

## Year 9 Assessment Window 2

This booklet is for parents who wish to help their child with revision for the forthcoming assessment window.

Subjects have either provided more information about the skills needed for the assessments or an example of a paper to practise.

The assessment window starts 23<sup>rd</sup> January for 2 weeks.

# Subject: English Year 9 Tracking 2

Length of Test 2 hours (plus 15 minutes reading time)

Content	What marks are awarded for	Marks available
<p><b>Q1:</b> Students will have to read a focussed extract and based on that extract select 4 statements out of 8 that are true.</p>	<p>-each correct statement</p>	4
<p><b>Q2:</b> Students will read two extracts that are on a similar topic and will be asked to write for a guideline of 12 minutes comparing these two extracts.</p>	<ul style="list-style-type: none"> <li>- making statements that highlight the similarities and differences between the two texts.</li> <li>- bringing together and comparing relevant information from each text.</li> <li>-using quotations that prove the comparisons that you are making.</li> <li>- explaining how these quotes show the similarities and differences.</li> </ul>	8
<p><b>Q3:</b> Students will be asked to focus on one of the extracts and will be asked a question around how language is used for effect. This is using the PEEL skill that students are very familiar with in lesson.</p> <p>The suggested timing for this question is around 18 minutes.</p>	<ul style="list-style-type: none"> <li>-Making a point that answers the question</li> <li>- Providing quotations from the text to support and prove the point that you have made</li> <li>- Explaining why that quote proves your point</li> <li>- Explaining the effect of that quotation on the reader using subject terminology (ie verb, simile, adjective etc</li> <li>- Where appropriate selecting individual words from the text and explaining the additional impact.</li> </ul>	12
<p><b>Q4:</b> Students will be asked to compare the two extracts fully. Bringing together the skills from Q2 and Q3. Students</p>	<ul style="list-style-type: none"> <li>- Making statements that highlight the similarities and differences between the two texts.</li> <li>- Bringing together and comparing relevant information from each text.</li> </ul>	16

<p>should use <b>PEEL</b> or <b>PEECEEL</b> to compare the writer's use of language. Again a skill they have used in lesson. Recently by comparing poetry. This is the same skill just looking at a different text type.</p> <p>The suggested timing for this question is around 30 minutes</p>	<ul style="list-style-type: none"> <li>- Using quotations that prove the comparisons that you are making.</li> <li>- explaining how these quotes show the similarities and differences.</li> <li>- Explaining the effect of that quotation on the reader using subject terminology (ie verb, simile, adjective etc</li> </ul>	
<p><b>Q5: Students will be asked to write a 'real world' task in response to a statement. ie. Write a letter to your headteacher, or write an article for a newspaper, or a speech for your peers.</b></p> <p><b>Students will be asked to write to argue or persuade their reader but should concentrate more on HOW they write rather than WHAT they write.</b></p> <p><b>Students are advised to attempt this question first and spend 45 minutes on this question.</b></p>	<ul style="list-style-type: none"> <li>-Using paragraphs to organise their work</li> <li>-Using a wide range of punctuation accurately and for effect</li> <li>-Starting their sentences in interesting ways</li> <li>-Using a variety of sentence lengths and types accurately and for effect.</li> <li>-Using impressive vocabulary spelt with precision</li> <li>-Ensuring that their work is connected and guides the reader through the text</li> <li>-Using a variety of language features (direct address, rhetorical questions etc) appropriate to the task.</li> </ul>	<p>40</p>

# Year 9

# Mathematics

# Revision

Your next tracking assessment will be during the dates:

30/01/17 – 10/01/17.

During this test you will NOT be able to use calculator

This test is very similar to the test that you will be given. Use it as a revision tool.

Q1.

Complete the table.

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	
$\frac{2}{5}$		40%
	0.9	90%

**Q2.(a)** Show that 125 is a cube number.

.....  
.....

(1)

(b)  $125 = a + b$

$a$  and  $b$  are square numbers.

Find **two** possible pairs of values for  $a$  and  $b$ .

.....  
.....  
.....  
.....  
.....

$a = \dots\dots\dots b = \dots\dots\dots$

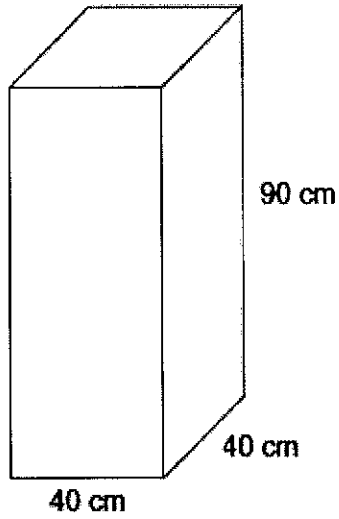
and  $a = \dots\dots\dots b = \dots\dots\dots$

(2)

(Total 3 marks)

**Q3.**

The diagram shows a water tank in the shape of a cuboid.



The tank is full of water.

1 litre = 1000 cm<sup>3</sup>

1 gallon = 4.5 litres

How many gallons of water are in the tank?

.....

.....

.....

.....

.....

.....

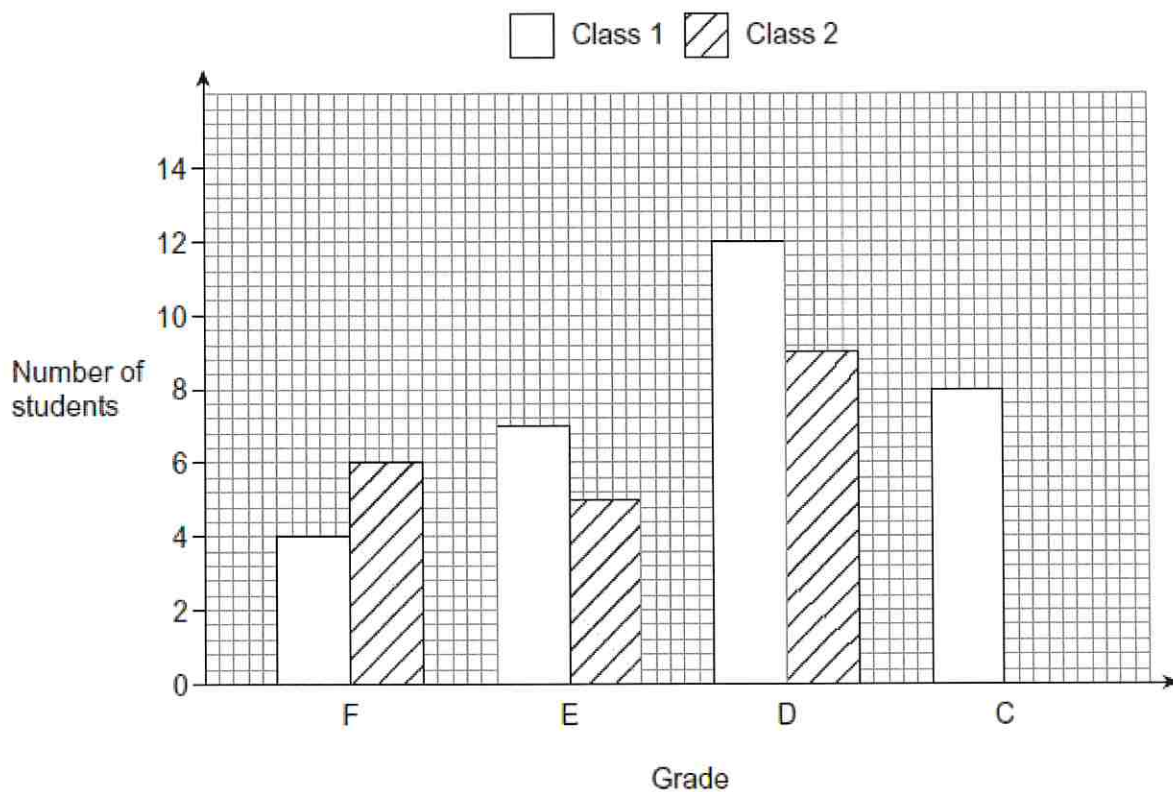
Answer ..... gallons

(Total 4 marks)

**Q4**

A teacher records the grades gained in a test by students in two classes.  
The dual bar chart shows the results.

The grade C results for Class 2 are not shown.



(a) How many students in Class 2 gained a grade D?

Answer .....

(1)

(b) Work out how many students in **total** gained a grade F.

.....  
 .....

Answer .....

(1)

(c) How many **more** students gained a grade E in Class 1 than in Class 2?

.....  
 .....

Answer .....

(1)

(d) Class 2 has the same number of students as Class 1

Complete the dual bar chart for grade C.

.....

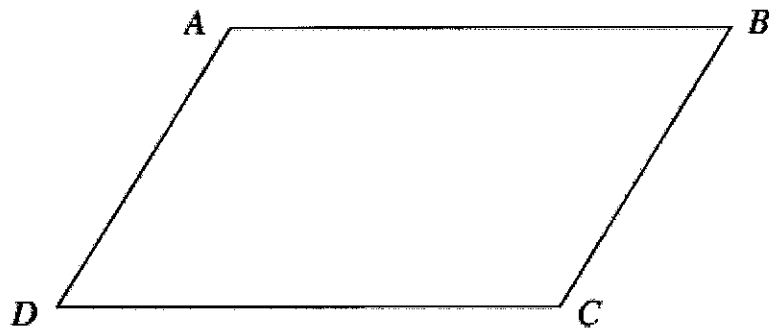
.....

.....

.....

(4)  
(Total 7 marks)

Q5. Here is a parallelogram.



Tick a box to show whether each statement is true or false.

	True	False
$AB$ is parallel to $DC$	<input type="checkbox"/>	<input type="checkbox"/>
Angle $A$ = Angle $C$	<input type="checkbox"/>	<input type="checkbox"/>
The parallelogram has 2 lines of symmetry.	<input type="checkbox"/>	<input type="checkbox"/>
The parallelogram has rotational symmetry of order 2.	<input type="checkbox"/>	<input type="checkbox"/>

(Total 3 marks)

Q6. Expand and simplify  $3(2x + 5) - 2(x - 4)$

.....

.....

.....



.....  
Answer .....

**(Total 3 marks)**

**Q7.**  $P = 2a + 3b$

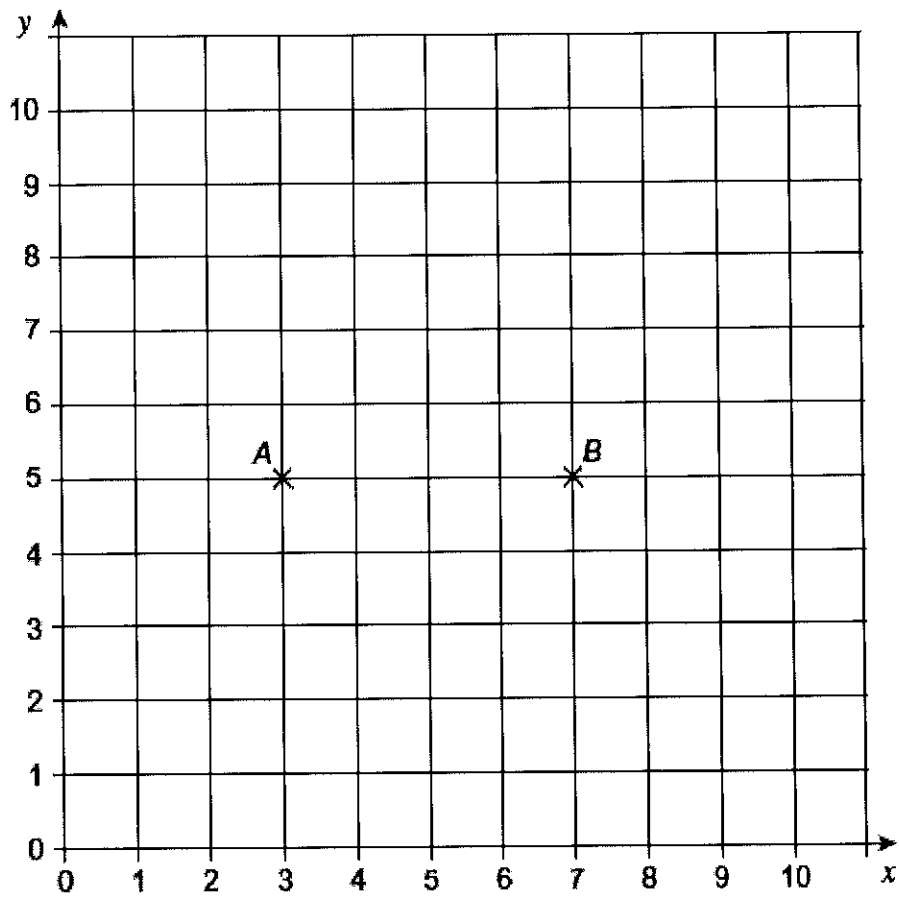
Work out the value of  $P$  when  $a = 11$  and  $b = 5$

.....  
.....  
.....

Answer .....

**(Total 2 marks)**

**Q8.** Points  $A$  and  $B$  are shown on the centimetre grid.



(a) Draw a rectangle  $ABCD$  on the grid with area  $12 \text{ cm}^2$ . (2)

(b) Write down the coordinates of point  $C$  and point  $D$ .

Answer  $C$  ( ..... , ..... ) and  $D$  ( ..... , ..... )

(2)  
(Total 4 marks)

Q9. Simplify fully  $\frac{11}{2x} - \frac{3}{x}$

.....  
 .....

.....  
Answer .....

(Total 3 marks)

**Q10.** Ellie drives 169 miles from Sheffield to London.

She drives at an average speed of 65 miles per hour.  
She leaves Sheffield at 6:30 am.

Does she arrive in London before 9:00 am?  
You **must** show your working.

.....  
.....  
.....  
.....

(Total 4 marks)

**Q11.** Work out the area of a circle, radius 3.5 cm.  
Give your answer to 1 decimal place.

.....  
.....  
.....

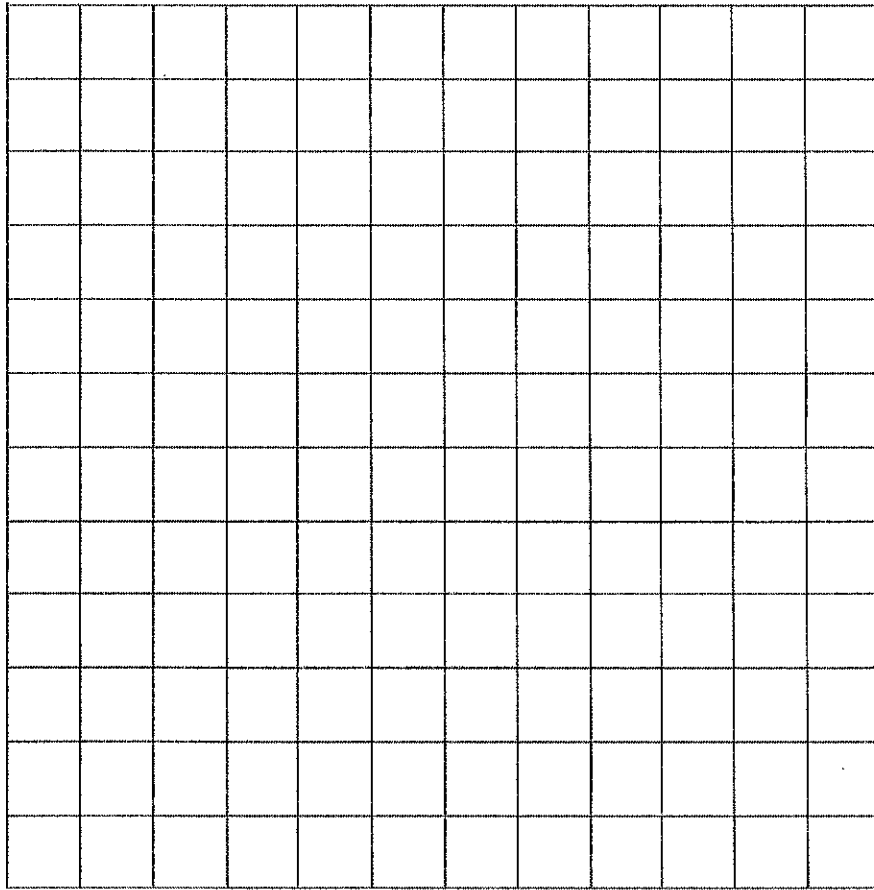
Answer ..... cm<sup>2</sup>

(Total 3 marks)

**Q12.** On this centimetre grid, draw **one** rectangle with

Perimeter = 20 cm

and Area = 24 cm<sup>2</sup>



(Total 2 marks)

213. Rearrange this formula to make  $t$  the subject.

$$s = 3t + 4$$

.....

.....

.....

Answer  $t = \dots\dots\dots$

(2)  
(Total 5 marks)

# Subject: Science Year 9 Tracking 2

Length of Test 1 hour

Science subject	Content	Keywords and skills needed
<p><b>Biology</b></p>	<p>Structure and function of living organisms</p> <ul style="list-style-type: none"> <li>• Cells and organisation (animal and plant cells)</li> <li>• The skeletal and muscular systems</li> <li>• Nutrition and digestion</li> <li>• Gas exchange systems</li> <li>• Reproduction</li> <li>• Health</li> </ul> <p>Material cycles and energy</p> <ul style="list-style-type: none"> <li>• Photosynthesis</li> <li>• Cellular respiration</li> </ul> <p>Interactions and interdependencies</p> <ul style="list-style-type: none"> <li>• Relationships in an ecosystem</li> </ul> <p>Genetics and evolution</p> <ul style="list-style-type: none"> <li>• Inheritance, chromosomes, DNA and genes</li> </ul> <p>Website for revision:  <a href="http://www.bbc.co.uk/education/subjects/z4882hv">http://www.bbc.co.uk/education/subjects/z4882hv</a></p>	<p>Labelling diagrams such as an animal and plant cell.            Word equations for photosynthesis and respiration            Names of all of the joints in the human body.            Role of Mitochondria in cells</p> <p>Keywords            Cytoplasm            Chloroplasts            Glucose            Diffusion            Foetal development            Vitamins            Minerals            Predator</p>
<p><b>Chemistry</b></p>	<p>The particulate nature of matter</p> <ul style="list-style-type: none"> <li>• Particles in solids, liquids and gases. Changes of state</li> </ul> <p>Atoms, elements and compounds</p> <p>Pure and impure substances</p> <ul style="list-style-type: none"> <li>• Dissolving</li> <li>• Diffusion</li> <li>• Chromatography</li> </ul> <p>Chemical reactions</p> <ul style="list-style-type: none"> <li>• Combustion</li> <li>• Acids and Alkalis</li> <li>• Reactions of metals and non-metals</li> <li>• Thermal decomposition</li> </ul> <p>Energetics</p> <ul style="list-style-type: none"> <li>• Exothermic and Endothermic reactions</li> </ul> <p>The Periodic Table</p> <ul style="list-style-type: none"> <li>• Position of groups, metals and non-metals</li> <li>• How the table is organised</li> </ul> <p>Materials</p> <ul style="list-style-type: none"> <li>• Reactivity of metals using the reactivity series</li> <li>• Ceramics, polymers and composites</li> </ul> <p>Earth and atmosphere</p> <ul style="list-style-type: none"> <li>• Structure of the Earth</li> <li>• Composition of the atmosphere</li> <li>• The rock cycle</li> <li>• The carbon cycle</li> </ul> <p>Website for revision:  <a href="http://www.bbc.co.uk/education/subjects/znxtvrd">http://www.bbc.co.uk/education/subjects/znxtvrd</a></p>	<p>Filtration            Evaporation            Filtration            Neutralisation            Melting            Boiling            Condensation            Freezing            Metalloids</p> <p>Writing word and simple symbol equations</p> <p>Using experimental results to make conclusions</p> <p>Analysis of graphs to form conclusions</p> <p>Plotting data onto a bar chart or line graph</p> <p>Variables            Independent (what is changed)            Dependent (What is measured)            Control (What is kept the same)</p>

<p><b>Physics</b></p>	<p><b>Energy</b></p> <ul style="list-style-type: none"> <li>• Calculation of fuel uses and costs in the domestic context (energy values, power ratings)</li> <li>• Energy changes and transfers</li> <li>• Changes in systems</li> </ul> <p><b>Motion and forces</b></p> <ul style="list-style-type: none"> <li>• Describing motion (Speed of objects)</li> <li>• Forces (balanced and unbalanced)</li> <li>• Pressure in fluids</li> <li>• Balanced forces</li> <li>• Forces and motion</li> </ul> <p><b>Waves</b></p> <ul style="list-style-type: none"> <li>• Observed waves</li> <li>• Sound waves (measured in hertz for frequency)</li> <li>• Energy and waves (pressure waves transferring energy)</li> <li>• Light waves – ray diagrams</li> </ul> <p><b>Electricity and electromagnetism</b></p> <ul style="list-style-type: none"> <li>• Current electricity</li> <li>• Static electricity</li> <li>• Magnetism</li> </ul> <p><b>Matter</b></p> <ul style="list-style-type: none"> <li>• Physical changes</li> <li>• Particle model</li> <li>• Energy in matter</li> </ul> <p><b>Space physics</b></p> <ul style="list-style-type: none"> <li>• Gravity as a force</li> <li>• The solar system</li> <li>• The seasons</li> <li>• Eclipses</li> </ul> <p><b>Website for revision:</b>  <a href="http://www.bbc.co.uk/education/subjects/zh2xsbk">http://www.bbc.co.uk/education/subjects/zh2xsbk</a></p> <p><u>Additional resources and activities on Sam learning will also be available. These will also form part of year 9's extended learning for Science which will help with their exam preparation</u></p> <p><u>Students are also welcome to have a go at the practice exam paper to help them to prepare. Students can then use the mark scheme to check their answers and help to identify where they need to revise.</u></p>	<p>Units  Kj-kilojoules  W-Watts  Kw-Kilowatt  J- Joules  V-voltage</p> <p>Equations  Speed=distance/time  Weight=mass x gravitational field strength (g), on Earth  g=10N/kg</p> <p>Vacuum  Transmission  Absorption  Diffuse  Specular reflection  Reflection  Refraction  Convex and concave Lenses  Current  Amperes  Series  Parallel  Potential difference  Resistance  Electrons  Electromagnets  Melting  Boiling  Condensation  Freezing  Sublimation  Evaporation  Dissolving  Density  Diffusion  Light year  Galaxies  Stars  Planets</p> <p>Using experimental results to make conclusions</p> <p>Analysis of graphs to form conclusions</p> <p>Plotting data onto a bar chart or line graph</p>
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Science revision – “Learning Lounge” – Every Wednesday in D-Corridor



3:30-4:30pm

Please see attached practice paper

Science test

Paper 1

First name \_\_\_\_\_  
 Last name \_\_\_\_\_  
 School \_\_\_\_\_

**Remember**

- The test is 1 hour long.
- You will need: pen, pencil, rubber, ruler, protractor and calculator.
- The test starts with easier questions.
- Try to answer all of the questions.
- The number of marks available for each question is given below the mark boxes in the margin. You should not write in this margin.
- If you are asked to plan an investigation, there will be space for you to write down your thoughts and ideas.
- Do not use any rough paper.
- Check your work carefully.
- Ask your teacher if you are not sure what to do.

1a  
1 mark

1a  
1 mark

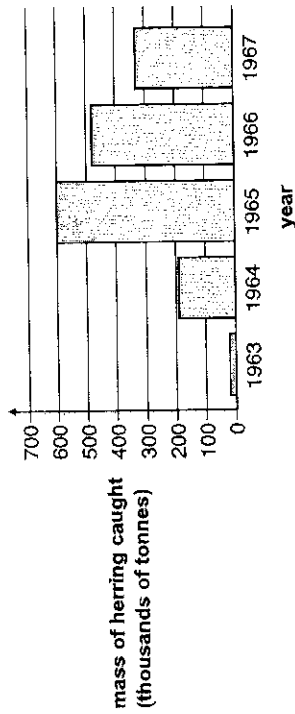
For marker's use only

TOTAL MARKS

1. The table below shows the number of boats used for catching herring fish in the Norwegian Sea between 1963 and 1967.

year	number of fishing boats
1963	16
1965	284
1967	326

The bar chart below shows the total mass of herring caught in the Norwegian Sea between 1963 and 1967.



Use the information above to help you answer parts (a) (i), (ii) and (iii).

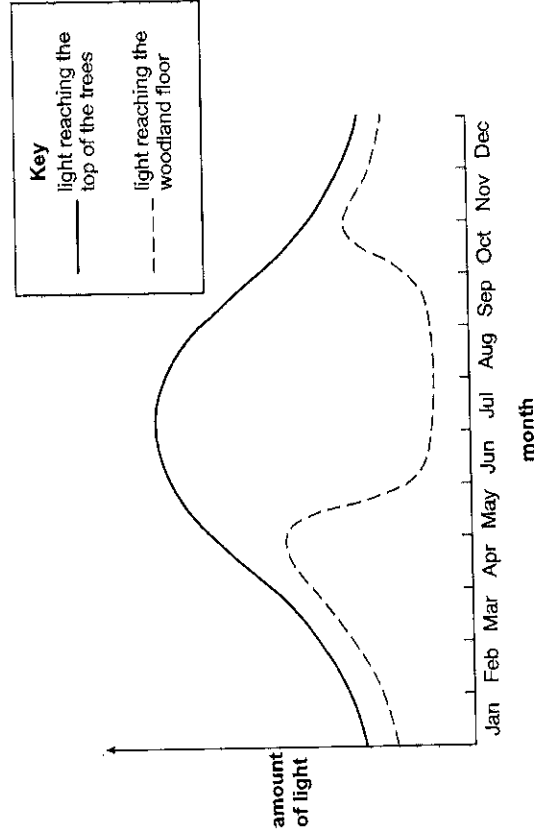
- (a) (i) Why did the mass of herring caught increase between 1963 and 1965?  
 \_\_\_\_\_  
 \_\_\_\_\_
- (ii) Suggest why the mass of herring caught decreased between 1965 and 1967.  
 \_\_\_\_\_  
 \_\_\_\_\_



2. The drawings below show the trees in a woodland area at the beginning of May and at the end of May.



The graph below shows the amount of light reaching the top of the trees and the woodland floor over one year.



1a(ii)  
1 mark

1b  
1 mark

1b(i)  
1 mark

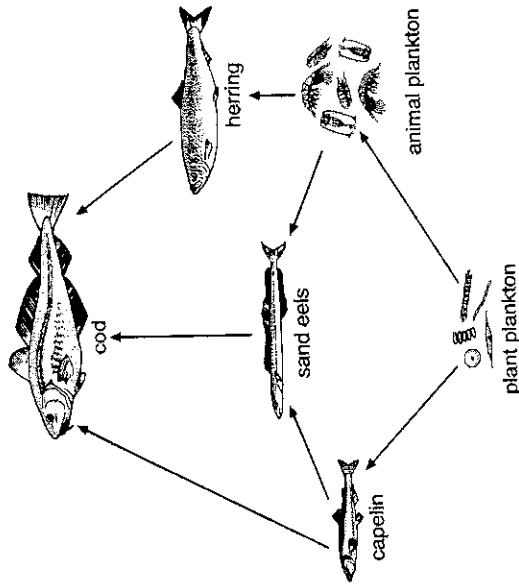
Total 5

(iii) Herring cannot breed until they are four years old. Fishing for herring was banned in the Norwegian Sea from 1972 to 1976. Suggest **one** reason why fishing for herring was banned for this period.

\_\_\_\_\_

\_\_\_\_\_

(b) The diagram below shows a food web in the Norwegian Sea.



(i) How could a decrease in the number of herring cause a **decrease** in the number of sand eels?

\_\_\_\_\_

\_\_\_\_\_

(ii) How could a decrease in the number of herring cause an **increase** in the number of sand eels?

\_\_\_\_\_

\_\_\_\_\_

maximum 5 marks

(a) Why does the amount of light reaching the woodland floor decrease during May?

\_\_\_\_\_  
\_\_\_\_\_

(b) Plants grow on the woodland floor.

Explain why these plants grow bigger and faster when there is plenty of light.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(c) **Respiration** takes place in the cells of all plants.

Complete the word equation for **respiration**.



2a  
1 mark

3a  
1 mark

2b  
1 mark

2b  
1 mark

2c  
1 mark

2c  
1 mark

Total  5

maximum 5 marks

3. (a) The average life span of a lion in a zoo is 22 years.  
The average life span of a lion in the wild is 17 years.

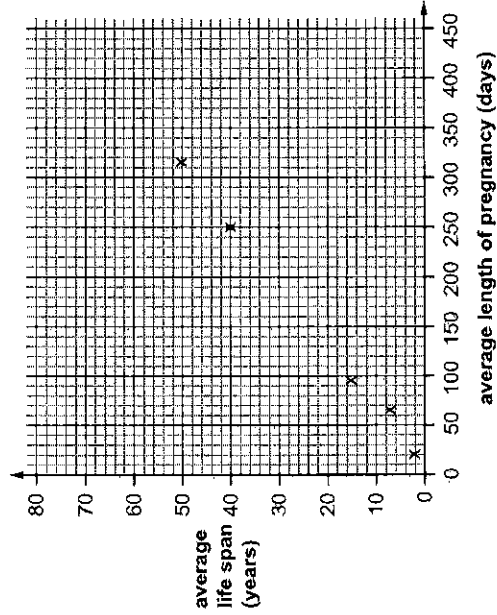
Suggest **two** reasons why lions live longer in a zoo than in the wild.

1. \_\_\_\_\_  
2. \_\_\_\_\_

(b) John found the following data about five mammals.

mammal	average length of pregnancy (days)	average life span (years)
mouse	20	2
guinea pig	65	7
leopard	96	15
chimpanzee	250	40
whale	315	50

He plotted points using data from the table.



(i) Using the points John plotted, draw a line of best fit.

(ii) From the graph, describe the relationship between the average length of pregnancy and the average life span.

\_\_\_\_\_

\_\_\_\_\_

(c) John found data about three other mammals.

mammal	average length of pregnancy (days)	average life span (years)
human	266	72
horse	340	25
giraffe	440	17

(i) Plot these **three** points on the graph on the opposite page.

(ii) Do these points fit the relationship you described in part (b) (ii)?  
Tick the correct box.

yes  no

Use the graph to give a reason for your answer.

\_\_\_\_\_

\_\_\_\_\_

maximum 6 marks

4. (a) The table below shows the melting points and boiling points of four elements.

element	melting point (°C)	boiling point (°C)
aluminium	660	2520
iron	1540	2760
magnesium	650	1100
mercury	-39	357

When answering the questions below, you may give the name of an element more than once.

Which element in the table is:

(i) a liquid at 0°C?

4ai 1 mark

(ii) a solid at 1500°C?

4aii 1 mark

(iii) a gas at 500°C?

4aiii 1 mark

(iv) a liquid over the biggest temperature range?

4aiv 1 mark

3bi 1 mark

3bii 1 mark

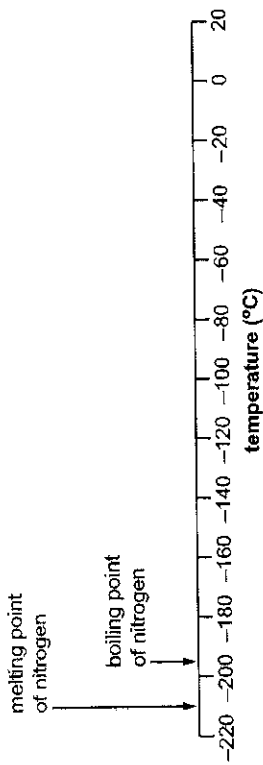
3ci 1 mark

3cii 1 mark

3ciii 1 mark

Total  6

(b) The melting point and boiling point of nitrogen are marked on the scale below.



(i) Draw an arrow on the scale above to show the temperature at which water freezes.

(ii) When water is a liquid, what is the physical state of nitrogen? Tick the correct box.

solid	<input type="checkbox"/>	liquid	<input type="checkbox"/>	gas	<input type="checkbox"/>
solid	<input type="checkbox"/>	liquid	<input type="checkbox"/>	gas	<input type="checkbox"/>

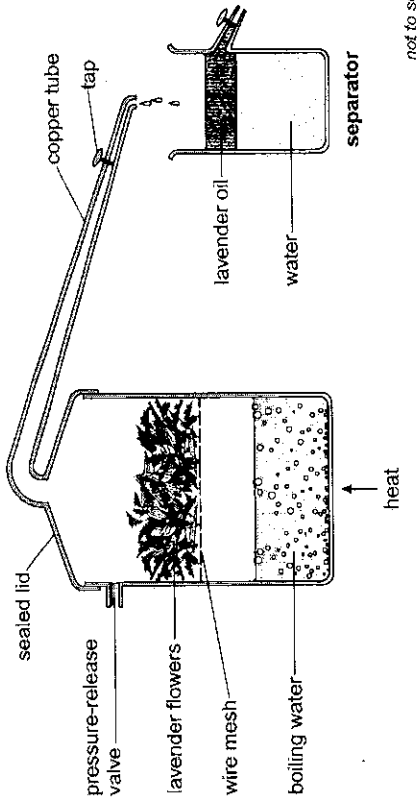
(iii) What is the physical state of nitrogen at -200°C? Tick the correct box.

solid	<input type="checkbox"/>	liquid	<input type="checkbox"/>	gas	<input type="checkbox"/>
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maximum 7 marks

Total

5. Lavender oil is a perfume obtained from lavender flowers. Steam at 100°C is passed through the flowers in the apparatus below.



Water vapour and lavender oil vapour pass down a copper tube towards a separator.

(a) (i) The lavender flowers are heated in a container with a sealed lid.

Why must the lid be sealed?

\_\_\_\_\_

\_\_\_\_\_

(ii) What would happen if the container did not have a pressure-release valve?

\_\_\_\_\_

\_\_\_\_\_

4bi 1 mark

4bii 1 mark

4biii 1 mark

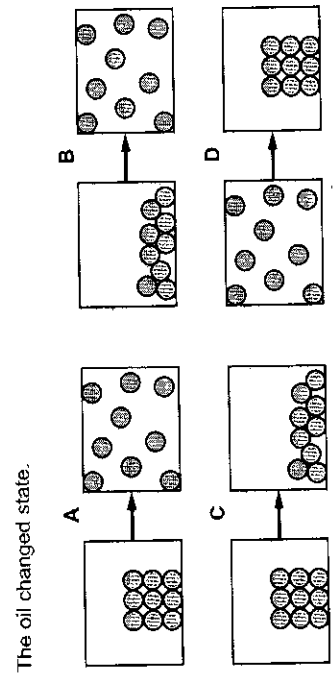
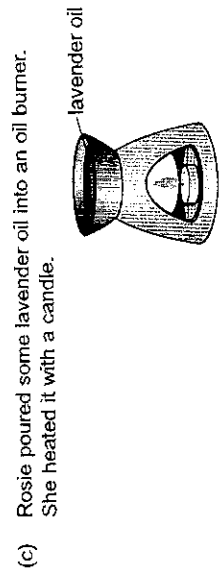
5ii 1 mark

6a0 1 mark

(b) Lavender oil vapour and water vapour cool as they pass down the copper tube.  
A mixture of lavender oil and water collects in the separator.

(i) What is the change in the physical state of both lavender oil vapour and water vapour as they cool?  
from \_\_\_\_\_ to \_\_\_\_\_

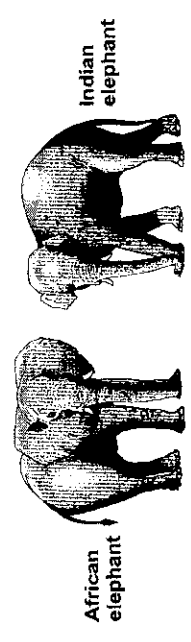
(ii) Look at the separator.  
How does this show that the water is denser than lavender oil?  
\_\_\_\_\_  
\_\_\_\_\_



Which diagram represents this change of state?  
Write the letter.

\_\_\_\_\_ maximum 5 marks

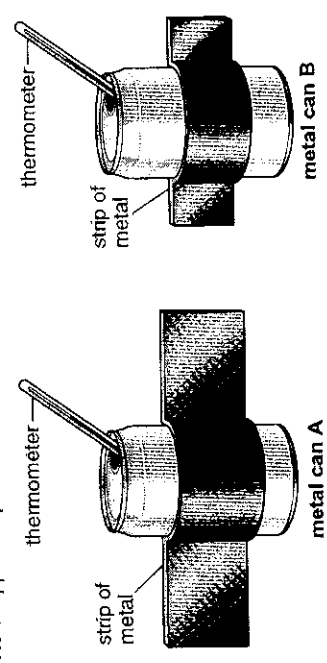
6. (a) Elephants keep cool by losing heat from their ears.



Predict which elephant can lose more heat from its ears.  
\_\_\_\_\_ elephant

Give the reason for your answer.  
\_\_\_\_\_

(b) Ben filled two identical cans with 250 cm<sup>3</sup> of hot water.  
He wrapped strips of metal around them to model the elephants' ears.



He recorded the temperature of the water in each can every 5 minutes.  
The table shows his results.

time (minutes)	temperature (°C)	
	can A	can B
0	60	60
5	54	57
10	50	54
15	46	52
20	43	50

5bi  
1 mark

5bi  
1 mark

6a  
1 mark

5c  
1 mark

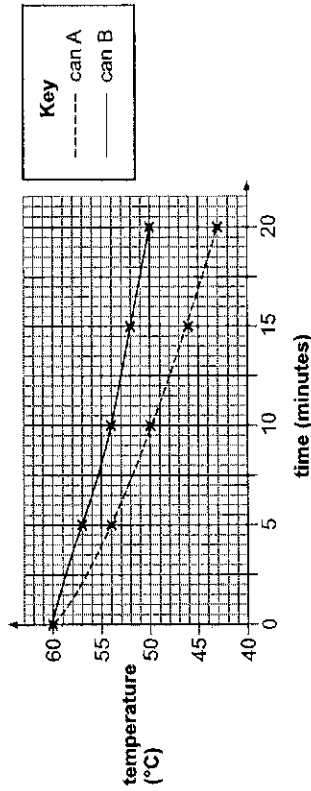
Total  5

- (i) Ben started with water at the same temperature in both cans.  
Give **one** other way he made his test fair.

\_\_\_\_\_

\_\_\_\_\_

- (ii) He plotted the results for can A and can B and drew lines of best fit.



Why is it more useful to present these results in a graph rather than a table?

\_\_\_\_\_

\_\_\_\_\_

- (iii) The water in **can A** cooled more quickly than the water in **can B**.  
Does this support your prediction in part (a)?  
Tick the correct box.

yes  no

Explain your answer.

\_\_\_\_\_

\_\_\_\_\_

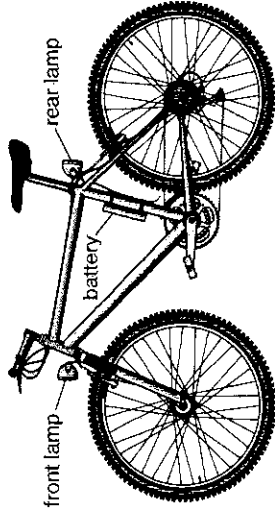
- (c) Ben repeated the investigation. Instead of a thermometer he used a temperature sensor and a data logger.  
Give **one** advantage of this.

\_\_\_\_\_

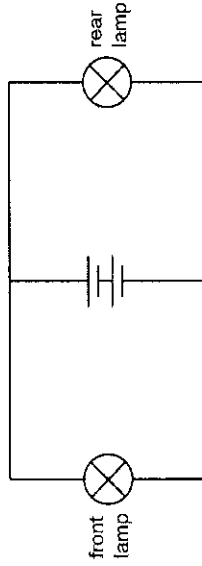
\_\_\_\_\_

*maximum 5 marks*

7. Nina's bicycle has a front lamp and a rear lamp.  
Both lamps are connected to the same battery.



- (a) The circuit diagram for the lamps is drawn below.



- (i) On the circuit diagram above, place a letter **A** to show the position of a switch to turn **only** the front lamp on and off.

- (ii) On the circuit diagram above, place a letter **B** to show the position of a switch to turn **both** lamps on and off at the same time.

6bi  
1 mark

6ba  
1 mark

7ai  
1 mark

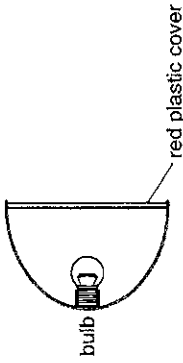
7ai  
1 mark

6bii  
1 mark

6c  
1 mark

Total  5

- (b) The bulb in the rear lamp gives out white light. White light is a mixture of all the colours of light.



The plastic cover acts as a red filter. Red light passes through the filter.

What happens to the other colours that do **not** pass through?

7b  1 mark

8a  1 mark

- (c) Nina replaces the battery with a generator called a dynamo. When Nina pedals her bicycle, the back wheel turns the generator. Complete the sentences below using words from the box.

chemical	electrical	gravitational
kinetic	light	sound
		thermal

As Nina pedals, \_\_\_\_\_ energy in her muscles is changed to kinetic energy.

When the generator turns, kinetic energy is changed to useful \_\_\_\_\_ energy in the wires. This energy in the wires is changed to useful \_\_\_\_\_ energy in the bulb.

When the lamps are on, some of the energy in the bulb is wasted as \_\_\_\_\_ energy.

7c  1 mark

7e  1 mark

7c  1 mark

7e  1 mark

Total  7

8. The table shows information about three planets in our solar system.

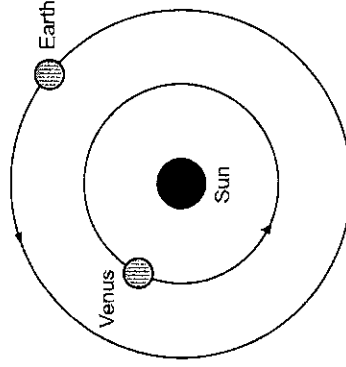
planet	time taken to orbit the Sun (Earth-years)
Mars	2.0
Venus	0.6
Earth	1.0

- (a) Give **one** reason why Venus takes less time than Earth to orbit the Sun.

\_\_\_\_\_

\_\_\_\_\_

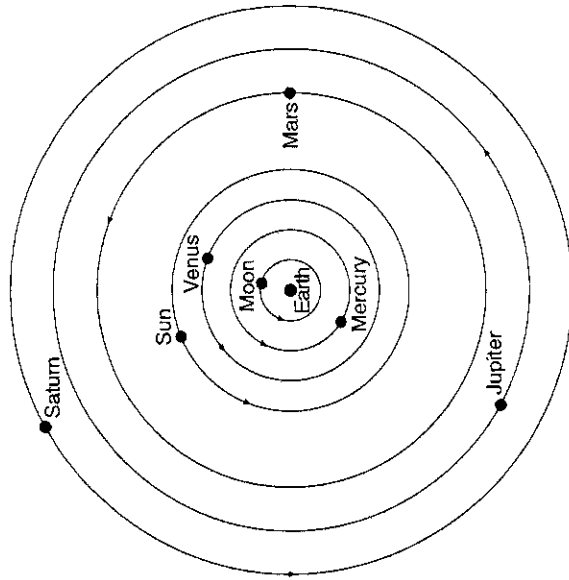
- (b) The diagram below shows the orbits of Venus and Earth. The Sun is a source of light. Venus does **not** produce its own light.



not to scale

- On the diagram above, draw rays of light to show how Venus can be seen from Earth. Use a ruler. Draw an arrow on each ray to show the direction of light.

- (c) The diagram below shows how the astronomer Ptolemy drew the solar system 2000 years ago.



not to scale

- (i) The planets Uranus and Neptune are missing from his diagram.  
Suggest why Ptolemy did **not** include these planets in his diagram.

\_\_\_\_\_

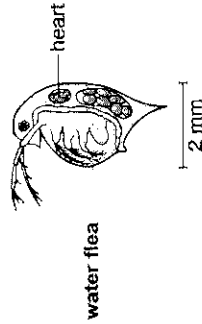
- (ii) Today, we know the correct arrangement of the planets in our solar system.

Give **one** way the diagram above is incorrect.  
Complete the sentence below.

In the correct arrangement \_\_\_\_\_

maximum 5 marks

9. Kava is a drug. It dissolves in alcohol but **not** in water. A scientist tested kava to see if it can reduce the human heart rate. Before testing the drug on humans, she tested it on water fleas.



- (a) She gave two groups of water fleas a different treatment.

group	number of water fleas	treatment
1	20	one drop of kava dissolved in alcohol
2	20	one drop of alcohol

- She placed the water fleas in a dish of water under a microscope.
- She measured the heart rate of each water flea before the treatment.
- She waited 30 seconds after the treatment was given and measured the heart rate again.
- She calculated the average heart rate for each group.

- (i) Why did the scientist measure the heart rate of the water fleas before the treatment?

96c  
1 mark

96c  
1 mark

96c  
1 mark

96c  
1 mark

Total  5

- (ii) After giving the treatment, why did she wait for 30 seconds before measuring the heart rate?

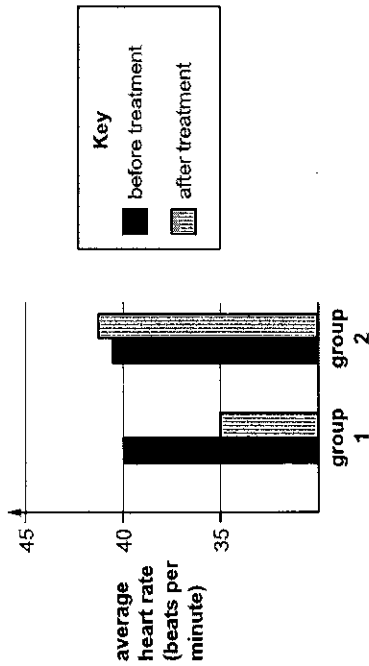


(iii) How could the scientist increase the reliability of the investigation?

\_\_\_\_\_

\_\_\_\_\_

(b) The results of the experiment are shown below.



(i) How will the results from group 2 help in the experiment?

\_\_\_\_\_

\_\_\_\_\_

(ii) How can the scientist use the results above to work out the effect of kava alone on the average heart rate of water fleas?

\_\_\_\_\_

\_\_\_\_\_

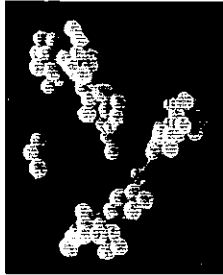
(c) From this experiment, why could she not be certain how kava will affect humans?

\_\_\_\_\_

\_\_\_\_\_

maximum 6 marks

10. The photograph below shows bacteria that have developed resistance to antibiotics. They are called MRSA bacteria.



(a) When MRSA bacteria reproduce, they pass on their resistance to antibiotics to the next generation.

What part of a cell passes on information?

\_\_\_\_\_

(b) MRSA bacteria can cause serious infections in people who are ill in hospital. The bacteria can live on a healthy person's skin or in their lungs without causing any harm.

Use this information to fill in the table below.

Suggest two ways MRSA bacteria can be spread from person to person. Suggest how the spread of the bacteria can be prevented for each method.

	method of spread	method of prevention
1		
2		

9aif  
1 mark

10a  
1 mark

9bi  
1 mark

10b  
1 mark

10b  
1 mark

9bii  
1 mark

9c  
1 mark

Total  6

(c) People can be vaccinated against some diseases caused by bacteria or viruses.

Describe how vaccination prevents a person getting a disease.

Four horizontal lines for writing an answer.

10c

1 mark

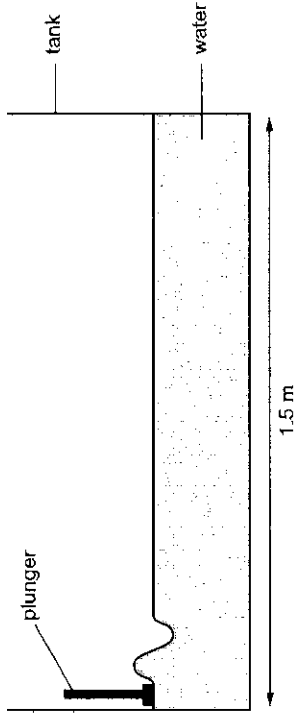
10c

1 mark

10c

1 mark

11. (a) Satish poured some water into a long tank in the school laboratory. He used a plunger at one end to make a wave.



not to scale

(i) The wave travelled to the other end of the tank. The speed of the wave was 2 m/s.

How long did the wave take to travel to the other end?

\_\_\_\_\_ s

10a  
1 mark

(ii) Satish investigated how the depth of water in his tank affected the speed of the waves.

Write a plan to show how he could do this.

Four horizontal lines for writing a plan.

10b  
1 mark

10c  
1 mark

10d  
1 mark

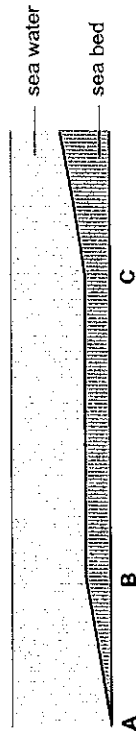
maximum 6 marks

Total  
6

(b) Satisfish found the following information about waves in the sea.

depth of sea water (m)	speed of wave (m/s)
10	9.9
20	14.0
30	17.2
40	19.8

The diagram below shows how the depth of sea water changes.



Use the information in the table above to help you describe the speed of a wave as it travels from **A to B** and from **B to C**.

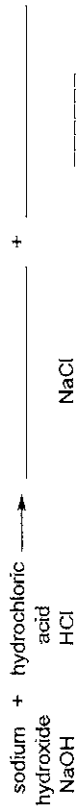
**A to B** \_\_\_\_\_  
**B to C** \_\_\_\_\_

maximum 6 marks

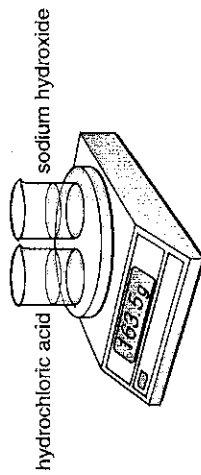
12. (a) The chemical formula for hydrochloric acid is HCl.  
 The chemical formula for sodium hydroxide is NaOH.

When they react together, two products are formed.  
 The chemical formula for one product is NaCl.

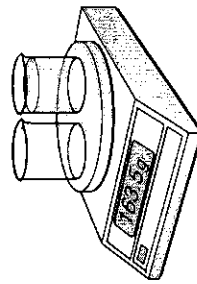
- (i) Complete the word equation below with the **names** of both products.  
 (ii) **On the dotted line**, give the chemical formula of the other product.



(b) In experiment 1, Molly put two beakers on a balance. One contained 20 cm<sup>3</sup> of hydrochloric acid. The other contained 20 cm<sup>3</sup> of sodium hydroxide solution. The total mass was 163.5 g.



She poured the acid onto the sodium hydroxide. They reacted.



Why did the reading on the balance **not** change?

\_\_\_\_\_

12ai  
1 mark

12ai  
1 mark

12ai  
1 mark

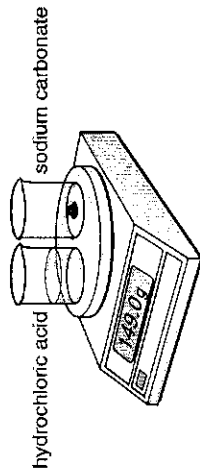
11b  
1 mark

11b  
1 mark

12b  
1 mark

Total  6

- (c) In experiment 2, Molly put two beakers on a balance. One contained 20 cm<sup>3</sup> of hydrochloric acid. The other contained 5 g of sodium carbonate.



She poured the acid onto the sodium carbonate. They reacted. Two of the products are the same as in experiment 1.

- (i) Complete the word equation with the names of the **three** products.



- (ii) The total mass at the start was 149.0 g. When the reaction stopped, the reading on the balance was 147.0 g.

Why was there a loss of mass in this reaction?

\_\_\_\_\_

\_\_\_\_\_

12ai  
1 mark

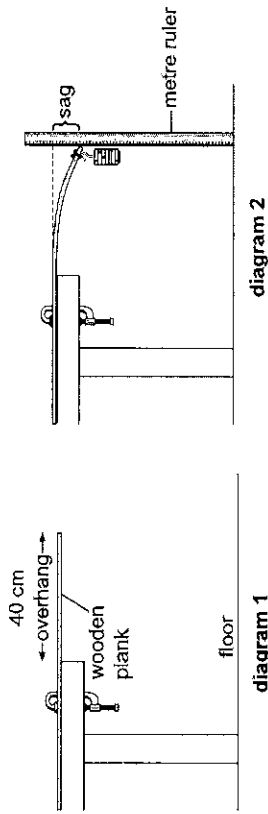
12di  
1 mark

13a  
1 mark

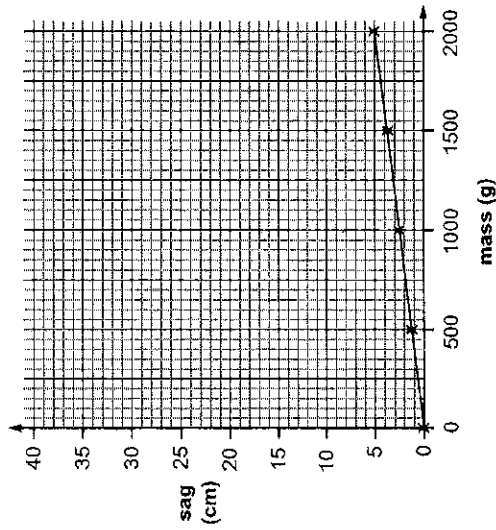
Total  6

maximum 6 marks

13. Oliver clamped a wooden plank to a desk. There was a 40 cm overhang as shown in diagram 1.



Oliver added masses to the end of the wooden plank as shown in diagram 2. He measured the sag. The graph below shows his results.



- (a) What measurements would Oliver need to take to work out the sag?

\_\_\_\_\_

\_\_\_\_\_

- (b) Oliver repeated his test with a new plank with an 80 cm overhang. His results are shown below.

mass (g)	sag (cm)
0	1.0
500	15.0
1000	25.0
1500	31.0
2000	35.0

- (i) Plot the results from Oliver's second test on the grid opposite. Use the points to draw a line of best fit.

13bi  
1 mark

13bi  
1 mark

- (ii) In the second test the plank sagged with **no** mass added to it. Explain what caused this sag.

13bii  
1 mark

- (c) Compare the results of Oliver's two tests.

- (i) How are the results **similar** for each test?

\_\_\_\_\_

\_\_\_\_\_

- (ii) How are the results **different** in the second test?

\_\_\_\_\_

\_\_\_\_\_

13ci  
1 mark

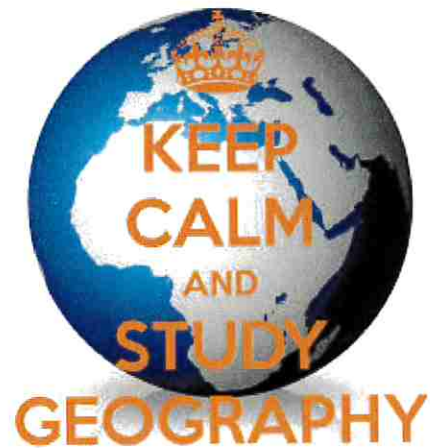
13cii  
1 mark

END OF TEST

maximum 6 marks

Total

# Year 9.2 – Geography Revision Guide



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

The aim of this revision guide is to support you in preparing for the Y9 assessments in Geography. You will be assessed on the topics you have studied since Year 7.

Revision advice:

Study each page of the revision guide in a **quiet place**, where you can concentrate. Put away your phone and computer.

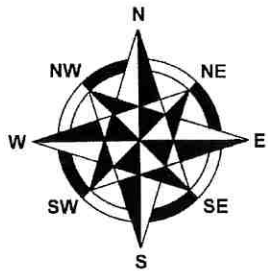
**Create your own set of notes** or **revision cards** to help you to remember the information.

Speak to your Geography teachers if you need any help preparing for the assessment.

Highlight any key parts.

Get somebody to test you to see what you have learnt.

## Geography map skills



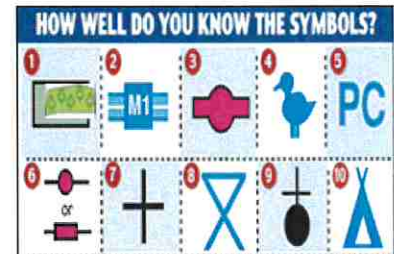
**Compass Directions** These are used to help us get around and work out where different places are located. **TAKE CARE** when working out directions making sure you know where you start from.

FROM England to Scotland you go NORTH.

To N. Ireland FROM Scotland is SW **BUT** from N. Ireland to Scotland is NE

Map symbols are used to make it simpler to show different features on an OS map:-

1. Forest
2. Motorway
3. BUS station
4. Nature reserve
5. Public Conveniences (toilets)
6. Railway station
7. Chapel
8. Picnic site
9. Church with a spire
10. Camp site

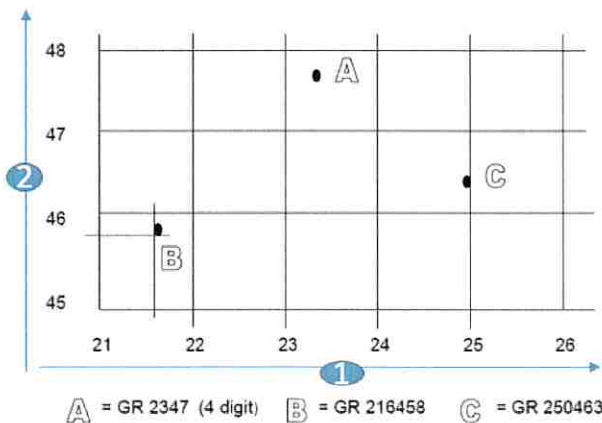


**OS maps** help show what can be found at different locations. The lines on the map are contour lines. **Contour lines** show places of equal height. The closer the contour lines together, the steeper the place is. The area opposite on the map is therefore quite hilly, with lowland forests and lakes.

The numbers (eg 335 Loughrigg fell shown opposite) show exactly how high up a place is.



### Grid References



These are a skill you need to practice and LEARN. Remember :-

- Go along the bottom first (1).
- Take the **two digit** number up from the bottom left of the square the symbol is in
- Go up the grid second (2).
- Take the two digit number across from the bottom left of the square the symbol is in.

E.g. A = **2347**,      B = **2145**,      C = **2546**

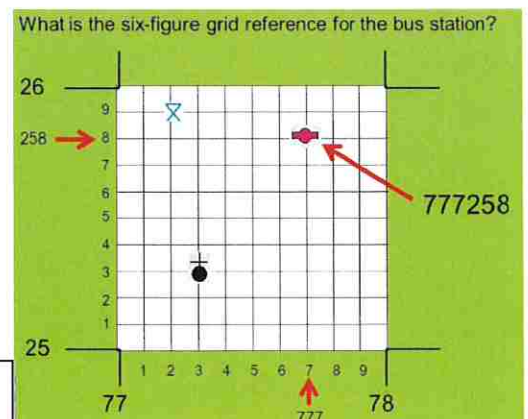
**6 figure grid references** are a close up on a map square to help us work out precisely where something is. *Imagine* each large square being broken further up into tenths across and up.

The 4 figure grid reference is **7725**

Picnic table = **772** (2 tenths along from bottom left of square) and 259 (9 tenths up from bottom left of square) – 772259.

Church with spire = **773253**

Hint – always imagine half way (5) across first then put a mark on the line

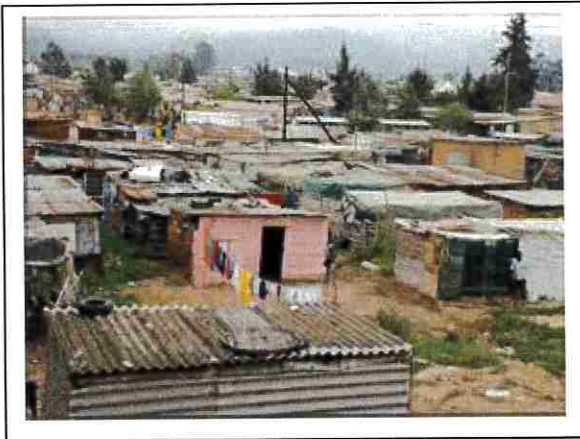
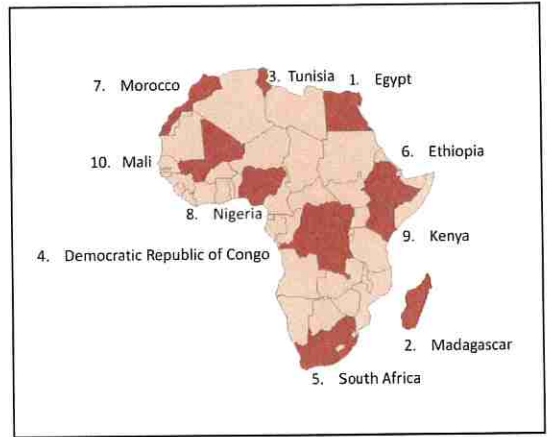


# Africa revision notes

Africa is a continent with about 54 countries. It covers 30.2million km<sup>2</sup> being over 5000miles long between Tunisia and South Africa and has 1.1billion people.

Many countries in Africa are not as developed or wealthy as us.

**LIDC** means Low Income Developed Country eg. Kenya, Mali



**Shanty towns in Nairobi Kenya.** In many cities in Africa lots of shanty towns such as Kibera are built by people on land they do not own. The houses are made out of **scrap material** such as wood and metal. Usually up to eight people live in a house roughly the same size as your kitchen.

These houses have **few basic essentials** like ours without any electricity, running water or waste disposal. The narrow streets are covered in filth and rubbish. They are very dangerous to women who often get **raped**. Within the shanty town there are many people with the **AIDS disease** and thousands of orphans who don't get chance of a basic education. The children have to scavenge and try to help their parents or carers make a little money so they can afford to eat.

**AID** is sent by rich countries to help Kenya develop. In times of disaster such as floods or famine we send **short term aid** such as food or clothes parcels. **Long term aid** is also provided by building them things such as schools, medical centres and new irrigation equipment. **Life expectancy** is much lower in Africa so it is hoped that the aid will help them be vaccinated against more disease and have better access to fresh clean water so they live longer.

## Weather and Climate revision notes

**Weather** is the day to day conditions of the atmosphere.

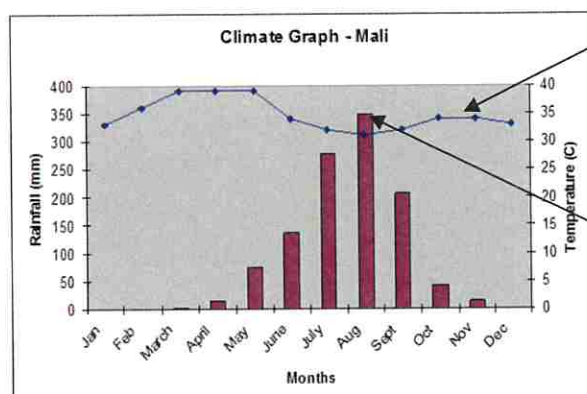
**Climate** is the average condition of the atmosphere over a period of time.

*Always write about Rainfall and Temperature when looking at climate and quote figures/months*



### Climate graph interpretation

The **bar chart** always shows amount of rainfall each year.



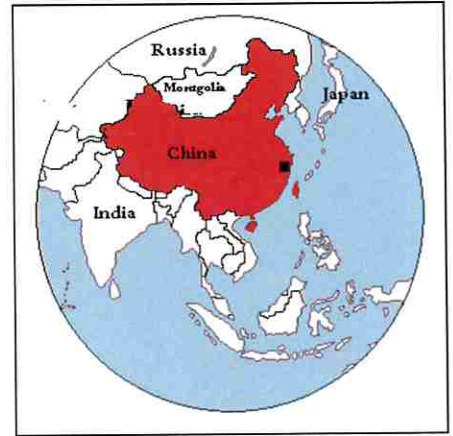
The **line graph** always shows average temperature

**ALWAYS** quote data in your answers  
e.g. There was 350mm rain in August



## China Revision notes

**China location** China is the **fourth** largest Country in the World. It's located in **SE Asia** in the northern hemisphere. China is surrounded by **14** countries including India and Russia as well as the Pacific Ocean to the East. The Country is so large that it contains parts of the Gobi desert in the north and the Himalayas to the south.



The capital of China is **Beijing**, located in northern China with 22million people. It is a very popular tourist destination containing the Great Wall of China, the Forbidden City and Tiananmen Square.

## China population

China has the largest population in the world with currently 1.3 billion people which brings many challenges.

**Overpopulation (too many people to provide food for given the resources of the country)** became a big threat. Originally in the 1950s China wanted big families of 4 children each but with 22% world population and just 7% of the arable land it became clear overpopulation was an issue.

**One Child Policy** was introduced in **1979** by the **Communist** Party. The government created a law to help reduce the population growth over 30 years and has managed to reduce the total population growth by **300 million** people.

- Legal age of marriage increased to 22 years.
- Couples had to apply to the government to get married and to have a child.
- Those who conformed got free education, priority housing and benefits.
- Couples with One Child get 10% bonus in wages

## Exceptions

- If you had a disabled child or twins then you could have another child
- If you live in the countryside and have a girl first then you are allowed to have another child because more are needed to help grow the crops and boys are seen as better to farm.
- Ethnic minorities could also have another child

### **Effects upon females**

Many families wanted a traditional male heir so aborted girls or killed babies.  
Many girls are sent to orphanages so parents could then try for a boy.  
In the cities there is up to a 3:1 boy-girl ratio

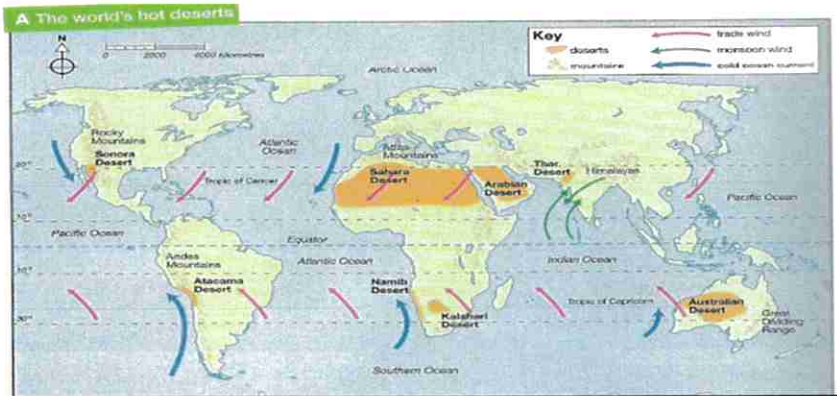
### **Effects upon males**

**Boys** often spoilt and obese because they are the only child and given everything they want.  
**Men** have lots of competition for traditional male jobs. They struggle to find a wife (few women around) and become stressed because tradition says without being married you can't go to heaven. Men also now have to care for their elderly parents.

# Y9 Desert Revision sheet

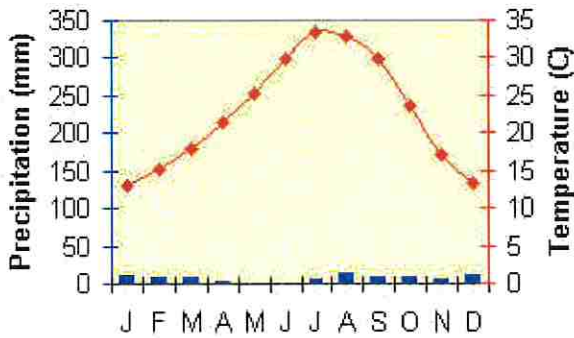
Deserts are located between **15° and 30° N and S of the Equator**. The most famous desert, The Sahara, is located in North Africa. It stretches from the Atlantic Ocean to the Red Sea covering over twelve countries.

It is formed mainly due to the Trade Winds (an area of High pressure) where the sinking winds bring few clouds and rain to the area.



**Desert definition:** An area which receives less than 25cm of rainfall per year.

## Yuma, AZ

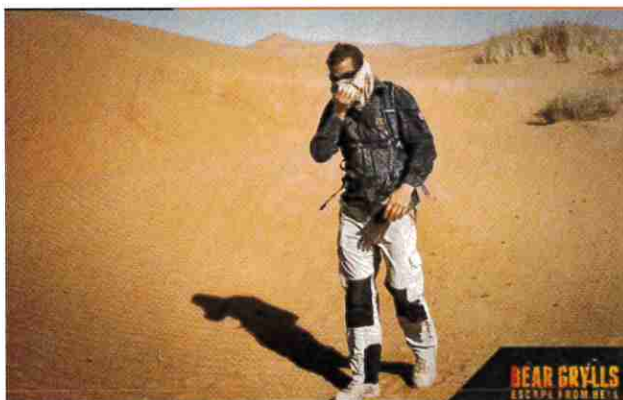
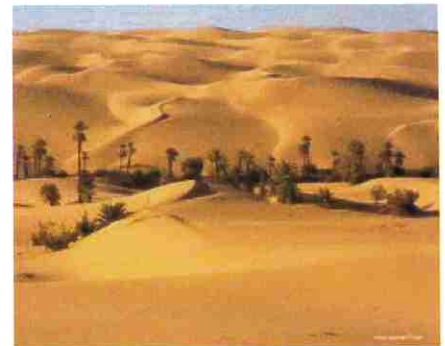


The **Desert Climate** is much different to ours. **Rainfall** is low, with some months having a complete **drought** – unlike in the UK where it generally rains each month. The **temperatures** are a lot hotter in the desert daytime because there are few clouds to stop the sun rays getting through and the sun is more overhead making it more intense. Daytime temperatures on average can reach over 35°C unlike in the UK where we average about 18°C. At night, however, with no clouds the heat is lost and it becomes very cold.

### Extreme environments

A place where it is very difficult for people, animals and plants to normally survive due to extreme temperatures, lack of water and shelter.

A desert is a good example of an extreme environment



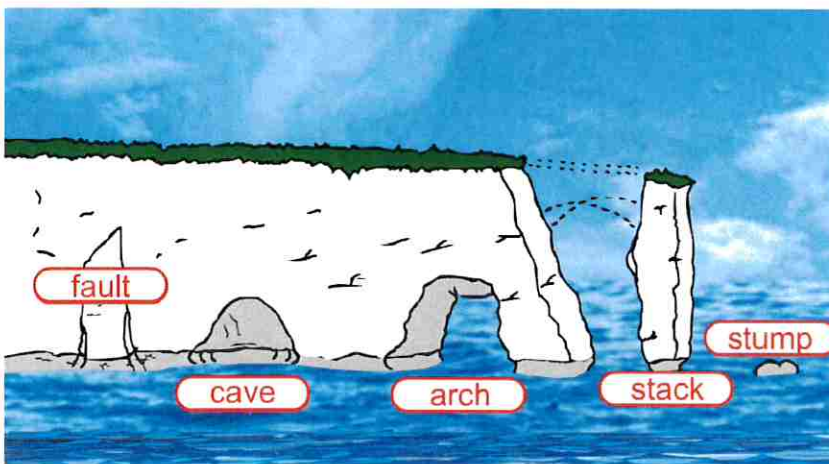
### Extreme desert survival. Remember 'FADISS'

- **Food supply.** There are no food supplies in the desert or any places where food can be accessed if resources run out.
- **Animals.** The desert is full of poisonous scorpions and venomous snakes that could harm people.
- **Dehydration.** It's very dry so little water available for people to survive.
- **Isolated.** There is nothing to help people keep alive or safe if people get ill.
- **Shelter.** The desert is a wide open space with very little shelter to help protect people from the sun or sand.
- **Sunburn.** Without protection the sun damages the skin of people and animals.

## Coasts revision sheet

The **coastline** is the edge of the land where it meets the sea.

Erosion processes – the wearing away of the land by the sea	
<b>Corrosion</b>	Salt chemicals in seawater <b>dissolve</b> the rocks
<b>Attrition</b>	Rocks <b>bump</b> into each other in the sea becoming smooth and rounded
<b>Abrasion</b>	Broken rocks <b>hurled</b> at base of cliff
<b>Hydraulic action</b>	<b>Air is trapped</b> in cracks and forced into them when the waves hit the cliff.



## Y9 Natural Hazards Revision

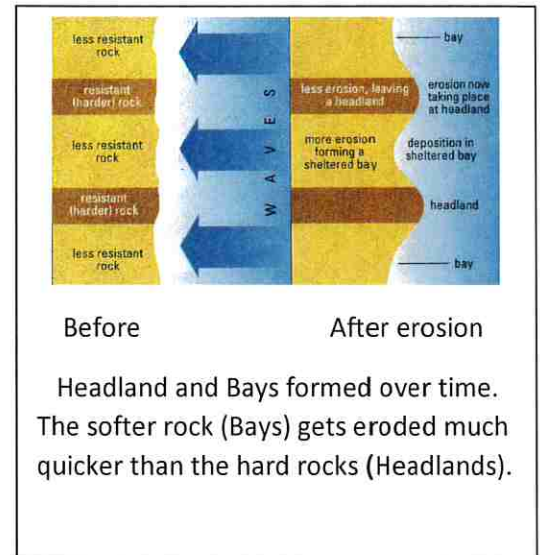
**Natural Hazards** are naturally occurring events in the world that threaten humans and property such as earthquakes and volcanoes.

**The inner core** is in the centre and is the hottest part of the Earth. It is solid and made up of iron and nickel with temperatures of up to 5,500°C.

**The outer core** is the layer surrounding the inner core. It is a liquid layer, also made up of iron and nickel.

**The mantle** is the widest section of the Earth. It has a diameter of approximately 2,900 km. The mantle is made up of semi-molten rock called magma. In the upper parts of the mantle the rock is hard, but lower down the rock is soft and beginning to melt.

**The crust** is the outer layer of the earth. It is a thin layer between 0-60 km thick. The crust is the solid rock layer upon which we live.

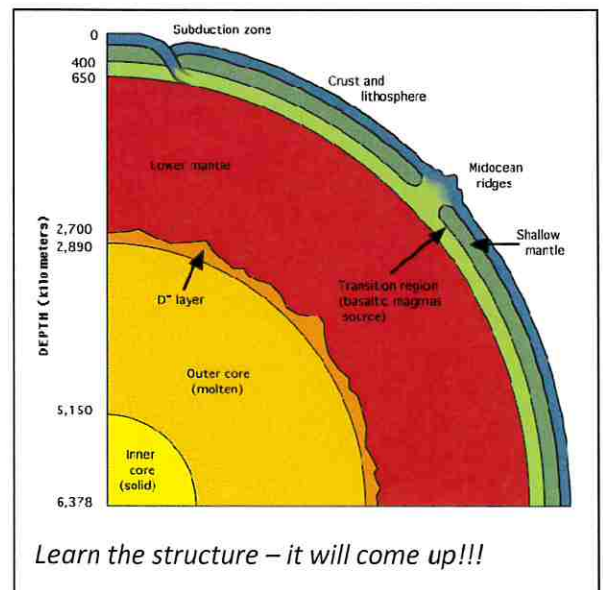


Before After erosion

Headland and Bays formed over time. The softer rock (Bays) gets eroded much quicker than the hard rocks (Headlands).

## Headland erosion

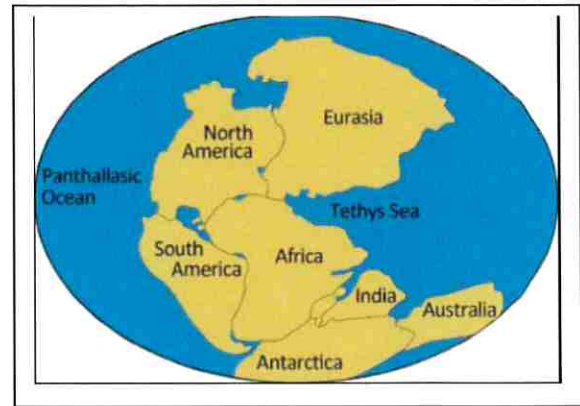
The **weak fault** is attacked by the sea by **hydraulic action and corrosion**. It becomes bigger and turns into a **cave**. The cave sides are eroded by **abrasion** at high tide making them deeper. Eventually the cave will erode all the way through forming an arch. The arch **roof collapses** to leave a **stack**. Over time the base of the stack is eroded to leave a **stump**.



*Learn the structure – it will come up!!!*

- 1) the land masses fit together like a puzzle – the shape of S.America and Africa
- 2) the fossil evidence is similar in certain continents from when they were together
- 3) the age and type of rocks are the same
- 4) the mountain chains seem to continue from continent to continent
- 5) climate changes show similar evidence
- 6) coal deposits in the eastern U.S. and Siberia match being created at the same time
- 7) sea floor spreading is occurring
- 8) paleomagnetism shows the different magnetic directions of the rocks over time.

## Continental Drift evidence



### Types of aid

**Emergency or short-term aid** - needed after sudden disasters such as the Pakistan Earthquake or the 2004 Asian tsunami. This will be to help with immediate search and rescue and food, water, medical care and shelter

**Charitable aid** - funded by donations from the public through organisations such as OXFAM. This is to raise money to help with the relief for poor people.

**Long-term or development aid** - involves providing local communities with education and skills for *sustainable development*, usually through organisations such as Practical Action. May involve building schools and more earthquake proof buildings

**Multilateral aid** - given through international organisations such as the World Bank rather than by one specific country. This is to help finance the country during hard times.

## Tropical Rainforest Revision notes



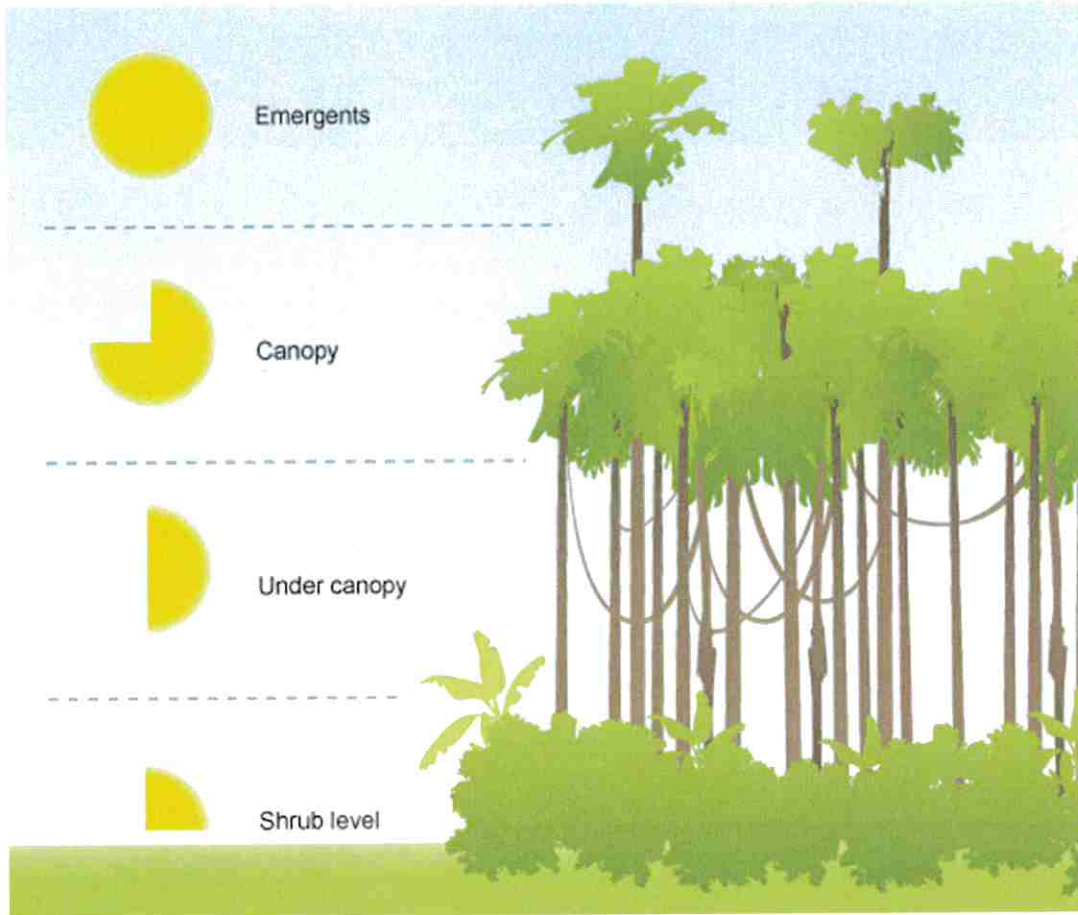
### Location

*Tropical* rainforest biome is found in hot, humid environments in equatorial climates. They contain the biggest range and highest volume of plant and animal life found anywhere on earth.

In general, tropical rainforests have hot and humid climates where it rains virtually every day. The level of rainfall depends on the time of year. Temperatures vary through the year by 2°C.

### Key facts to learn

Rainforests have a **Tropical Climate** because the areas close to the Equator have **low pressure** all year round. This means that it is very warm and wet **with convectional rainfall** occurring nearly every day.



*Please note that sometimes other terms are used such as*

*Under Canopy/under storey*

*Shrub layer/forest floor*

## Rainforest vegetation levels

Tropical rainforests have dense vegetation. From ground level up these levels of vegetation are:

- **The shrub layer.** It is dark and gloomy with very little vegetation between the trees. During heavy rainfalls this area can flood.
- The **under canopy** is the second level up. There is limited sunlight. Saplings wait here for larger plants and trees to die, leaving a gap in the canopy which they can grow into. Woody climbers called lianas avoid having to wait for gaps by rooting in the ground and climbing up trees to get to the sunlight.
- The **canopy** is where the upper parts of most of the trees are found. The canopy is typically about 65 to 130 feet (20 to 40 metres) tall. This leafy environment is home to insects, arachnids, birds and some mammals.
- **Emergents** are the tops of the tallest trees in the rainforest. These are much higher, and so are able to get more light than the average trees in the forest canopy.

# Subject: Design & Technology Year 9 Tracking 2

Length of Test 1 hour

Content	What marks are awarded for	Marks available
<b>Q1:</b> Students will need to name a naturally occurring material and a synthetic material	A correctly named natural material (which can be obtained and used without changing its chemical composition) and a synthetic material (which has been processed and had its chemical composition changed)	2
<b>Q2:</b> Students will need to identify some textiles components and pieces of equipment and explain their uses.	<ul style="list-style-type: none"> <li>- Correctly name the piece of equipment or component</li> <li>- Describe it's use (how it is used or what it is used for)</li> </ul>	4
<b>Q3:</b> Students will be asked to list 3 health and safety points they need to follow when using a sewing machine	<ul style="list-style-type: none"> <li>- One mark for each correct piece of health and safety advice</li> </ul>	3
<b>Q4:</b> Students will be asked complete a flowchart to explain a particular textiles manufacturing process	<ul style="list-style-type: none"> <li>- Marks will be awarded for identifying the 6 stages of the process</li> <li>- Placing the stages in the correct order</li> <li>- Naming and explaining the use of equipment and materials used</li> </ul>	6
<b>Q5(a):</b> Students will be given 3 functions of food packaging and asked to explain why the function is necessary	<ul style="list-style-type: none"> <li>- 2 marks will be awarded for each function one for identifying what the function is and one for explaining why it is necessary</li> </ul>	6
<b>Q5(b):</b> Students will be asked to explain what 3 key words used in Design and Technology mean	<ul style="list-style-type: none"> <li>- 2 marks will be awarded for each, one for identifying what the word means in a Design &amp; Technology context and one for giving and example</li> </ul>	6
<b>Q5(c):</b> Students will be asked to design a disposable food package (like a McDonalds Happy meal box).	<ul style="list-style-type: none"> <li>- Accurate and creative design ideas sketched on the sheet</li> <li>- Materials and construction methods explained</li> <li>- Surface decoration and colour used to meet the design expectations for the packaging</li> <li>- Detailed annotation to explain how the design meets the design criteria of the company</li> </ul>	15
<b>Q5(d):</b> Students will be asked to evaluate how their design meets the key words explained in 5(a)	<ul style="list-style-type: none"> <li>- Explaining the good points of their design and <u>how</u> it meets the keywords by highlighting features of the design</li> <li>- Explaining how the design might be improved or developed to make it more successful</li> </ul>	8

History – sample paper

**SECTION 1 [28 marks]**

(a) Describe the way that African slaves were transported to the Americas. [4]

(b) Explain why Mary I is called 'Bloody Mary.' [8]

(c) Which of these reasons made it more likely that the First World War started in 1914?

A. The Kaiser's personality

B. The Alliance System

(12 plus 4 SPAG)

**SECTION 2 [16 marks]**

(a) How useful is this painting of the attack of Vimy Ridge to historians studying life in the trenches? [12]



b. Source B opposes Kaiser Wilhelm II. How do we know? (4)



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## Religious Education 9 sample paper

- 1)
  - a. What is Euthanasia? (1)
  - b. What is an Agnostic? (1)
- 2)
  - a. Describe two different answers to the question 'when does life begin?' (2)
  - b. Name two places of pilgrimage for two different religions. (2)
- 3)
  - a. Describe three different beliefs about war (3)
  - b. Describe three ways in which religious people have challenged inequality (3)
- 4) Explain different beliefs that people have about using animals for food. (6)
- 5) **'It is never right to kill another human being'**

Discuss this statement. You must include different opinions and a personal point of view. (12)

**TOTAL: 30 marks**

## TV, Books and Radio

Q1 Draw a line to connect each Spanish sentence to the correct English meaning.

<i>Veo la televisión</i>	I read books
<i>Leo revistas</i>	I listen to music
<i>Escucho música</i>	I listen to the radio
<i>Leo periódicos</i>	I watch films
<i>Veo películas</i>	I read newspapers
<i>Leo libros</i>	I watch TV
<i>Escucho la radio</i>	I read magazines

Q2 Read what these three people say then answer the questions below in English.

No escucho música y no me gusta escuchar la radio. Me gusta leer. Me encanta leer libros y revistas.

Lisa



Me gusta ver la televisión y me encanta ver películas. Leo revistas pero odio leer periódicos. Son aburridos.

Venus



Me encanta escuchar música y me gusta ver películas. No leo libros pero me gusta leer revistas y periódicos.

Vincent



- a) Which person likes watching TV? .....
- b) Which person does not like listening to the radio? .....
- c) What do all three people like to read? .....
- d) Which person likes to listen to music? .....
- e) Which two people like to watch films? .....
- f) What does Venus hate to read? .....
- g) Which person loves to read books? .....

Q3 Write in Spanish how you would say:

- a) I like this film. ....
- b) I don't like this film. ....
- c) I like this book. ....
- d) I don't like this book. ....

## Pastimes and Hobbies

Q1 My computer has gone barmy and jumbled up all the letters in these words. Unscramble them and write out each sentence about hobbies in Spanish.



a) ovy a radna

.....



d) hoag cariobe

.....



b) ohag dossiermen

.....



e) yov ed spramco

.....



c) ahgo gofinot

.....



f) goah miccosil

.....

Q2 Read these opinions about different pastimes, then answer the questions below in English.

Person	Opinion
Alfredo	No me gusta ir a nadar porque es cansado.
Vanessa	Me gusta mucho ir de compras porque es divertido.
Oswaldo	Me gusta hacer senderismo porque es interesante.
Raimundo	Me encanta hacer esquí. ¡Es fácil!
Emelina	Hago footing pero no me gusta. Es aburrido.

- a) Which hobby does Oswaldo find interesting? .....
- b) What does Vanessa think of going shopping? .....
- c) Why does Alfredo not like swimming? .....
- d) Why does Raimundo like to go skiing? .....
- e) Which hobby does Emelina find boring? .....

Q3 Complete these sentences by writing the words in brackets in Spanish.

- a) Me gusta hacer ..... [cycling] porque es ..... [easy].
- b) No me gusta hacer ..... [hiking] porque es ..... [boring].
- c) Me encanta hacer ..... [aerobics] porque es ..... [fun].
- d) Odio hacer ..... [jogging] porque es ..... [difficult].