... that they usually contain.

parts      animals      cells      types      millions      single



**Exercise 2** - Join up the cell parts below to their correct jobs.

Cell part

Job

Nucleus      covers the membrane and gives strength to a plant cell.

Cytoplasm      controls what the cell does.

Cell wall      jelly that fills the cell, chemical reactions happen here.

Chloroplast      stores water in a plant cell.

Vacuole      absorbs light energy to make food for the plant.

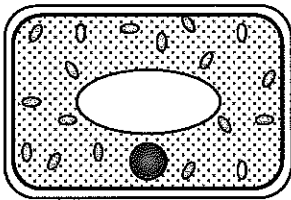
w.s.4. Different cells for different jobs. Name .....

Exercise 1 - Fill in the missing words in the passage below.

Nearly all cells contain a membrane, ..... and cytoplasm. There are many ..... types of cells. They vary in their shape and ..... depending on their functions (jobs). Each type of cell is well ..... (suited) to its function. In the human ..... there are about twenty different types of cell, each has a certain ..... to do. This makes the body work much ..... than if each cell was trying to do everything.

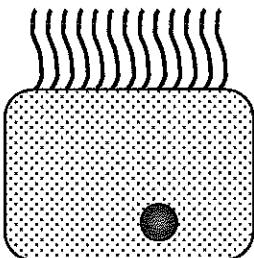
**better      different      nucleus      size      body      adapted      job**

Exercise 2 - Join up the cells below to their correct descriptions.



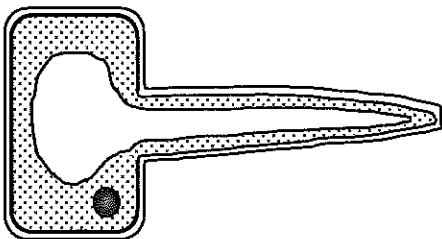
Ciliated cell

This cell is found lining the windpipe. Its surface is covered with tiny hairs called cilia. These waft dirt and germs up to the throat.



Palisade cell

This cell is found on the top side of a leaf. It contains tiny green discs called chloroplasts. These absorb sunlight in order to make food.



Sperm cell

It uses its tail to swim to the ovum. The head contains the nucleus which enters the ovum during fertilisation.



Root Hair cell

This is found on the surface of a root. Its job is to absorb water from the soil. It is long and thin with a big surface area to absorb water.

**W.S.5. A balanced diet.**

Name .....

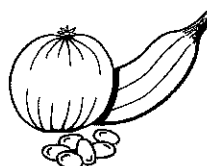
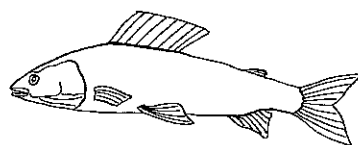
**Exercise 1** - Fill in the missing words in the passage below.

In order to stay ..... the body needs seven main chemicals which are called food ..... These are carbohydrates, proteins, ....., minerals, vitamins, fibre and water. A balanced diet contains the ..... amounts of all seven food types. Carbohydrates are sugars and ..... Carbohydrates give us energy quickly. Fats also give us ..... but they release it much more slowly. Stored fat under the skin also helps us to keep ..... We need ..... to help us grow and to repair damaged parts. Minerals and ..... are needed in smaller amounts to keep the body healthy. Fibre helps to keep the food moving along the .....

intestines types fats warm correct protein starch healthy energy vitamins

Food type	Foods rich in this
Carbohydrate	Starchy and sugary foods, e.g. potato, bread, cereals and cakes.
Protein	Meat, fish, eggs, cheese, milk and nuts.
Fat	Vegetable oils, butter, lard, cream, cheese and some meats.
Vitamins	Fresh fruit and vegetables.
Minerals	A wide range of foods, e.g. iron from meat and calcium from milk.
Fibre	Cereals, fruit and vegetables.

**Exercise 2** - Write down the main FOOD TYPES that each of the foods below contain.

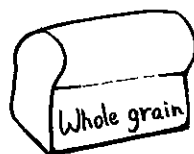


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**W.S.6. Food and digestion.**

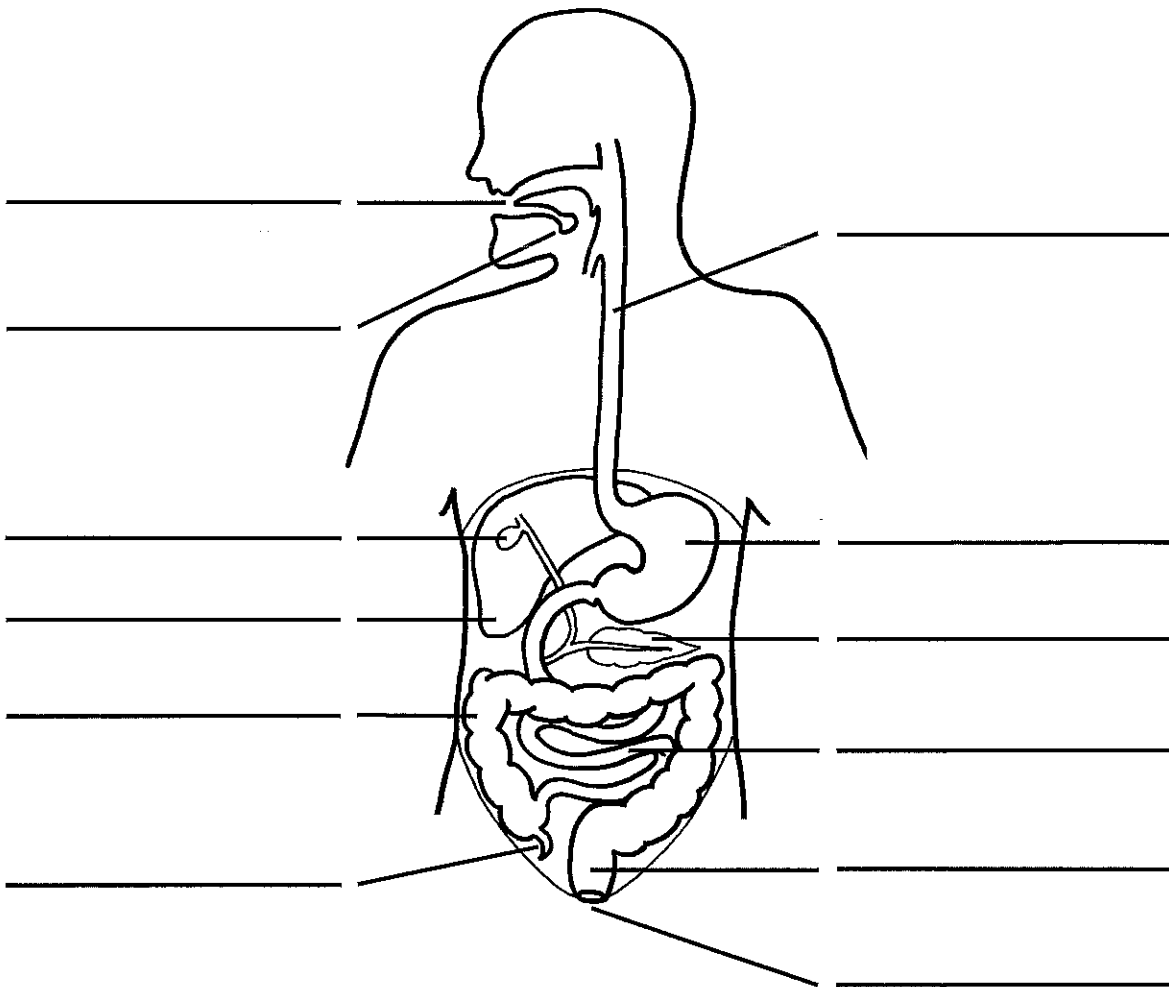
Name .....

**Exercise 1** - Fill in the missing words in the passage below.

The body needs food for a number of reasons. We need food for growth and to ..... worn out or damaged parts. We also get ..... from food. Energy is used for movement, producing ..... and to keep all of the parts working properly. Before the body ..... can use the food we eat it must pass into the blood. The food is broken down into very small soluble molecules by the ..... system. These molecules then pass through the walls of the ..... and into the blood.

**intestines      heat      repair      cells      digestive      energy**

**Exercise 2** - Study the diagram below of the human digestive system and then carefully add the labels by choosing from the list at the bottom of this page



**tongue      salivary gland      liver      gall bladder      small intestine      gullet  
pancreas      stomach      large intestine      appendix      rectum      anus**



## W.S.7. Stages of digestion.

Name .....

Food is slowly broken down by our digestive system. It is broken up by chewing in the mouth and by churning of the stomach muscles. Special chemicals called ENZYMES break up large food molecules into smaller ones. These molecules then slowly seep out into the blood through tiny pores in the walls of the small intestines. Any undigested food enters the large intestine where water is absorbed back into the blood. The solid waste is then passed out of the body.

### What to do

This table gives descriptions of organs in the human digestive system. Read each description and then write down the name of each organ in the left hand column. Use the words at the bottom of this page.

Organ	Description
	Here the food is chewed and moistened with saliva. The food is shaped into a round ball before it is swallowed.
	This is a tube that squeezes the food down to the stomach.
	This is a bag that churns up the food. It contains gastric juice and hydrochloric acid. Gastric juice contains an enzyme that digests protein. The acid kills germs.
	This is a very long tube that the food passes into after it leaves the stomach. Here the food is completely digested and then it is absorbed through the walls and into the blood stream.
	This is a small leaf-shaped organ. It makes pancreatic juice which passes into the small intestine. This juice contains an alkali that helps to neutralise the acid from the stomach. It also contains several enzymes.
	This organ makes a chemical called BILE which is stored in a small bag called the GALL BLADDER. The bile is squeezed into the small intestine where it helps to break up large pieces of fat.
	This is a wide tube that the undigested food passes through. Water is absorbed from this back into the body.
	This organ has no function in humans but it helps with digestion of plant material in herbivores such as sheep. It sometimes becomes infected in humans and then it must be removed.
	The dried out waste food material is stored here until it is ready to be passed out of the body through the anus.

### Organs.

liver   small intestine   gullet   pancreas   stomach   large intestine   appendix  
mouth   rectum.

## W.S.2. Plant and animal organs.

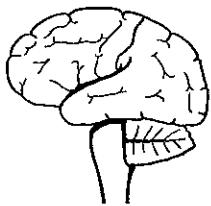
Name .....

Exercise 1 - Fill in the missing words in the passage below.

In the human body many cells of the same ..... join together to form **TISSUES**. These tissues then join together to form ..... An organ is a part of the ..... that has one or more important ..... to carry out. All of the organs work together to keep the body ..... The bodies of most animals and ..... are made up of many organs. Several organs working together on one large task is called a ..... For example, in the human body the mouth, gullet, stomach and ..... make up the digestive system.

**intestines type organs plants jobs body healthy system**

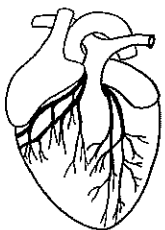
Exercise 2 - Join up the organs below to their correct description.



**Brain**

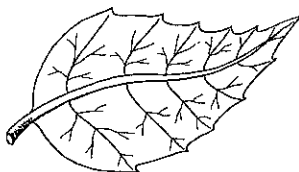
### Descriptions

This pumps blood around the body.



**Heart**

This organ makes food in a plant.



**Leaf**

This controls the rest of the body.



**Stomach**

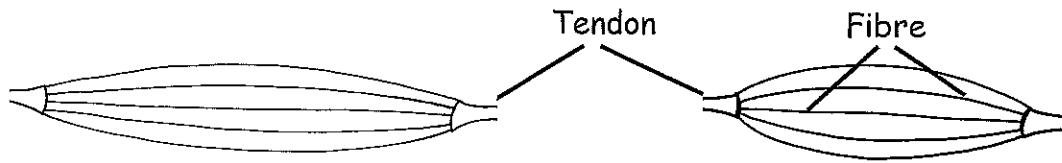
This organ makes seeds in a plant.



**Flower**

This helps to digest food.

In order to move the skeleton has JOINTS in between many of its parts. The movements are made by muscles which pull on the bones. Muscles CONTRACT (shorten) in order to pull. A muscle is made up of many thin fibres. Each fibre shortens when the muscle contracts.



Relaxed muscle

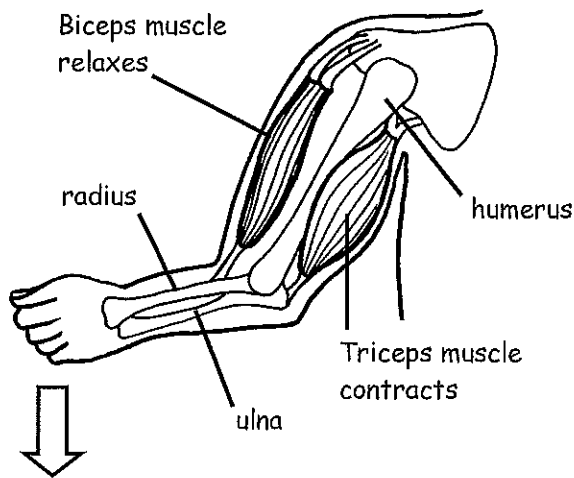
Muscle fibres are resting and appear long and thin.

Contracted muscle

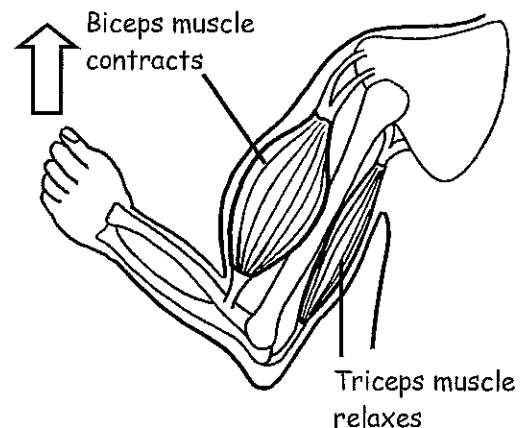
Each muscle fibre has shortened and thickened.

A muscle cannot push, it can only pull. This is why a pair of muscles are needed at a joint. One muscle pulls the joint in one direction and the other pulls the joint back.

Lowering arm



Raising arm



Exercise - Complete the sentences below.

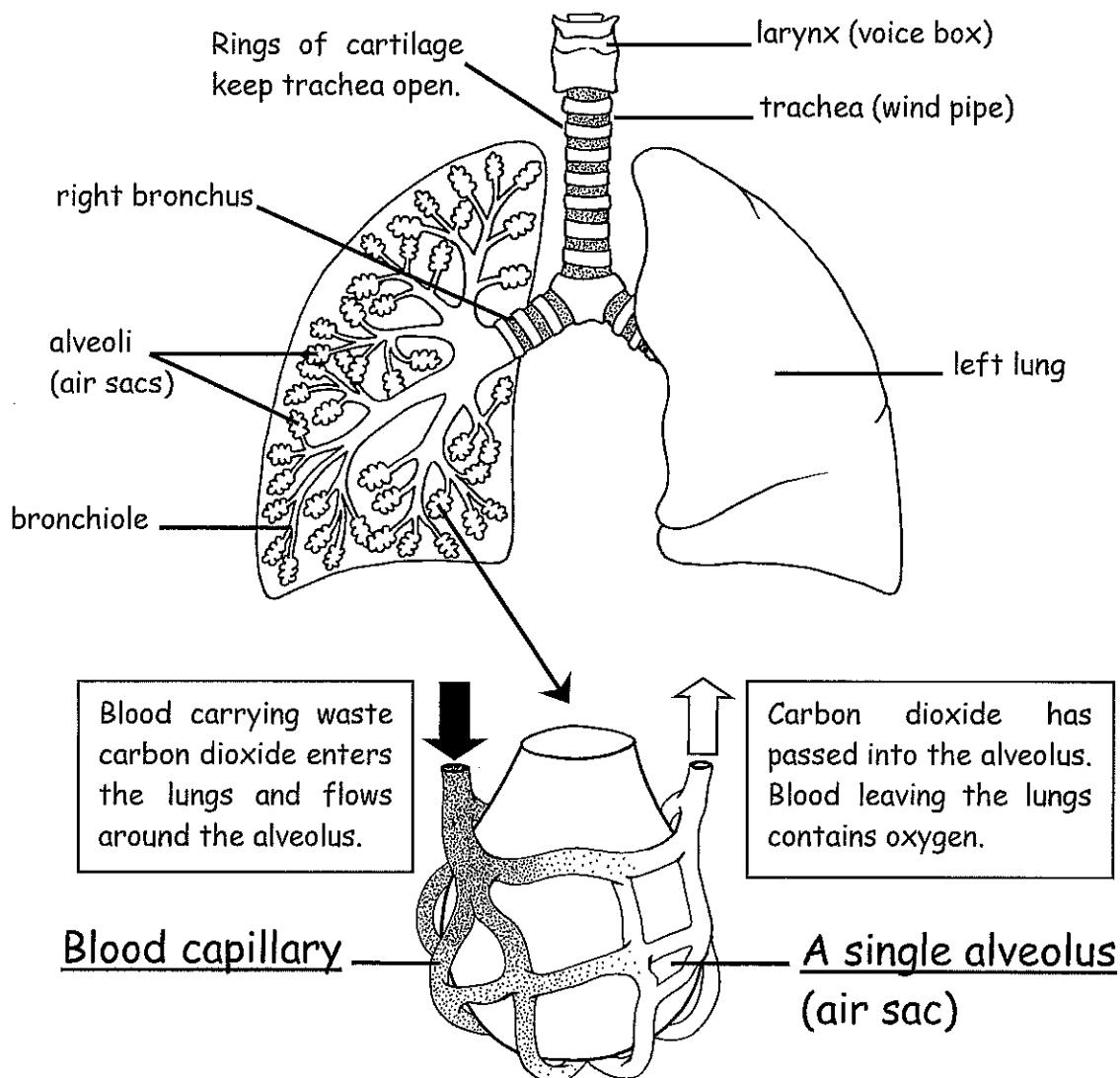
- 1) A muscle is made up of many thin strands called .....
- 2) When a muscle contracts each fibre .....
- 3) Muscles are attached to bones by tough cords called .....
- 4) Muscles can only pull they cannot .....
- 5) Muscles work in ..... to move a joint in both directions.
- 6) If we wish to lift a weight our ..... contracts.
- 7) To lower the arm the biceps relaxes and the ..... contracts.

**triceps    shortens    biceps    fibres    tendons    push    pairs**

W.S.16. Breathing (1).

Name .....

Our lungs absorb oxygen from the air. They also excrete waste carbon dioxide gas when we breathe out. The diagram below shows the structure of the lungs.

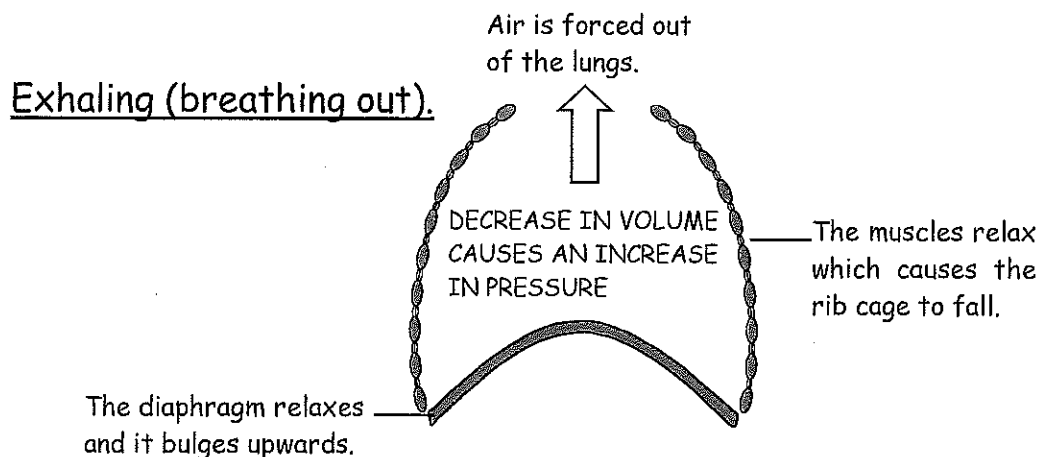
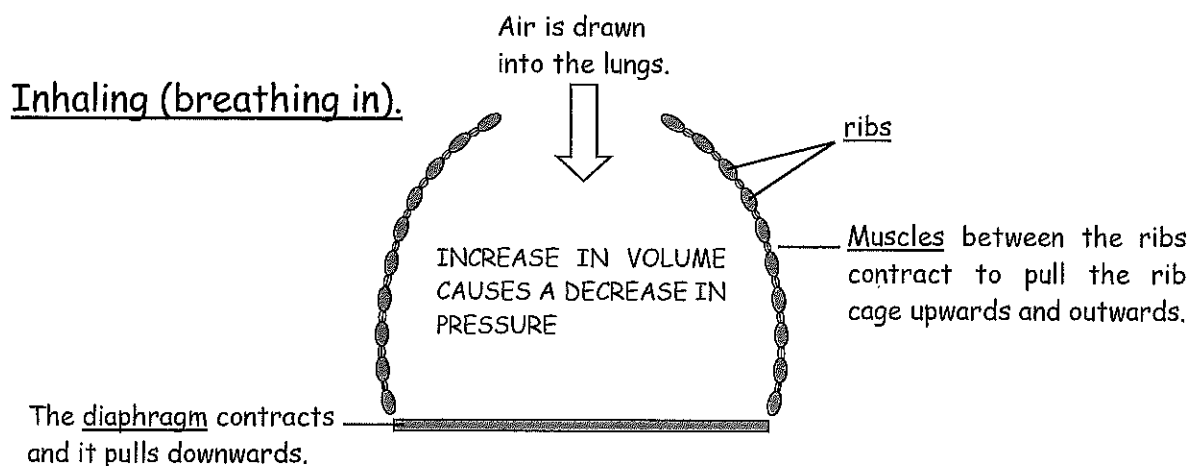


Exercise - Fill in the missing words in the passage below.

The lungs absorb ..... gas and excrete waste carbon dioxide. The air is drawn in through the ..... (windpipe) which is kept open at all times by rings of a bony material called ..... The trachea divides into the right and left ..... which branch out into narrower tubes called bronchioles. The bronchioles end in tiny air sacs called ..... The alveoli have very thin walls and are surrounded by ..... Here oxygen is absorbed into the ..... and carbon dioxide passes into the alveoli.

trachea oxygen capillaries cartilage bronchus alveoli blood

The lungs are in the chest. They are separated from the lower part of the body by a sheet of muscle called the diaphragm. The diagrams below show how we **inhale** (breathe in) and **exhale** (breathe out).



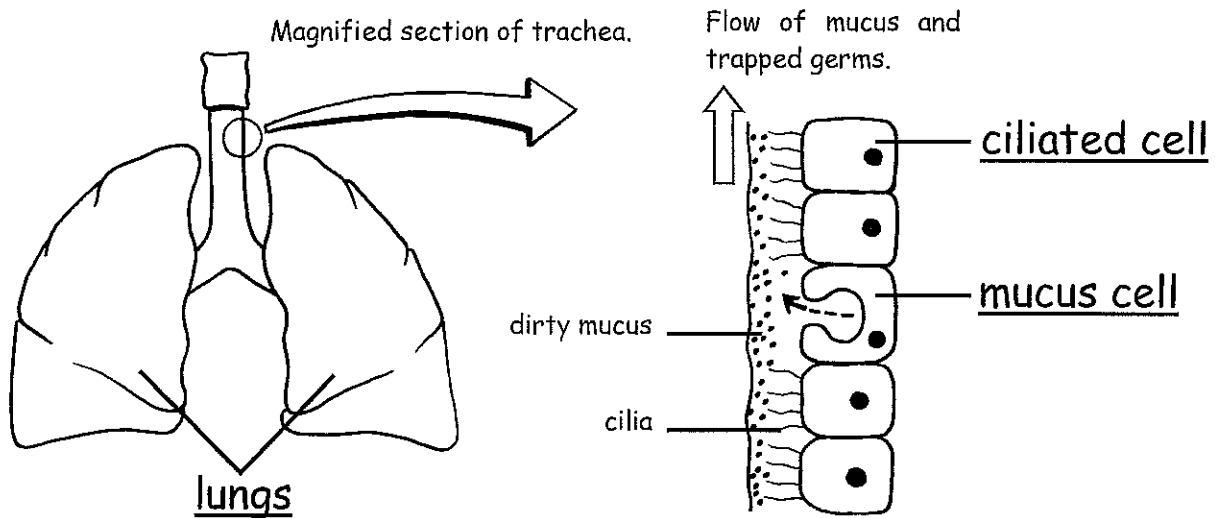
Exercise - Complete the sentences below.

- 1) The diaphragm is a sheet of M \_\_\_\_\_
- 2) The word I \_\_\_\_\_ means to breathe in.
- 3) The word E \_\_\_\_\_ means to breathe out.
- 4) The diaphragm and rib muscles both C \_\_\_\_\_ during inhaling.
- 5) The V \_\_\_\_\_ of the chest increases when we inhale.
- 6) Air is drawn into the lungs due to a D \_\_\_\_\_ in pressure.
- 7) The diaphragm and rib muscles both R \_\_\_\_\_ during exhaling.
- 8) Air is forced out of the lungs due to an I \_\_\_\_\_ in pressure.

## w.s.18. Keeping the lungs clean.

Name .....

Your nose, trachea (wind pipe) and the air tubes inside the lungs are lined with special cleaning cells and a thick, sticky liquid called MUCUS. This traps dirt and germs in the air you breathe. The cleaning cells have tiny hairs called CILIA on their surface. These hairs waft the dirty mucus up to your throat where it is swallowed. Any germs are killed by the acid in the stomach. The diagram below shows how this cleaning system works.



### The effects of smoking on the lungs.

Cigarette smoke stops the cilia beating and then dirty mucus builds up in the air tubes. This can lead to chest infections and people who smoke often develop a nasty cough. The air tubes can become swollen and sore. This is called BRONCHITIS. Cigarette smoke also contains a poisonous gas called carbon monoxide which stops the blood carrying as much oxygen around the body. Cigarette smoke also contains tar which collects in the lungs. Tar contains many chemicals that cause cancer.

Exercise - Complete the sentences below.

- 1) Dirt and germs in the air you breathe are trapped by M \_ \_ \_ \_
- 2) Ciliated cells have tiny H \_ \_ \_ \_ to waft up the dirty mucus.
- 3) Any germs that are swallowed are killed by the A \_ \_ \_ in the stomach.
- 4) Cigarette smoke stops the cilia B \_ \_ \_ \_ \_
- 5) A smoker may have less O \_ \_ \_ \_ \_ in their blood.
- 6) Tar from cigarette smoke causes C \_ \_ \_ \_ \_

**W.S.20. Drugs and health.**

Name .....

Drugs affect the way the body works. Some drugs are used by doctors to treat sick people. These can be very useful but they must be taken in the correct amounts. It is illegal (against the law) to take certain drugs because they are so dangerous to health. Even legal drugs such as alcohol can be very harmful if too much is taken. Some drugs are ADDICTIVE. This means that a person can become dependent on them and if they do not have the drug they may develop WITHDRAWAL SYMPTOMS such as shaking and sickness. The table below gives information about the effects of various drugs on health.

Type of drug	How it affects the body
Alcohol	Alcohol slows down the speed at which the brain and nervous system works. A little alcohol makes people feel happy and relaxed. More alcohol makes a person feel dizzy and affects their judgement. Large amounts may make a person unconscious and they may even die. An alcoholic is a person who is addicted to alcohol. Heavy drinking over several years causes damage to the brain, liver, and heart.
Tobacco	Tobacco smoke is very poisonous. A person can become addicted to smoking because of a chemical called nicotine in the smoke. Smoking causes cancers, heart disease, bronchitis, and damaged lungs. Smoking also makes a person short of breath and more tense.
Cannabis	Cannabis or 'pot' causes hallucinations. This is when a person thinks that they are seeing or hearing something that does not exist. They can then become confused and do dangerous things and may have a fatal accident.
Solvents	Some people like to breathe in the fumes from substances such as glue and paint (glue sniffing). This makes them feel dizzy and they may have hallucinations. The fumes get into the blood and damage the heart. Many people have died as a result of breathing in solvents.

**Exercise** - Fill in the missing words in the passage below.

An ..... is a person who has become dependent on a certain drug. It is very dangerous to drink alcohol and then drive because the ..... are slowed down. An ..... is a person who is addicted to alcohol. They may damage their brain, ..... and heart. People who smoke are usually more tense and ..... as a result of the nicotine in their blood. The risk of developing ..... cancer is much greater in smokers. Drugs such as cannabis make a person ..... This can make them behave ..... The fumes from ..... may damage the heart and even cause death.

hallucinate    addict    reactions    liver    lung    nervous    dangerously    solvents  
alcoholic

