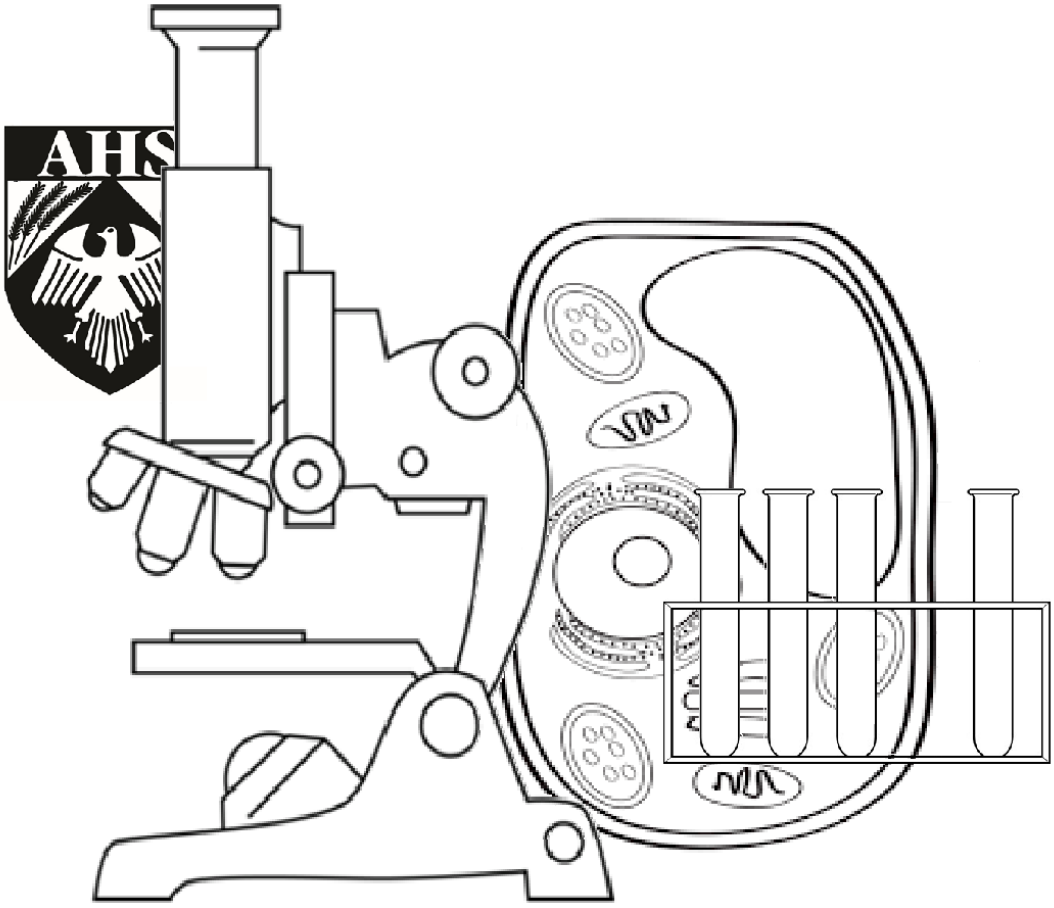
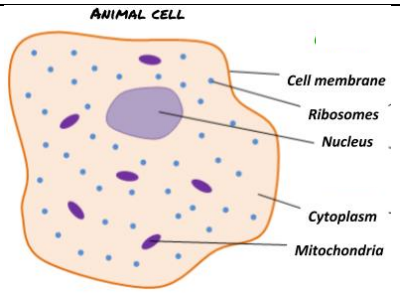
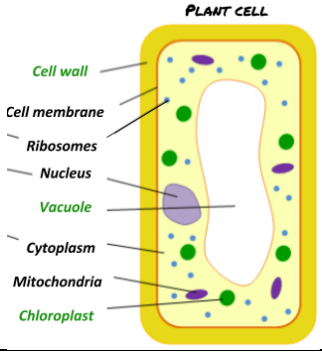
Year 7

7B1 Cells and body systems (2022-23)



Core knowledge

No.	Question	Answer
1.	What is a cell?	The smallest structural unit of **living** things.
2.	Draw and label a typical plant cell.	
3.	Draw and label a typical animal cell.	
4.	What is the function of the nucleus?	Contains the genetic material, the 'instructions' for the cell.
5.	What is the function of the cytoplasm?	Where the cell's chemical reactions happen.
6.	What is the function of the cell membrane?	To control what goes in and out of the cell.
7.	What is the function of the cell wall in plants?	To protect the cell and give it shape and rigidity.
8.	What is the function of the vacuole in plants?	It contains sugar for the cell and gives the cell shape and rigidity
9.	What is the function of the chloroplasts in plants?	Where photosynthesis happens.
10	What do we call a cell with adaptations or features that make it good at doing a particular job?	A specialised cell
11	Give three examples of specialised cells you might find in plants or animals	Animal cells: Egg, sperm, red blood cell, white blood cell, neuron Plant cells: palisade cell, guard cell, root hair cell
12	What is a unicellular organism?	An organism that is made of one single cell
13	What is a metric prefix?	a unit prefix that goes before a basic unit of measurement to show a multiple or fraction of the basic unit
14	What is a microscope?	Instrument for viewing very small objects that cannot be seen with the naked eye e.g. cells
15	What is magnification?	How much bigger something appears compared with its actual size
16	How do you calculate the magnification of a microscope?	Total Magnification = magnification of OBJECTIVE lens **x** magnification of EYEPIECE lens
17	How do you calculate the magnification of a specimen under the microscope?	magnification = measured size / actual size.
18	What do we call a group of cells of the same type working together?	Tissue
19	What do we call a structure made up of a group of tissues, working together to perform specific functions?	An organ
20	What is an enzyme?	A protein made in cells to help a chemical reaction to happen.

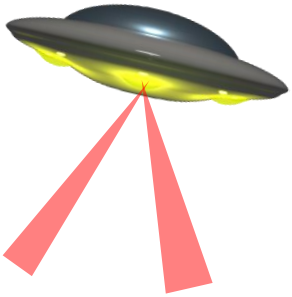
7B1.1 What are cells?

Keywords	Definition
Cell	The smallest component of living things
Organelle	Literally: 'tiny organ'. Any structure found inside a cell that does a particular job.
Microscopic	Too small to be seen with the naked eye.

What are the characteristics of living things?

	Life Process
M	
R	
S	
G	
R	
E	
N	

Alien invasion



Imagine that an alien spaceship is firing its death rays at Earth!

- The death rays will destroy everything that is made of cells.
- Things that are not made of cells will not be affected.

Alien invasion!

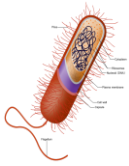
Look at the statements in the table. Some are right and some are wrong.

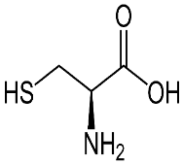
Tick **one** box for each statement.

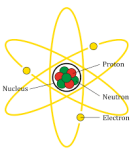
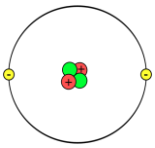
		I am **sure** this is right	I think this is right	I think this is wrong	I am **sure** this is wrong
1	People will be destroyed.				
2	Brick walls will be destroyed.				
3	Plants will be destroyed.				
4	Very small organisms will **not** be destroyed.				
5	Dead bodies will be destroyed.				
6	Bacteria will be destroyed.				

All truly living things are made of cells

- What is a cell? What does it look like?
- Let's look at some examples

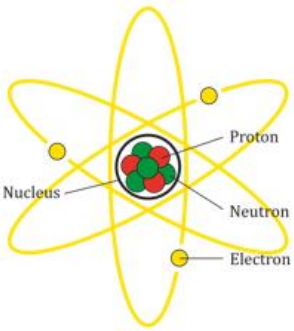


The unit of life

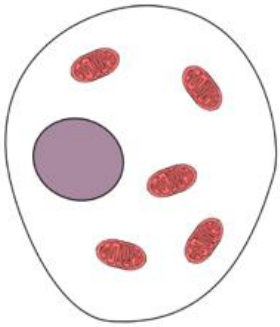
The diagrams show an atom, a biological molecule and a cell.

They are not drawn to the same scale.



An atom

A biological molecule



A cell

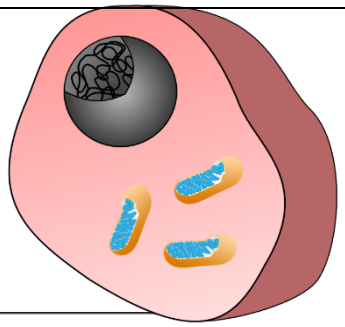
The unit of life

1 What is the **smallest** structure that can be alive?

A	An atom
B	Many atoms arranged to make a biological molecule
C	Many biological molecules arranged to make a single cell
D	Many cells arranged to make an organism

2 How would you explain your answer to question 1?

A single cell can…



The drawing shows a single cell.
Parts of the cell have been cut away so that you can see inside the cell and its structures.

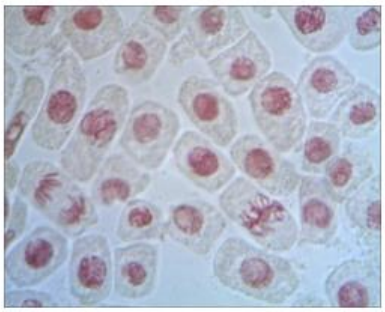
A single cell can...

Look at the statements in the table.

How confident are you that each statement is right or wrong?	I am **sure** this is right	I **think** this is right	I **think** this is wrong	I am **sure** this is wrong
1 A single cell can take in food and other nutrients.				
2 A single cell can get energy from food.				
3 A single cell can get rid of waste.				
4 A single cell can make new cells.				
5 A single cell can respond to its surroundings.				
6 A single cell is a living thing.				

Too small to see?

The picture shows cells from the root of an onion plant.



Which statement about cells is true?

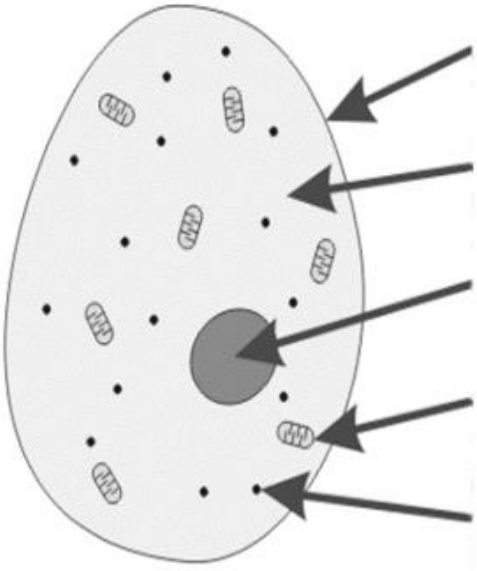
A All cells are too small to be seen without a microscope.

B Most cells are too small to be seen without a microscope.

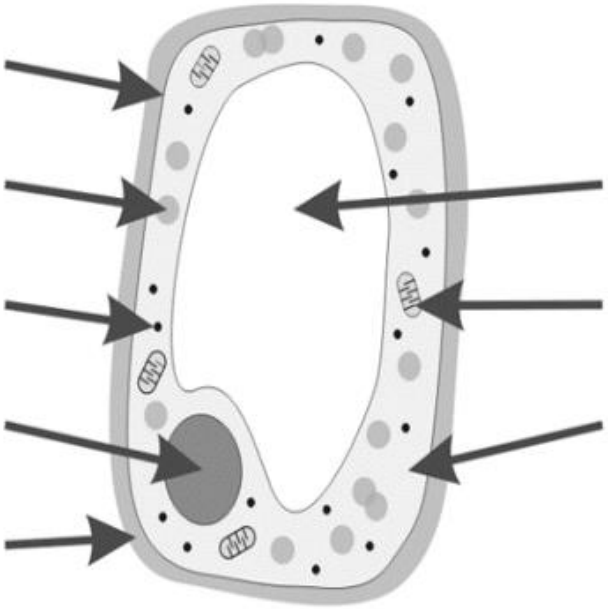
C All cells can be seen with the naked eye.

D Most cells can be seen with the naked eye.

Animal Cell



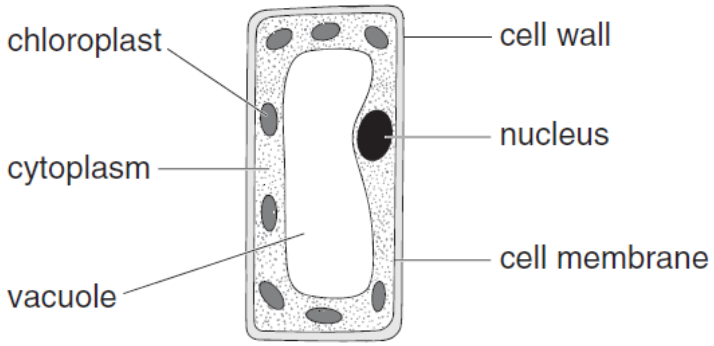
Plant Cell



Organelle	Description/function
	The watery jelly inside a cell where the cell's activities take place.
	The membrane that controls what goes into and out of a cell.
	The 'control centre' of a cell. It contains the genes that are the instructions for the cell.
	Tiny structures in a cell that make proteins.
	An organelle in the cytoplasm of cells, where aerobic respiration occurs. Plural is mitochondria.
	A green disc containing chlorophyll, found in plant cells. Where the plant makes glucose, using photosynthesis.
	A tough layer of material around some cells, which is used for protection and support. It is stiff and made of cellulose in plant cells.
	A storage space in cells. Plant cells have a large, permanent vacuole that helps to keep them rigid.
	Liquid found in the vacuole in a plant cell.

Let's try an exam question

The diagram below shows a plant cell.



'Function of' means 'what is the use of?' or 'what does it do?'

(a) (i) Give the function of the nucleus.

(ii) Give the function of the chloroplasts.

(iii) Give the function of the cell wall.

(b) Give the names of **two** labelled parts that are **not** present in animal cells.

What do living cells need?

- Think back to MRS GREN and the characteristics of living things.
- What things do cells need?

Animal Cells	Plant Cells

Word list (you can use words more than once):

Air

Water

Food

Light

Nutrients from soil

Copy the statements into your grid in the correct box:

As a source of oxygen.

For nutrition and respiration.

Animal cells use it to get energy, and to make new cells and materials.

Animal cells are filled up with it.

What animals need	Why animals need it	What animal cells do with it
Air		Animal cells use oxygen for respiration to provide energy for life processes.
Water	To store and transport dissolved substances.	
Food		

Copy the statements into your grid in the correct box:

- Plant cells use nutrients to make new cells and materials for growth.
- As a source of oxygen.
- To store and transport dissolved substances.
- Plant cells use it in a chemical reaction to make food.
- Plants need to absorb energy.
- Plant cells use it in a chemical reaction to make food.

What plants need	Why plants need it	What plant cells do with it
Air	As a source of carbon dioxide.	
		Plant cells use it for respiration to provide energy for life processes.
Water		Plant cells are filled up with it.
	For nutrition.	
Light		The energy is used for a chemical reaction in cells that makes food.
Nutrients from soil	For nutrition and growth.	

7B1.2 In and Out of Cells

STARTER

Think back to Mrs Gren and the characteristics of living things.

What do living cells need? Think back to what we learned in the first concept and complete the tables below WITHOUT LOOKING AT YOUR NOTES FROM LAST TIME!

Animal Cells	Plant Cells

New Information

To stay alive, cells need a constant supply of **energy** and **molecules** for chemical reactions, and they need to get rid of waste.

Animal cells need oxygen and food for respiration, and water as a medium in which chemical reactions happen.

Large food molecules can't fit through the membrane and have to be broken into smaller ones.

Plant cells also need oxygen and food for respiration, and water as a medium in which chemical reactions happen.

Oxygen and glucose for respiration enter cells via diffusion through the membrane. They are made of small particles that can fit.

Plant cells need carbon dioxide and water for photosynthesis.

Carbon dioxide and water enter plant cells via diffusion through the membrane. They are made of small particles that can fit.

Cells also need to get rid of waste substances. These diffuse out through the cell membrane.

Animal cells produce carbon dioxide as waste from respiration.

Plant cells produce oxygen as waste from photosynthesis.

The right structure for the job

Which drawing shows the structure that…

1 …controls what can enter and leave the cell?

2 …lets the cell take in oxygen for respiration?

3 …lets the cell take in substances from food for respiration?

4 …lets the cell take in water?

5 …lets the cell get rid of waste carbon dioxide?

Summary diagram

- The cell membrane allows small molecules that the cell needs to pass through it into the cell.
- The cell membrane also allows small waste molecules to pass through it out of the cell.
- The movement of molecules from where there are many to where there are fewer is called DIFFUSION.

Selectively permeable membrane

- A selectively permeable membrane let some substances pass through them, but not others.
- Small substances move through the membrane in both directions

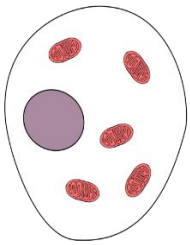
The next set of slides will help you understand this

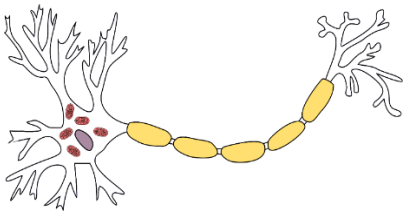
7B1.3 Specialised Cells and Unicellular Organisms

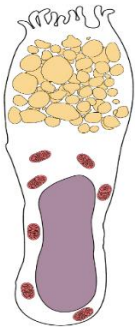
Can you recognise the organelles in these cells of different shapes?

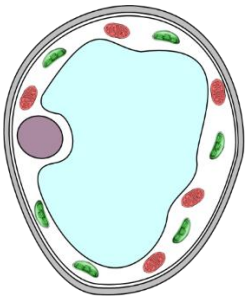
Label the nucleus, cytoplasm, cell membrane and mitochondrion for each cell

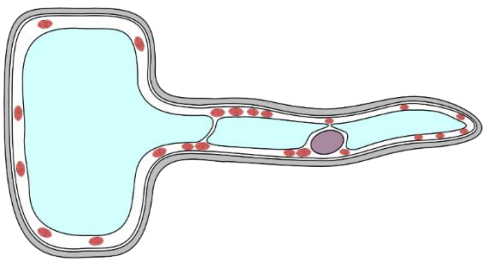
Label the cells animal or plant cells

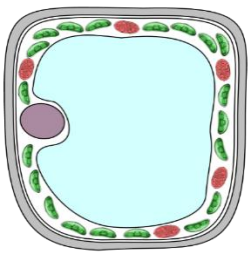








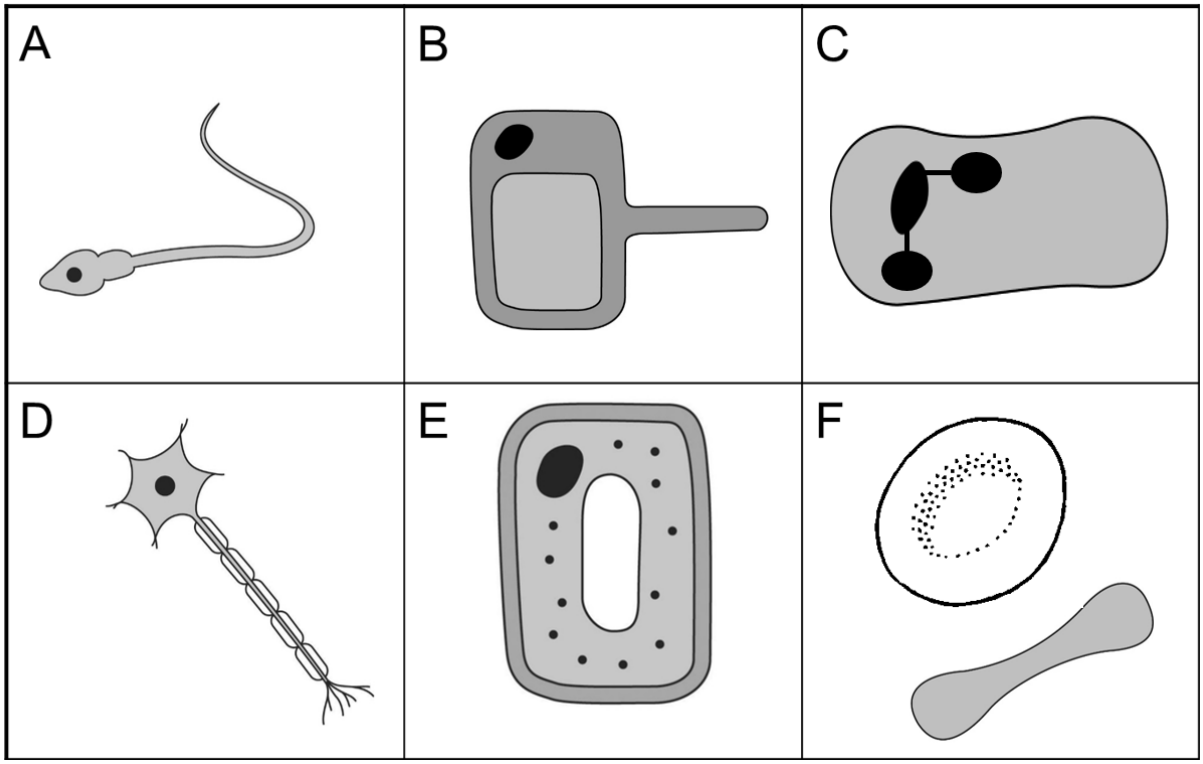




Specialised cells are cells that do specific jobs. They have special features **(adaptations)** that make them good at their jobs. Cells in your brain do different jobs from the cells in your liver, so they have different features, or **adaptations**; each cell type is **adapted** to perform a particular job.

Use the diagrams to match each cell job applicant with the job description that would suit it best.

1. This job requires a plant cell. The right cell for the job will have lots of chloroplasts (small round-ish structures) to absorb sunlight.
2. The right cell for this role must be able to swim fast and far to locate an egg cell.
3. Applicants for this job must be able to reach over a long distance, and connect with other cells.
4. The job requires a cell that can be flexible, with a large surface area to absorb oxygen. A lack of a nucleus would be a distinct advantage, as this would allow more space to carry oxygen.
5. The successful applicant will be a plant cell with a large surface area to absorb water and minerals from the soil. Chloroplasts are not necessary as the work will be underground.
6. Cells considering applying for this job must be flexible and able to change shape so that they can engulf bacteria and viruses. They may have a multi-lobed nucleus.



How many cells?

1. What is the **smallest** number of cells that a living organism can be made up of?

2. What is the **largest** number of cells that a living organism can be made up of?

An organism that is made up of many cells is said to be **multicellular**

Unicellular organism or not?

Write down what unicellular means (hint look at your key words table)

New information: 7B1.3 powerpoint

What are the three types of unicellular organism?

1.

2.

3.

Give an example of each

1.

2.

3.

The hungry alien

Imagine there's an alien visiting Earth.

The alien is very hungry.

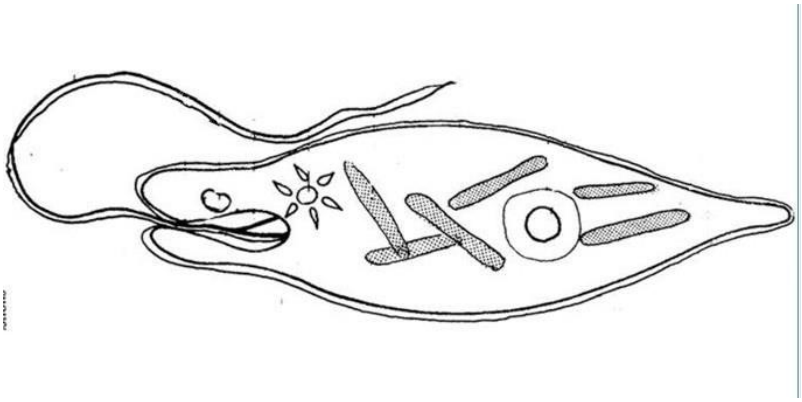
The alien can only eat organisms made from **a single cell**.

1 Which of these organisms can the alien eat?

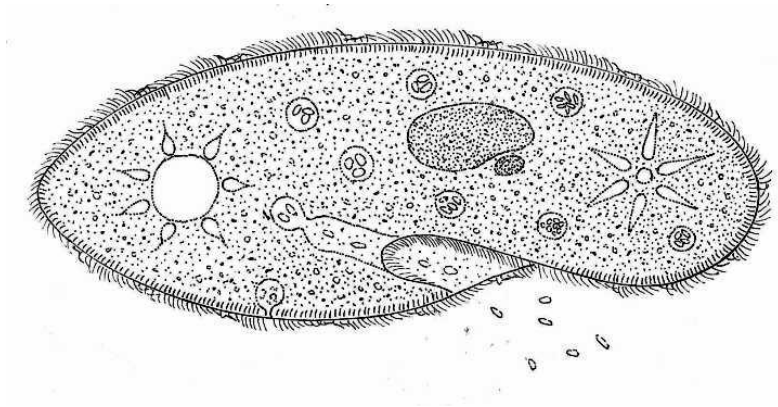
humans	**cows**	**sheep**	**trees**	
ants	**head lice**	**slugs**	**grass**	**mushrooms**
tadpoles	**moss**	**bacteria**	**amoeba**	

2 Can you think of one word to describe **all** of the organisms the alien **cannot** eat?

Euglena



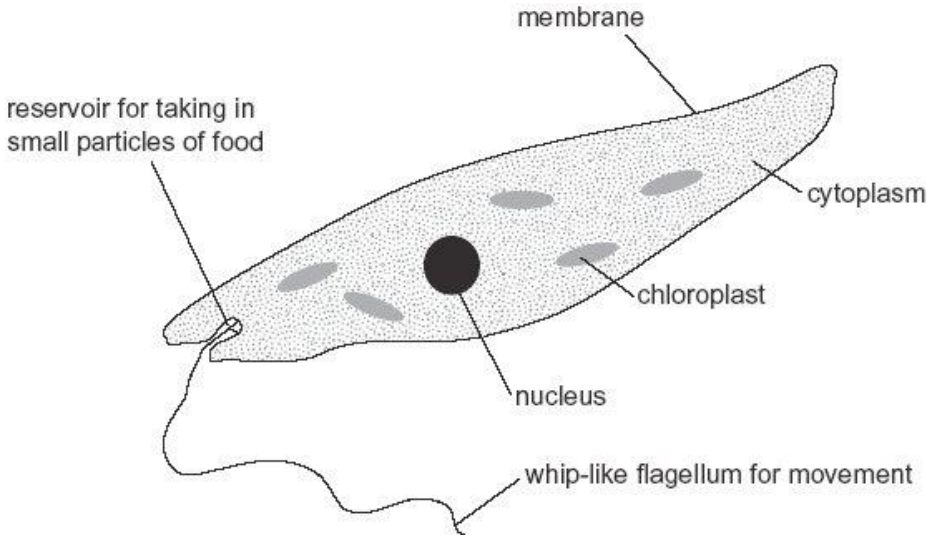
Paramecium



The diagram below shows an organism called Euglena.

It is made of only one cell. It lives in ponds and streams.

Euglena have features of both plants and animals.



(a) Look at the diagram of Euglena.

Give **two** pieces of evidence which suggest it is an **animal** cell and **not** a plant cell.

1. ..... 1 mark

2. ..... 1 mark

(b) Plant cells can carry out photosynthesis.

How can you tell from the diagram that Euglena can carry out photosynthesis?

..... 1 mark

7B1.4 Using Metric prefixes

Starter Metric units of measurement

1. **Write down which metric unit of length you would use to measure each of these items:**

a) Length of a bedroom

b) Length of a river

c) Length of a needle

d) Width pen nib

e) Height of a mountain

f) Distance from Leeds to York

2. **Which metric unit would you use to weigh each item listed below?**

a) Man

b) Letter

c) Delivery van

d) Tin of tuna

3. **Which metric unit would you use to measure the capacity of each container listed below?**

a) Large bottle of pop

b) Carton of cream

c) Bottle of shampoo

d) Paddling pool

Can you think of any other **metric** units of measurement that you haven't mentioned already?

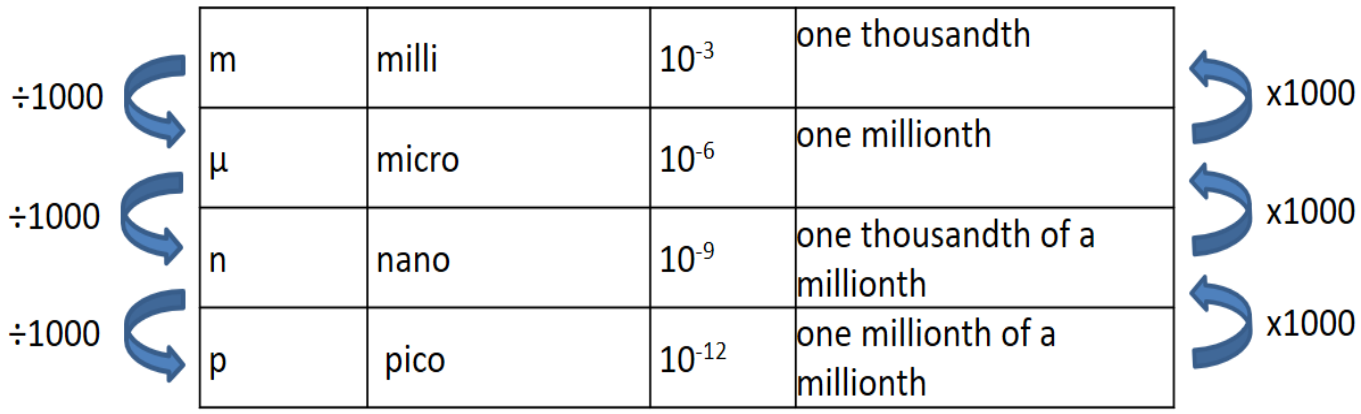
Why don't we use imperial (old fashioned) units in science (e.g. inches, feet, pounds, stones and miles)?

In these examples you have used different **prefixes** (words added in front of the unit) e.g.

km kilo in front of the word metre kilometre

ml milli in the front of the word litre millilitre

Why do we use these prefixes in science?



m	milli	10^{-3}	one thousandth
μ	micro	10^{-6}	one millionth
n	nano	10^{-9}	one thousandth of a millionth
p	pico	10^{-12}	one millionth of a millionth

μ is a Greek letter 'mu'. We use it to **abbreviate 'micro'**, because 'm' is used for milli and 'M' is used for 'mega'. Practise writing the Greek letter **μ**

Which of the following means 'metre'?

a) M
b) m
c) μ

Which of the following means 'mega'?

a) M
b) m
c) μ

Which of the following means 'milli'?

a) M
b) m
c) μ

Which of the following means 'micro'?

a) M
b) m
c) μ

Which of the following is the correct abbreviation for millimetre?

a) Mm
b) mm
c) µm

Which of the following is the correct abbreviation for microlitre?

a) Ml
b) ml
c) µl

Which of the following is the correct abbreviation for megahertz?

a) MHz
b) mHz
c) µHz

Use the table to help you work out the answers to these questions

What is a better way of saying 5 millionths of a metre?

How many mm in 1m?

How many micrometres in 1m?

7B1.5 Using the Microscope

Task: draw and label a plant cell and an animal cell

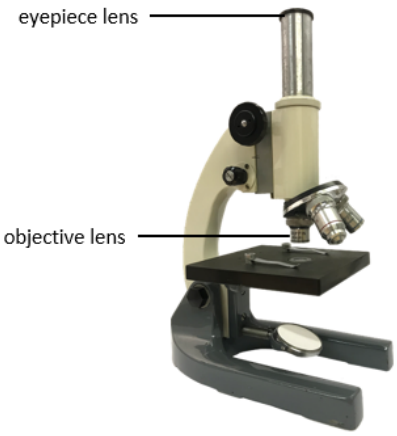
New information

Total magnification = magnification of eyepiece lens x magnification of objective lens

What's the magnification?

A student uses the microscope to look at cells on a slide.

- The eyepiece lens has a magnification of 10x
- The objective lens has a magnification of 4x



What is the magnification of the cells seen using the microscope?

A 4x

B 10x

C 14x

D 40x

Figure 12 shows a root tip under the microscope. We can see the cells of the root tip.

The image was magnified 400 ×.

Figure 12

Explain how a magnification of 400 × can be obtained using the lenses on a light microscope.

(2)

.....

.....

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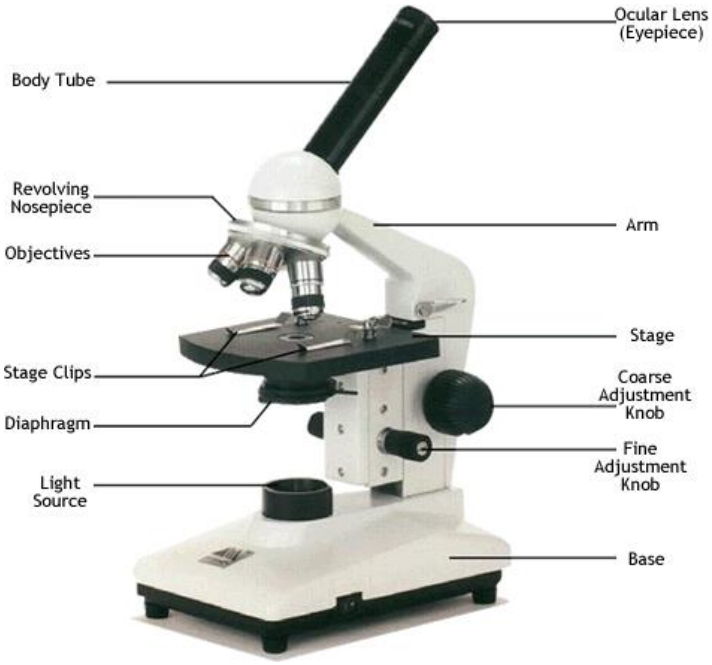
Make notes on how to use a microscope safely



Using a microscope

1. Turn the turret until the lowest power objective lens clicks into position.
2. Place the slide on the stage and fasten it with the stage clips.
3. Look from the side and turn the focus knob to move the objective lens closer to the stage. Stop before the objective lens touches the slide.
4. Look through the eyepiece.
5. Turn the focus knob until the image is sharp and clear.
6. Move the mirror to reflect more light through the sample, if needed.
7. Turn the turret until the medium power objective lens clicks into position, then re-focus the image.
8. When finished, use the focus knob to move the objective lens away from the stage, and then remove the slide from the stage.

7B1.5a Looking at pond water through microscope

Pond water slide preparation

1. Put a drop of pond water onto your slide with a pipette.
2. Carefully place a cover slip on top. Try not to trap any bubbles.
3. Put your slide under your microscope and focus it on the lowest magnification.
4. Try looking at your specimen under a higher magnification
    - Draw and label what you can see using a sharp pencil.
    - Draw clear, simple, two-dimensional line diagrams without shading.
    - Label any coloured areas with the name of the colour. Do not colour in.

7B1.5b Looking at cheek cells

Cheek cell slide preparation

1. Gently scrape the inside of your cheek with a sterile cotton bud.
2. Now smear the scrapings onto the middle of a clean microscope slide.
3. Place your used cotton bud in a beaker of disinfectant.
4. Place a drop of dilute methylene blue on top to stain the cells.
5. Place a coverslip over the cells, lowering it carefully to avoid air bubbles.

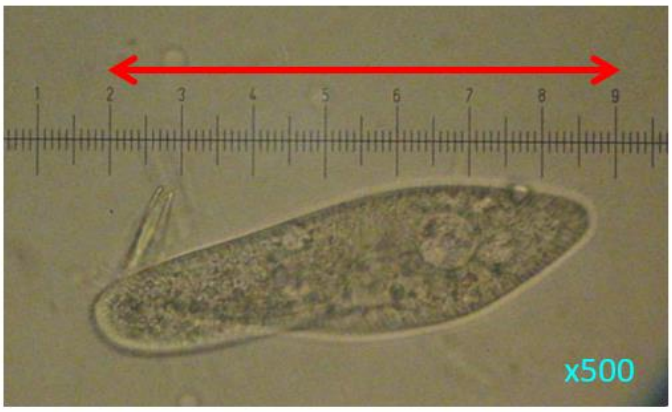
- Draw and label what you can see using a sharp pencil.
- Draw clear, simple, two-dimensional line diagrams without shading.
- Label any coloured areas with the name of the colour. Do not colour in.

7B1.5c Looking at onion cells

Onion cell slide preparation

1. Take a piece of onion and gently peel off a single layer (very thin).
2. Lie the onion onto a clean slide.
3. Cover the onion with Iodine to dye it.
4. Gently place a cover slip over the onion and iodine being very careful not to get any air bubbles in.
5. View your slide under the microscope.
    - Draw and label what you can see using a sharp pencil.
    - Draw clear, simple, two-dimensional line diagrams without shading.
    - Label any coloured areas with the name of the colour. Do not colour in.

Calculating actual size



$$actual\ size = \frac{measured\ size}{magnification}$$

The measured size is 70mm.

The magnification of the picture is x500

Actual size = 70/500 = 0.14mm
= 140µm

If your sample measured 45mm and the magnification was x100 what is the actual size in mm and µm (show your workings)?

If your sample measured 40mm and the magnification was x400 what is the actual size in mm and µm (show your workings)?

7B1.6 How living things are organised

1. What is a cell?

2. Draw and label a typical plant cell

3. Draw and label a typical animal cell

Body Cells

After class discussions write down the correct statement about the human body

_____

Cell needs

The cells of humans and other animals need particular things to stay alive.

How would you joins the boxes to explain what animal cells need and what they do with it?

What animal cells need	What animal cells do with it
Oxygen	**A** React it with glucose to provide energy.
Glucose	**B** React it with oxygen to provide energy.
Water	**C** Use it to store and transport dissolved substances.

The human body is made up of _____, _____,_____ and _____ _____

What is your decision for each statement?

	I am **sure** this is right	I **think** this is right	I **think** this is wrong	I am **sure** this is wrong
1 Cells contain organs that carry out life processes.				
2 Cells, tissues and organs are roughly the same size.				
3 Tissues are made up of cells.				
4 Organs are made up of tissues.				
5 Plants are also made up of tissues.				
6 Plants do not have organs.				

Smallest to largest

1

2

3

4

5

Cells are the basic building blocks of all living things. They are microscopic.

getting bigger

Cells can form **tissues**. Tissues are groups of cells working together to do a job.

getting bigger

Organs are made from one or more types of tissues grouped together. E.g brain, liver, heart

getting bigger

Organ systems are made from groups of organs working together. E.g. nervous system, digestive system

Talking about cells, tissues and organs

To talk about in your group:

1 Who do you agree with?

2 Who do you disagree with, and why?

3 How would you explain the right ideas to these children?

Answer these questions after we have had a look at the human torso

1 When we look at a multicellular organism, can we see their cells?

2 What do we call cells of the same type working together?

3 What do we call tissues working together?

4 Can you give some examples of organs in humans?

5 What about plant organs?

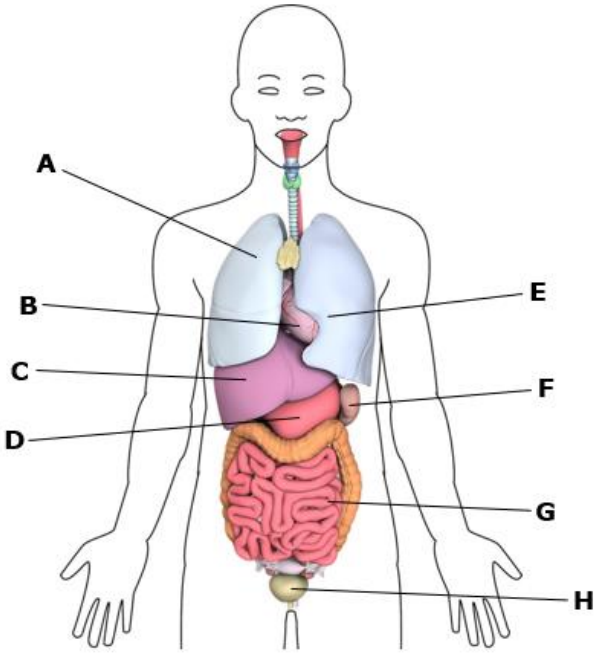
6 What is a group of organs working together to do a particular job?

Useful information

Name of organ system	Function of organ system	Examples of organs, structures and tissues in this system
Nervous system	To regulate (control) the functions of the body using fast electrical signals	Brain, spinal cord (these make up the central nervous system), peripheral nervous system
Respiratory (breathing) system	To inflate the lungs so that oxygen can be absorbed into the blood via diffusion	Lungs, rib cage and intercostal muscles, diaphragm
Cardiovascular system	To transport oxygen and food to every cell and remove waste substances.	Heart, veins, arteries, capillaries, blood
Skeletomuscular system	To support the body, protect organs and allow movement	Bones, muscles, tendons, ligaments
Hormonal (or endocrine) system	To regulate (control) the functions of the body using hormones (chemical messengers)	Endocrine glands (e.g. pituitary, adrenal, thyroid), pancreas, testes, ovaries. Organs that the hormones control are called 'target organs'.
Digestive system	To break down food into smaller molecules so that it can be absorbed into the blood	Mouth, stomach, intestines, liver
Reproductive system	To produce gametes (sex cells) and allow reproduction (to make babies)	Ovaries, testes, uterus, cervix, sperm duct, vagina, penis
Excretory system	To remove toxic waste products from the blood	Kidneys, bladder
Skin	To maintain constant internal conditions	Skin
Immune (lymphatic) system	To destroy pathogens (bad microorganisms) and prevent future infection	Bone marrow, blood, skin, lymph nodes, spleen

Body Parts

The diagram shows some organs in the human body.



1. Which part pumps blood around the body?

2. What is the name of the part you chose in question 1?

3. Which part absorbs oxygen from air?

4. What is the name of the part you chose in question 3?

5. In which part does most of the digestion of food take place?

6. What is the name of the part you chose in question 5?

Imagine that you are one of the organs that we have looked at today. You must apply for a job in the relevant organ system.

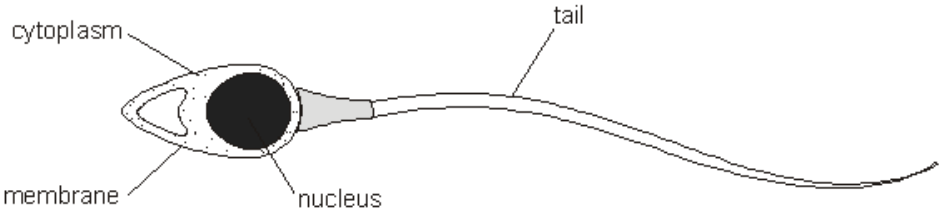
Write to the brain describing the qualities that you have that make you the best organ to work as part of that organ system.

Keywords	Pronunciation	Definition
Cell	Sell	The smallest component of living things
Organelle	Or-gan-el	Lit: 'tiny organ'. Any structure found inside a cell that does a particular job
Microscopic	My-kroh-sko-pick	Too small to be seen with the naked eye.
Particle	Part-i-kal	A tiny piece of matter that everything is made out of.
Molecule	Moll-i-kule	A particle of a particular substance e.g. oxygen or water.
Diffusion	Diff-you-shun	The random movement and spreading of particles. The overall movement of particles is from where there are many to where there are fewer.
Cell membrane	Sell mem-brayn	A semi-permeable 'bag' that holds the cell contents and controls what goes in and out of the cell.
Unicellular organism	You – nee – sell – you – lar or – gan – iz – um	A microscopic living thing that has only one cell (uni means one). Sometimes also called single celled organisms
Bacterium	bak – tier – ee – um	A unicellular organism that is much smaller that plant and animal cells. (Pl. bacteria)
Protist	Proh – tist	A unicellular organism with a nucleus
Flagellum (pl. flagella)	Fla – jell - um	A tail-like appendage that some unicellular organisms use to swim
Metric prefix	Met – rick pree-fix	a unit prefix that goes before a basic unit of measurement to show a multiple or fraction of the basic unit
Microscope	My-kroh-skope	Instrument for viewing very small objects that cannot be seen with the naked eye e.g. cells
Field of view	Feeld ov vue	Circular area you see when you look down a microscope
Specimen	Spess-i-min	The thing you are looking at with the microscope
Eyepiece lens	I-piece lenz	The part of the microscope you look down.
Objective lens	Ob-jekt-iv lenz	The part of the microscope that is closest to the specimen
Magnification	Mag-nif-ik-ay-shun	How much bigger something appears compared with its actual size
multicellular organism	Mull - tee – sell – you – lar or – gan – iz – um	A living thing that is made of many cells
Tissue	Ti-shoo	A group of cells of the same type working together
organ	Or-gan	Structure made up of a group of tissues, working together to perform specific functions.
organ system	Or-gan siss-tem	A group of different organs, which all work together to do a particular job
Digestive system	Die-jess-tiv siss-tem	A body organ system that breaks large food particles into smaller food particles and absorbs them into the blood
Nutrients	New-tree-ents	Very small particles that our cells need for energy, growth and repair
Digestion	Die-jess-chun	A process that breaks food into smaller and smaller particles (nutrients) so that it can be absorbed by the body
Absorption	Abs-orp-shun	The process by which nutrients move from the intestines into the blood
Protein	Proh-teen	A large molecule in cells that does an important job to help the cell function or stay alive.
Enzyme	Enz-eye-mm	A protein produced by living cells to make chemical reactions happen faster
Chemical reaction	Kem-i-kal ree-ack-shun	When atoms are rearranged to make new substances different from the original ones.

Practise exam questions

Q1

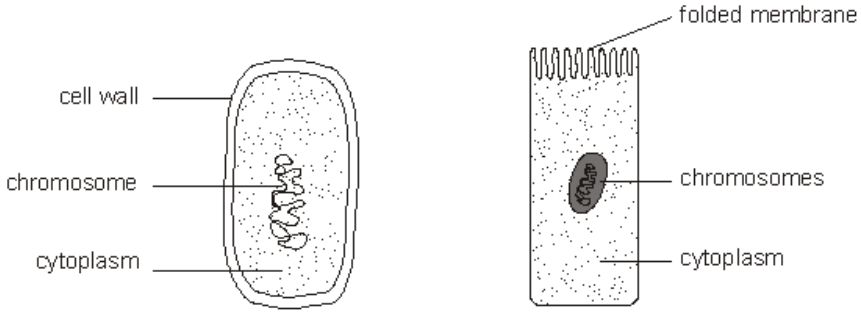
(a) The diagram shows a sperm cell. Sperm cells are adapted for fertilisation.



Sperm cells use their tails to swim towards an ovum (egg).
Give **one** other way the sperm cell is adapted for fertilisation.

.....
1 mark

(b) The diagrams below show two other cells.



not to scale

(i) Look at the diagrams above.

What is the difference between the location of the genetic material in the
bacterium and in the cell from the lining of the intestine?

.....
1 mark

(ii) What is the function of the genetic material in a cell?

.....
1 mark

(c) Cells in the lining of the intestine are adapted to absorb digested food.

How does the folded membrane of these cells enable them to absorb the
maximum amount of digested food?

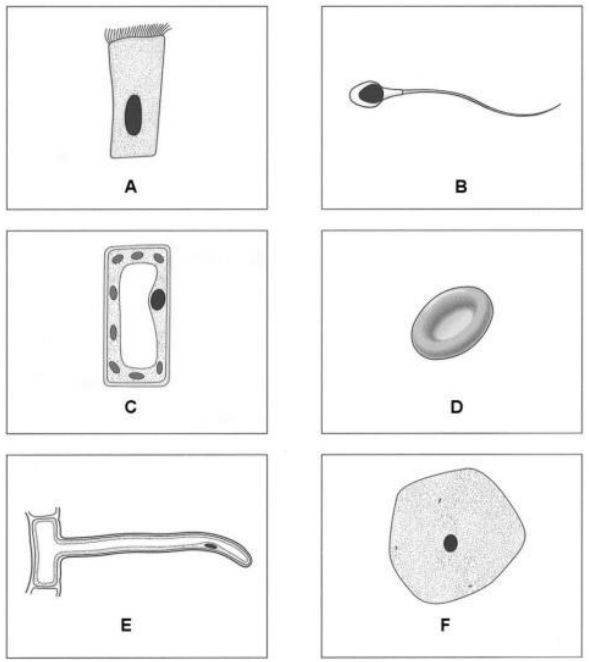
.....
1 mark

(d) A group of cells in the lining of the intestine is a tissue.

Why is a number of sperm cells **not** a tissue?

.....
1 mark

Q2. The diagram below shows six cells.



(a) (i) Give the letters of the **two** plant cells in the diagrams.

..... and .....

1 mark

(ii) Which **one** of these plant cells contains chloroplasts?
Give the letter.

.....

1 mark

(iii) Give the function of chloroplasts.

.....

.....

(b) (i) Give the letter of the ciliated cell.

.....

1 mark

(ii) In which part of the body are ciliated cells found?

.....

1 mark

(iii) What is the function of ciliated cells in this part of the body?

.....

.

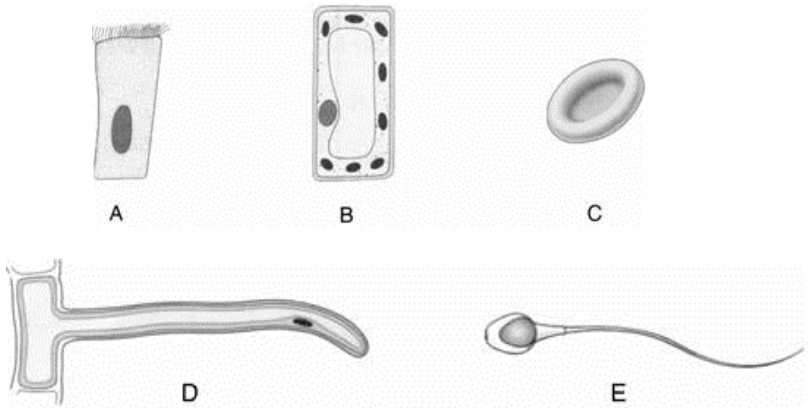
1 mark

(c) Give the letter of the cell which transfers genetic information from father to offspring.

.....

1 mark

Q3. The drawings show some plant and animal cells. Each cell has a different function.



not to scale

(a) Give the name of cell C.

.....

1 mark

(b) The main functions of two of the cells are listed below.

Write the letter of the correct cell next to each function.

(i) photosynthesis .....

(ii) improvement of mucus .....

2 marks

(c) (i) Give the name of the organ where cell E is produced.

.....

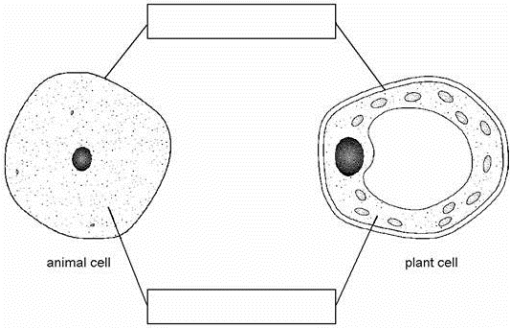
1 mark

(ii) Give the name of the part of a plant where cell B is found.

.....

1 mark

Q4. (a) The diagrams below show an animal cell and a plant cell.



(i) The lines from the boxes show the positions of two of the parts that are present in both cells.
In the boxes, write the names of these **two** parts.

2 marks

(ii) Give the names of **two** parts which are present in plant cells but **not** in animal cells.

1. .....

2. .....

2 marks

(b) Organs can carry out their functions because of the special cells they have.

Draw a straight line from the name of each type of cell to the function of the cell and then to the process it carries out.
One has been done for you.