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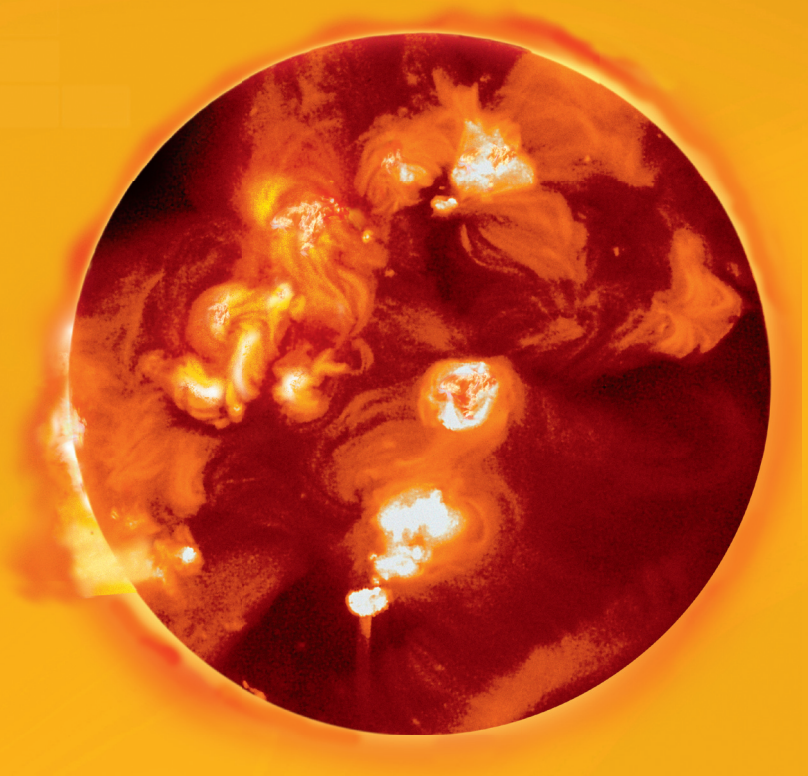

Entry Level Certificate in Science

Sample Assessment Material

Edexcel Entry 1, Entry 2 and Entry 3 Certificate in Science (8939)

First examination June 2014

ALWAYS LEARNING

PEARSON

Contents

Introduction

This booklet contains sample assessment materials for the nine topics that make up the Entry Level Certificate in Science (Qualification Number: 600/7881/9

The nine units are designed to cover areas of Biology (topics 1 to 3), Chemistry (topics 4 to 6) and Physics (topics 7 to 9) from the associated Edexcel 2011 GCSEs in Science that lend themselves to teaching at this level.

For each unit, there are two types of assessment: an end of unit test and an assignment. Learners studying for the Entry Level Certificate may submit up to six end of unit tests and three assignments. They may **not** submit an end of unit test and an assignment for the same unit.

What are the differences between end of unit tests and assignments?

The end of unit test is a 15-mark test. Tests are not time limited. Each test can cover all aspects of the content for the unit studied.

Questions will consist mostly of multiple-choice questions, matching boxes and sentence completion. Some questions may be of a free response nature, usually for either 1 or 2 marks.

The assignment is a 20-mark test. Assignments are not time limited. Assignments will cover practical aspects and applications of the content studied for the unit.

Questions will mostly consist of multiple-choice questions, matching boxes and sentence completion. Some questions may be of a free response nature, usually for either 1 or 2 marks.

When do my learners sit the end of unit tests and assignments?

There is no fixed time at which your learners must take the end of unit tests and assessments. They can be completed after teaching each unit according to your schedule. For this reason, the tests and assignments are not produced for each new set of learners – you simply use the tests and assignments provided at the start of the course. These test papers and assignments are kept securely on the Edexcel website. Please note that they are confidential and should be kept securely in the centre once printed.

General marking guidance

- All learners must receive the same treatment. Tutors must mark the first learner in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Learners must be rewarded for what they have shown they can do rather than penalised for omissions.
- Tutors should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All marks on the mark scheme are designed to be awarded. Tutors should always award full marks if deserved, i.e. if the answer matches the mark scheme. Tutors should also be prepared to award zero marks if the learner's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- Crossed-out work should be marked UNLESS the learner has replaced it with an alternative response.
- The abbreviation, OWTTE, appears in some mark schemes. It represents the phrase 'Or Words To That Effect'.

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 1: Classification and variation

Sample Assessment Material
Test for Topic 1

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

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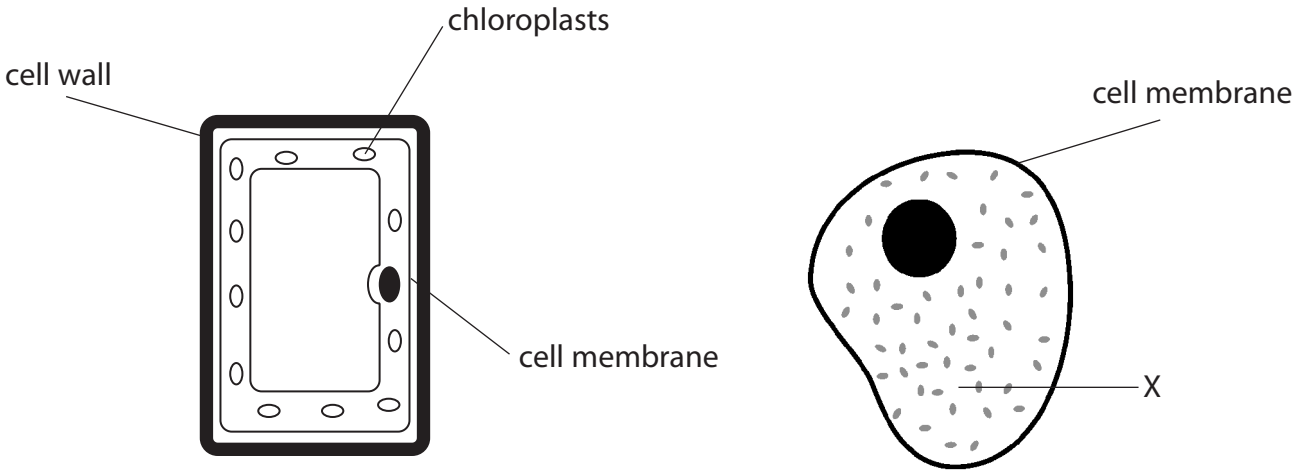
Answer all questions in the spaces provided.

Questions 1 to 4

The diagram shows an animal cell and a plant cell.



..... cell. ..... cell.

1 Complete the label under each diagram.

(1)

2 Explain how you knew which cell was the plant cell.

(1)

.....

.....

3 State the name of the part of the cell labelled X.

(1)

.....

4 Label the nucleus on **one** of the diagrams.

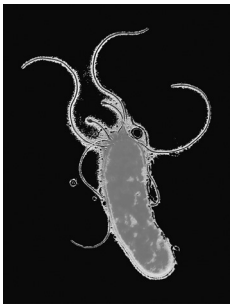
(1)

Questions 5 to 7

5 All living things (organisms) can be classified into kingdoms.

Draw **one** line from each organism to the correct kingdom.

(3)

Organism	Kingdom
 *Simon Booth Science Photo Library*	bacteria
 *P. Hawtin, University of Southampton Science Photo Library*	plants
 *Art Wolfe Science Photo Library*	animals
	fungi

6 State the name for animals without a backbone.

(1)

.....

7 A student wanted to compare different classes of vertebrates.

The student made this table but did not finish it.

Complete the table by filling in the shaded boxes.

(3)

Class	Example	Lay eggs	Has constant temperature
mammals	human		✓
reptiles		✓	✗
birds	swan	✓	✓
amphibians	frog	✓	
fish	cod fish	✓	✗

Questions 8 to 11

Complete the sentences by underlining the correct answer in the box.

8 All children inherit characteristics from their parents through their

blood
body cells
genes

. **(1)**

9 One illness that can be inherited is

athlete's foot
cystic fibrosis
the common cold

. **(1)**

10 An example of an inherited characteristic is

eye colour
pierced ears
weight

. **(1)**

11 A characteristic that is not inherited is

a tattoo
blood type
sex

. **(1)**

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 1

1	Correct labels (diagram on the left hand side is a plant)	(1)
2	Only plant cells have chloroplasts/cell wall	(1)
3	Cytoplasm	(1)
4	Correct label on either/both nucleus	(1)
5	In order from top: fungi bacteria animals	(3)
6	Recognisable spelling of 'invertebrates'	(1)
7	Mammals row, X or 'no' in the shaded box under 'lays eggs' Reptiles row, any reptile, e.g. lizard, in the shaded box under 'example' Amphibians row, X or 'no' in the shaded box under 'has constant temperature'	(1) (1) (1)
8	Genes	(1)
9	Cystic fibrosis	(1)
10	Eye colour	(1)
11	A tattoo	(1)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 1: Classification and variation

Sample Assessment Material
Assignment for Topic 1

Total Marks
/20

For teacher's use only

Instructions to candidates

- Answer **all** questions.
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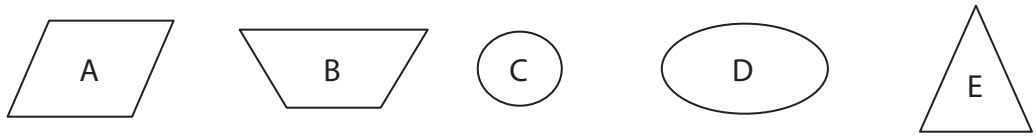
Answer all questions in the spaces provided.

Questions 1 and 2

Look at the shapes below.

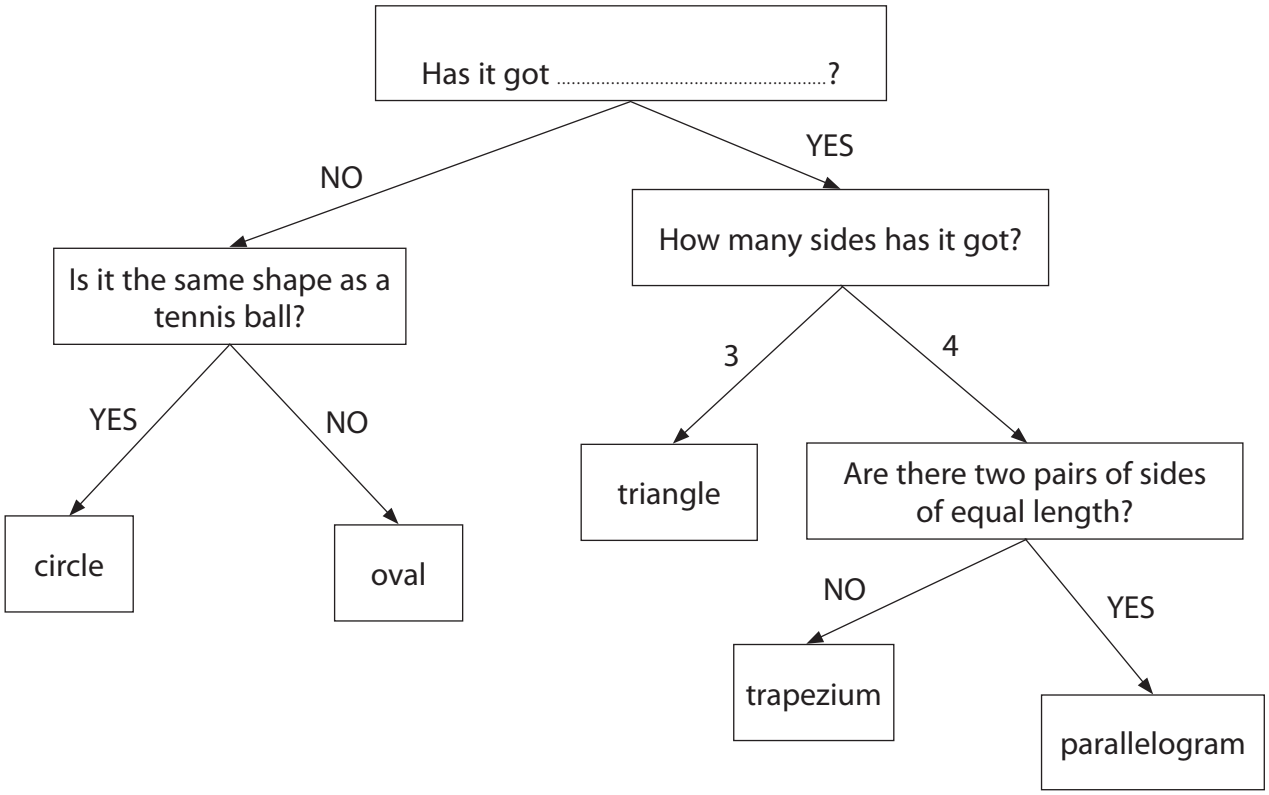


1 This is a key that can be used to sort the shapes.

The first question in the key is incomplete.

Complete the first sentence in the key.

(1)



2 Use the key to find the name of shape B.

The name of shape B is .....

(1)

Questions 3 to 5

Some students want to investigate inherited characteristics in their science class.
Wrist size is a characteristic that shows continuous variation.

3 List **two** other characteristics that show continuous variation that the students could **measure and record**.

(2)

Characteristic 1: .....

Characteristic 2: .....

4 Describe how the students should carry out this investigation.

(3)

.....

.....

.....

.....

.....

.....

Draw in the box a results table the students could use for this investigation.

5 Eye colour is a characteristic that shows discontinuous variation.

List **two** other characteristics that show discontinuous variation that the students could **observe and record**.

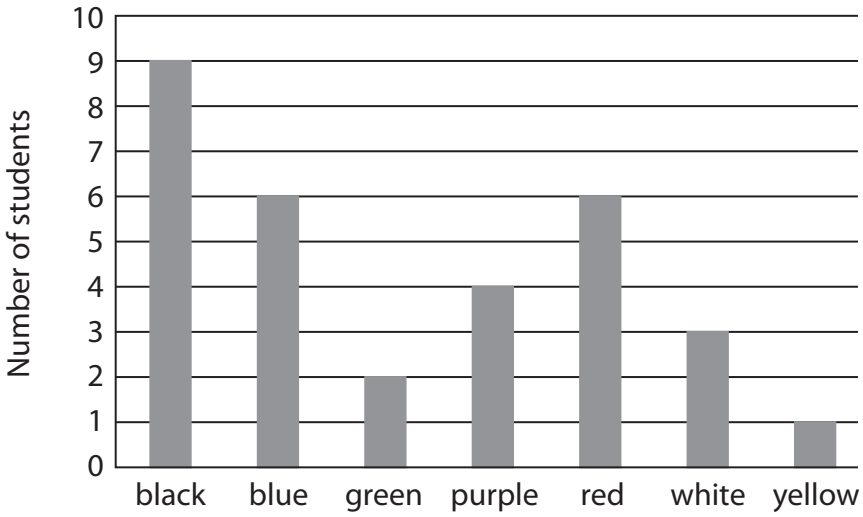
(2)

Characteristic 1: .....

Characteristic 2: .....

Questions 6 and 7

Some students asked everyone in their class what their favourite colour is.
This graph shows their results.



6 What is the most popular colour?

(1)

.....

7 The **two** colours that are equally popular are

(1)

..... and .....

Questions 8 to 11

The students also asked people in their class about shoe size.

This is their results table.

Shoe size	Number of students
4	2
5	4
6	6
7	5
8	3
9	6
10	4
11	1

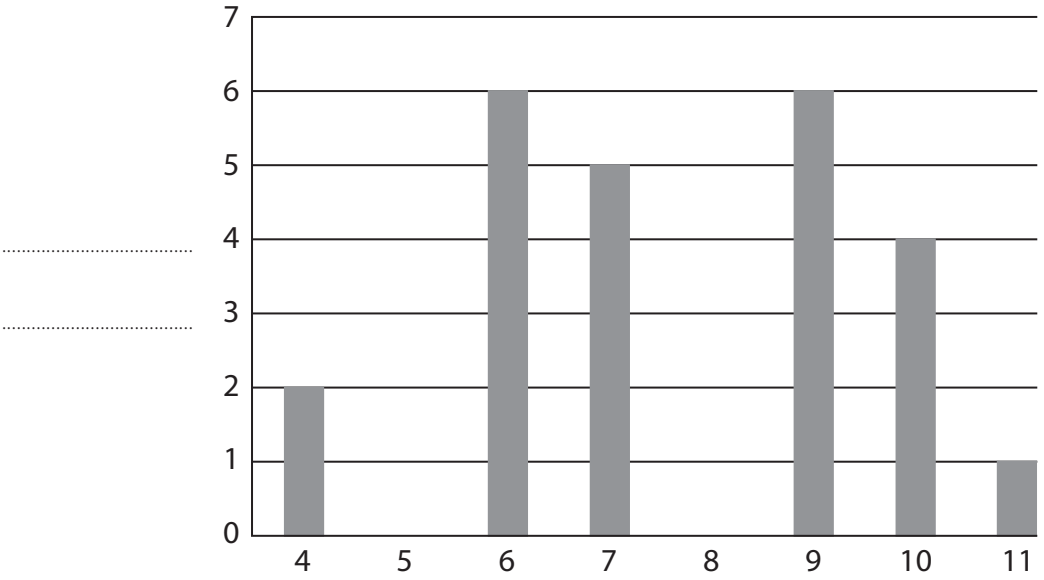
8 Work out the number of students in the class.

number of students = ...

(1)

9 This graph shows their results.

A label and two bars are missing.



Complete the graph by adding in the missing label and missing bars.

(2)

10 What is the least common shoe size?

(1)

.....

11 What are the most common shoe sizes?

(1)

.....

Questions 12 and 13

Some animals and plants have characteristics that mean they can live in different climates.

These photographs show two animals that live in polar regions.

Polar bear

Uryadnikov Sergey / Alamy

Arctic fox

David W Hamilton / Getty Images

12 Suggest **two** characteristics that mean these animals can live in polar regions.

(2)

First characteristic: .....

Second characteristic: .....

13 Camels live in desert regions.

A camel has nostrils that can close.

Camel

Purestock / Getty Images

Explain why it is a good thing that the camel can close its nostrils.

(2)

.....

.....

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 1

1	Any mention of edges/straight lines OWTTE	(1)
2	Trapezium	(1)
3	Any two continuous characteristics, e.g. height, weight, length of finger for 1 mark each	(2)
4	Asking questions or measuring	(1)
	Idea of counting or using tally	(1)
	Results chart with columns and at least one heading	(1)
5	Any two discontinuous characteristics, e.g. cleft chin, attached earlobes, eye colour for 1 mark each	(2)
6	Black	(1)
7	Red and blue (both needed)	(1)
8	31	(1)
9	Label should have mention of (number of) people	(1)
	Two correct columns drawn in	(1)
10	11.	(1)
11	6 and 9 (both needed)	(1)
12	Any **two** characteristics such as: thick fur, white fur, layers of fat, small ears for 1 mark each	(2)
13	A sensible reason linked to its environment, e.g. stops dust getting in as the desert is dusty, reduces loss of water vapour as the camel lives in dry conditions (1 mark for the reason and 1 mark for link to the camel's environment)	(2)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 2: Changes in humans and plants

Sample Assessment Material
Test for Topic 2

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

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Answer all questions in the spaces provided

Questions 1 to 3

The skin helps to control the temperature of the body.

The skin contains sweat glands.

Complete the sentence by underlining the correct answer in the box.

1 The body produces sweat when the temperature of the body is

too high
normal
too low

.

(1)

2 Explain how sweat makes the body cool down.

(1)

.....

.....

3 Sometimes you shiver.

How does shivering change the temperature of your body?

(1)

.....

.....

Questions 4 to 7

Jane's gran has diabetes. She has to inject herself with insulin.

4 Complete the sentence by underlining the correct answer in the box.

(1)

Insulin controls the level of

hormones
oxygen
sugar

in her blood.

5 Complete the sentence by underlining the correct answer in the box.

(1)

Insulin is a hormone.

A hormone is a

chemical messenger
nerve impulse
reflex

.

6 In which part of the body is insulin made?

(1)

.....

.....

7 Some people with diabetes do not inject insulin.

Give **two** ways in which they can control their diabetes.

(2)

First way: .....

Second way: .....

Questions 8 to 9

8 Jane grew a broad bean plant from a seed.

She wanted to see how the roots grew.

Give a reason why the broad bean roots grew downwards.

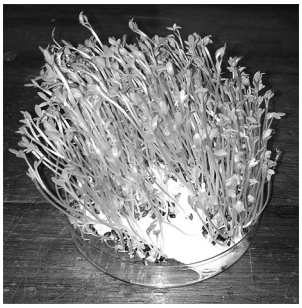
(1)

.....

.....

9 Jane grew some cress plants.

They grew like this:



Give a reason why the cress plants grew in this direction.

(2)

.....

.....

.....

.....

Questions 10 to 13

Use some of the words in the box to answer questions 10 to 13.

brain	**muscles**	**nerve cells**
reflex action		**sense organ**

10 The human eye is a .....

(1)

11 Messages are carried to and from the brain by .....

(1)

12 The brain sends messages to the .....

(1)

13 A muscle action that takes place without your control is called

(1)

.....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 2

1	Too high	(1)
2	Evaporates	(1)
3	Warms body up/releases heat	(1)
4	Sugar	(1)
5	Chemical messenger	(1)
6	In the pancreas	(1)
7	Diet	
	Exercise	
	Medication other than insulin	
	Any two for 1 mark each	(2)
8	Affected by gravity/to get water/to seek anchorage	(1)
9	Affected by light/to get light for photosynthesis	
	From one side only	
	Any two for 1 mark each	(2)
10	Sense organ	(1)
11	Nerve cells	(1)
12	Muscles	(1)
13	Reflex action	(1)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 2: Changes in humans and plants

Sample Assessment Material
Assignment for Topic 2

For teacher's use only	Total Marks /20

Instructions to candidates

- Answer **all** questions.
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Information for candidates

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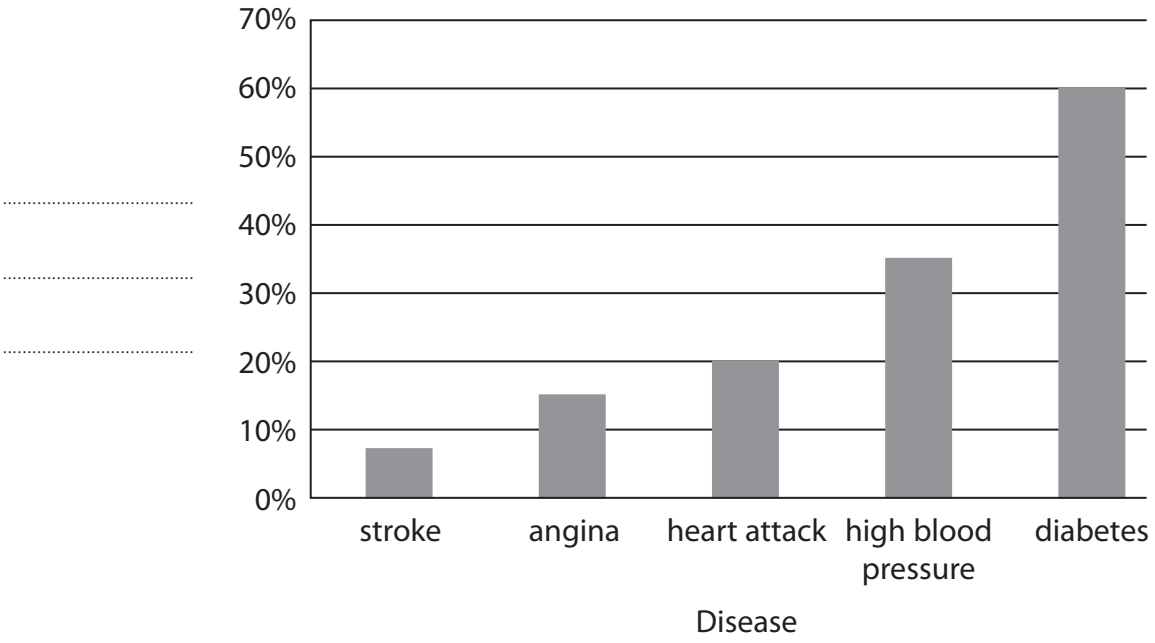
Answer all questions in the spaces provided

Questions 1 to 4

Samina found a graph on the internet.

The graph shows what could happen to some diseases by 2023 if obesity continues to increase.



1 Give the meaning of the term **obesity**.

(1)

.....

2 What is the expected percentage increase in heart attacks by 2023?

(1)

.....

3 Give the name of the disease that shows the greatest increase.

(1)

.....

4 Give **two** ways in which these increases could be reduced.

(2)

First way .....

Second way .....

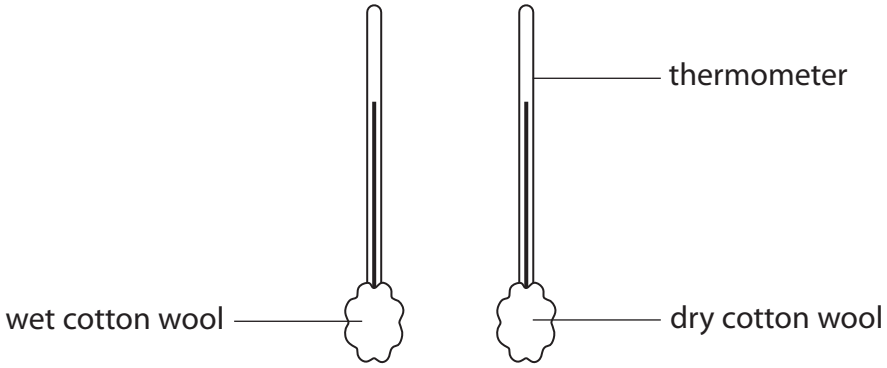
Questions 5 to 8

Jane had two thermometers.

She put them in a stand.

She put wet cotton wool around the bulb of one thermometer.

She put dry cotton wool around the bulb of the other thermometer.



She recorded the temperature of both thermometers for 10 minutes.

These are her results.

Time in minutes	Temperature of thermometer with wet cotton wool in °C	Temperature of thermometer with dry cotton wool in °C
0	22	22
1	21	22
2	21	22
3	20	22
4	19	22
5	18	22
6	21	22
7	16	22
8	16	22
9	16	22
10	17	22

5 Describe the results shown by the temperatures of each thermometer.

(2)

Thermometer with dry cotton wool

Thermometer with wet cotton wool

6 Look at the table above.

Then underline the temperature that does not fit with Jane's other results.

(1)

7 Explain how the conditions for the two thermometers were different.

(1)

8 Why did Jane use two thermometers in her investigation?

(1)

Questions 9 to 13

Jane grew three groups of cress plants.

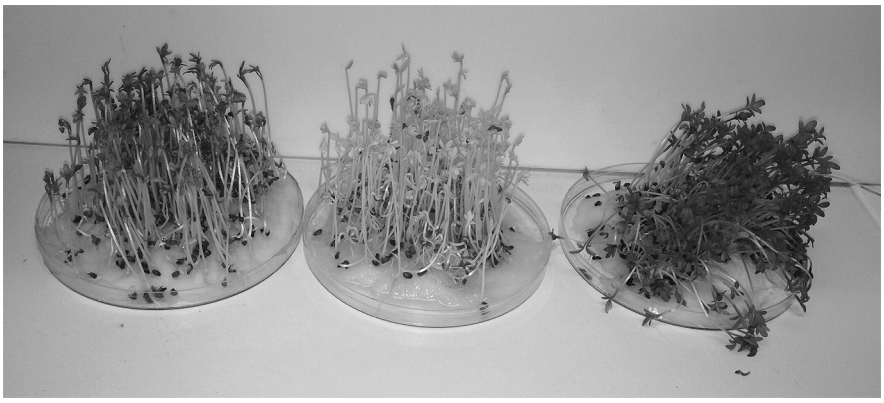
She kept one on a windowsill.

She kept one in a box with a hole cut in one end.

She kept one in a box with no holes.

Each box had a lid.

After a week her three groups of cress plants looked like this:



A **B** **C**

9 The group kept in a box with a hole cut in one end was letter

(1)

.....

10 Give a reason why you chose that group.

(1)

.....

.....

11 The group kept in a box with no holes was letter

(1)

.....

12 Give a reason why you chose that group.

(1)

.....

.....

13 Name the one factor that affected plant growth in all three groups.

(1)

.....

.....

Questions 14 to 17

Jane had three samples of urine.

She tested the samples for sugar using Clinistix.

Clinistix are pink.

Clinistix turn blue if sugar is present.

These are Jane's results.

	Sample A	**Sample B**	**Sample C**
Colour of urine before test	pale yellow	dark yellow	no colour
Clinistix colour	pink	pink	dark blue

14 Which of the urine samples came from a person with diabetes?

(1)

.....

15 Explain why you chose that urine sample.

(2)

.....

.....

.....

.....

16 Explain why people with diabetes cannot control sugar in their blood without help.

(1)

.....

.....

17 Describe **one** way people with diabetes can control their blood sugar levels

(1)

.....

.....

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 2

1	Severely overweight	(1)
2	20%	(1)
3	Diabetes	(1)
4	Change in diet Increase in exercise Gastric band Any two for 1 mark each	(2)
5	Dry thermometer shows no change Temperature drops for wet thermometer 1 mark for each	(2)
6	32°C (for the dry thermometer)	(1)
7	One was wet/one was dry	(1)
8	To make sure it was the water that was causing the effect or as a control (or equivalent, e.g. idea of comparison)	(1)
9	C	(1)
10	Plants growing to one side	(1)
11	B	(1)
12	Plants growing thin and pale	(1)
13	Light	(1)
14	Sample C	(1)
15	Colour changed to dark blue Showing sugar was present 1 mark for each	(2)
16	Cannot produce (enough) insulin	(1)
17	Any sensible answer scores 1 mark, e.g. exercise, diet, insulin injection/non-insulin medication	(1)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 3: Drugs and bacteria

Sample Assessment Material
Test for Topic 3

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
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Answer all questions in the spaces provided

Questions 1 to 4

1 Many drugs can be classified into four main types.

Draw **one** line from each drug to the drug type it belongs to.

name of drug	drug type
caffeine	painkiller
morphine	hallucinogen
alcohol	stimulant
LSD	depressant

(3)

2 Amphetamine is a stimulant.

Describe what stimulants do to the human body.

(1)

.....

.....

3 Tobacco contains an addictive chemical.
This means that many people find it hard to stop smoking.
Name the addictive chemical in tobacco.

(1)

.....

4 Name a substance in tobacco that can cause cancer.

(1)

.....

Questions 5 and 6

5 Give **two** ways in which alcohol can affect your body.

(2)

First way .....

.....

Second way .....

.....

6 Give an example of how drinking can have a social effect on your life.

(1)

.....

.....

Questions 7 to 10

7 What causes infectious diseases?

(1)

.....

.....

8 Infectious diseases are spread in different ways.

Draw **one** line from each disease to how it is spread.

(2)

disease	**spread by**
malaria	sneezing
cholera	mosquitoes
flu	water

9 Give **two** simple things you can do to stop the spread of infectious diseases such as cholera, flu or malaria.

(2)

1 .....

.....

2 .....

.....

10 Give the name of **one** type of medicine used to treat infection.

(1)

.....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 3

1	Caffeine = stimulant Morphine = painkiller Alcohol = depressant LSD = hallucinogen Four correct lines – 3 marks Two correct lines – 2 marks One correct line – 1 mark	(3)
2	Increase the speed of reactions, or increased heart rate, OWTTE	(1)
3	Nicotine	(1)
4	Tar	(1)
5	Any **two** from: blurred vision, lowering of inhibitions, slower reactions, liver cirrhosis, and brain damage for 1 mark each (allow being sick/vomiting)	(2)
6	Any sensible suggestion, e.g. can lead to divorce, loss of job, waste of money	(1)
7	Pathogen/microbes/bacteria/viruses/fungi (allow 'germs' or parasites or correct name of pathogen)	(1)
8	Malaria = mosquitoes Cholera = water Flu = sneezing Three correct lines – 2 marks One correct line – 1 mark	(2)
9	Any two sensible suggestions for 1 mark, each e.g. washing hands after using the toilet, use antibacterial gels or sprays, chlorinate or clean drinking water, remove/kill mosquitoes/isolation of infected person	(2)
10	Antibiotic or antiviral or anti-fungal (allow named or branded medicine, e.g. penicillin)	(1)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 3: Drugs and bacteria

Sample Assessment Material
Assignment for Topic 3

Total Marks
/20

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

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S 4 4 2 7 8 A 0 1 0 8

PEARSON

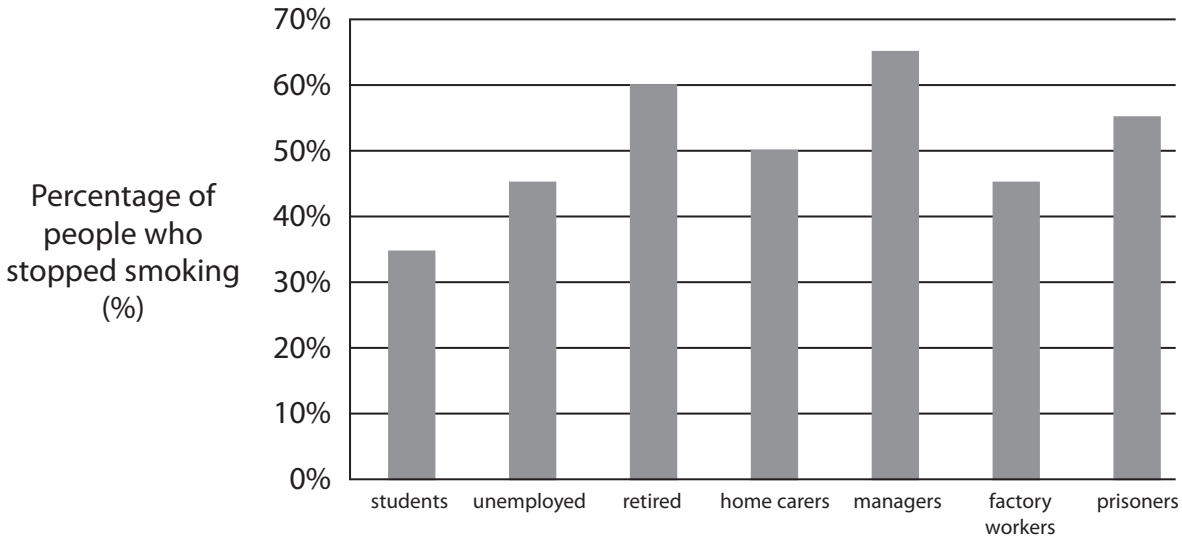
Answer all questions in the spaces provided

Questions 1 to 4

A student finds information about stopping smoking.

Different groups of people were asked to give up smoking.

The graph shows the percentage of people who had given up after four weeks.



1 Insert the label for the X axis.

(1)

2 Name the group of people who were least successful at giving up smoking.

(1)

.....

3 Name the group of people who were most successful at giving up smoking.

(1)

.....

4 Suggest a reason why it is hard to give up smoking.

(1)

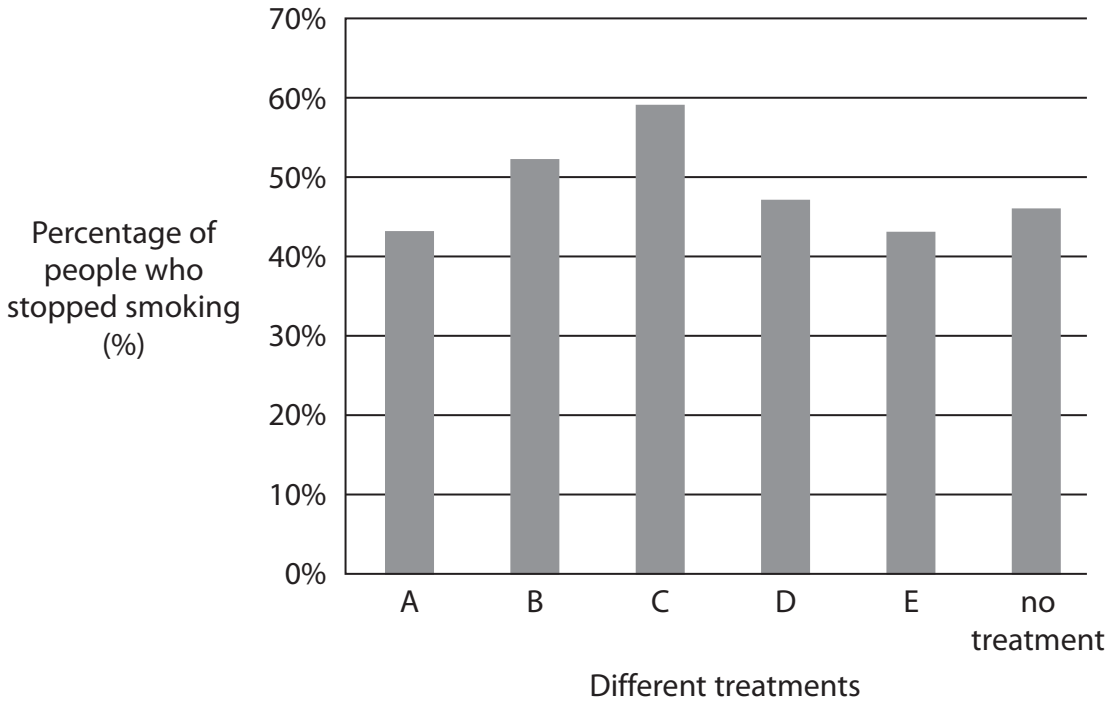
.....

.....

Questions 5 to 7

Doctors can prescribe treatment to help people stop smoking.

This graph shows the percentage of people who stopped smoking after different treatments.



5 Write down the name of the control group.

(1)

.....

6 Give the name of the two treatments that had the best results.

(2)

.....

.....

7 Many doctors no longer prescribe treatment A.

Suggest a reason why many doctors no longer prescribe treatment A.

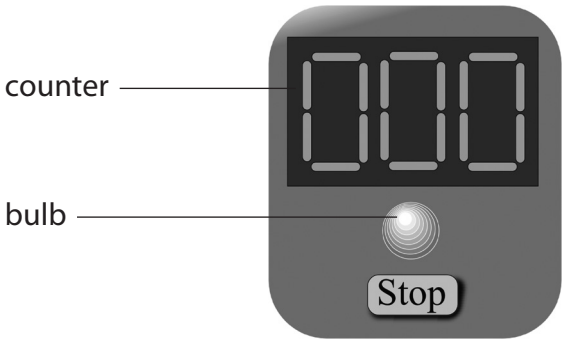
(1)

.....

.....

Questions 8 to 11

A man uses a reaction timer.



The counter starts when the bulb lights.

The man has to press the stop button to stop the counter.

The time it takes him to stop the counter is displayed.

This is his reaction time.

He repeats the test five times.

8 Explain why he repeats the test five times.

(1)

.....

.....

9 This is a copy of his results.

Test number	Reaction time (seconds)
1	0.25
2	0.3
3	0.3
4	0.25
5	0.25

Work out his average reaction time.

Tick (✓) the correct box

A 1.35 seconds ☐

B 0.27 seconds ☐

C 0.25 seconds ☐

D 0.05 seconds ☐

(1)

10 State what will happen to his reaction time when he drinks some alcohol.

(1)

.....

.....

11 Suggest why there are laws against people driving a car when they have drunk some alcohol.

(1)

.....

.....

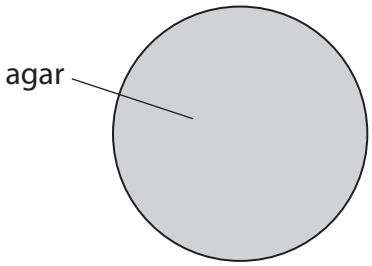
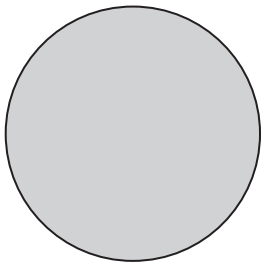
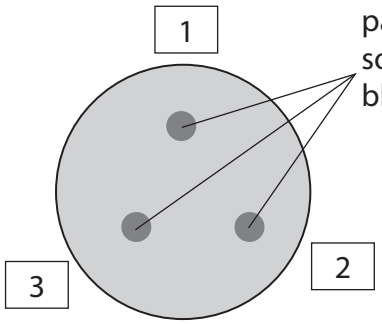
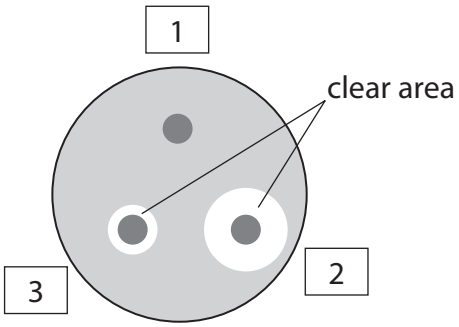
Questions 12 to 18

Some students test how good bleach is at killing bacteria.

They use Petri dishes of bacteria and paper discs soaked in different solutions of bleach.

They use three different strengths of bleach.

They get these results.

	before	after
control	A 	B 
different strengths of bleach	C 	D 

12 Explain why they use a control.

(1)

.....

.....

13 Which bleach is best for killing bacteria?

(1)

.....

14 Describe how you know which strength of bleach was best.

(1)

.....

.....

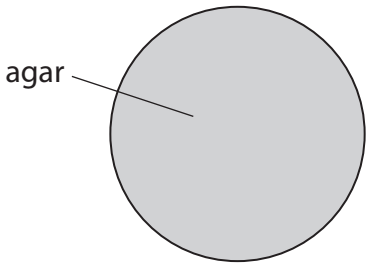
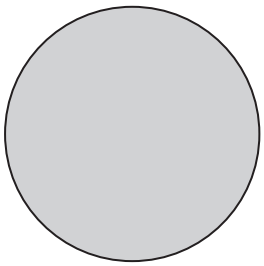
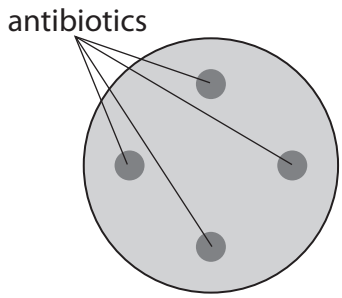
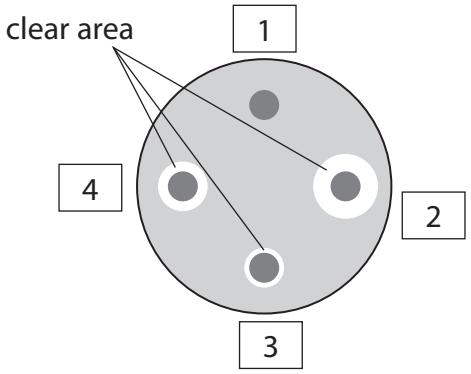
15 Explain the results shown in dish D.

(1)

.....

.....

The students repeat the experiment using four different antibiotics.
They get these results.

	before	after
control	A 	B 
different types of antibiotic	E 	F 

16 Give the number of the antibiotic that is best for killing bacteria.

(1)

.....

17 A doctor needs to give an antibiotic to a patient.
Use the results of the above experiment to explain which antibiotic should **not** be given to the patient.

(2)

Antibiotic: .....

Reason: .....

18 Give a reason why the doctor would not give bleach to patients.

(1)

.....

.....

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 3

1	Any mention of people or jobs or occupation e.g. what they do	(1)
2	Students	(1)
3	Retired and managers	(1)
	Allow either order	
	Allow managers	
4	Any sensible reason, e.g. addiction, peer group pressure, they like smoking	(1)
5	No treatment	(1)
6	Treatment B	(1)
	Treatment C	(1)
7	It does not work OWTTE, e.g. it is worse than no treatment	(1)
8	Idea of average or idea of checking for 'flukes'	(1)
9	B	(1)
10	Reaction time is bigger/longer/increased/more	(1)
11	Any sensible response, e.g. more likely to have accident, reactions too slow	(1)
12	Idea of 'fair test', or having something to check the others against etc	(1)
13	Strong	(1)
14	It had the biggest clear circle (round it)	(1)
15	The stronger (the bleach) the better (for killing bacteria) OWTTE	(1)
16	Antibiotic 4	(1)
17	Antibiotic 1	(1)
	The antibiotic does not work	(1)
18	Idea of safety, e.g. bleach is toxic/poisonous/ can kill you/make you ill	(1)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 4: The Earth, its atmosphere and chemical reactions

Sample Assessment Material
Test for Topic 4

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44281A

S 4 4 2 8 1 A 0 1 0 5

PEARSON

Answer all questions in the spaces provided

Questions 1 to 6

Use the words from the box to complete the sentences below it.

condensed	**oxygen**	**nitrogen**
photosynthesis		**volcanoes**

1 The Earth's early atmosphere was made up of gases produced by

(1)

.....

2 One gas that has increased in the atmosphere since it was formed is

(1)

.....

3 Carbon dioxide was removed from the early atmosphere by

(1)

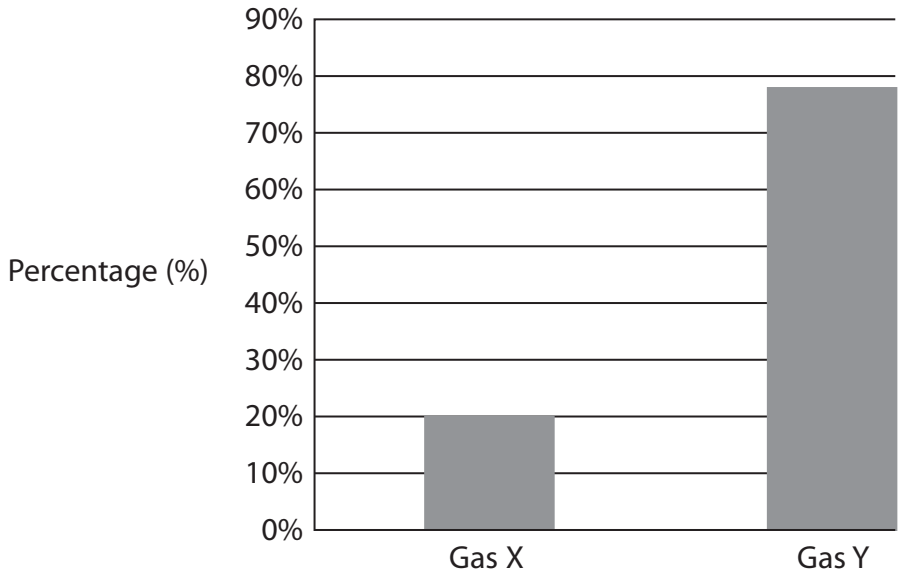
.....

4 Oceans formed when the Earth cooled and water vapour in the atmosphere

(1)

.....

5 The bar chart shows the percentage of two gases in the Earth's atmosphere today.



Give the name of Gas X.

Tick the correct box (✓).

A argon ☐

B carbon dioxide ☐

C nitrogen ☐

D oxygen ☐

(1)

6 State **one** human activity that would increase carbon dioxide in the Earth's atmosphere.

(1)

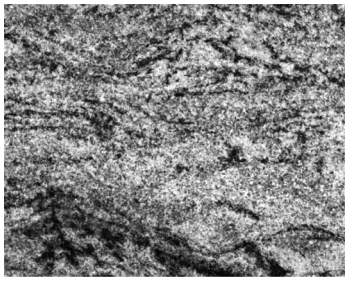
Questions 7 to 10

Charlotte found some rocks on the beach.

She took the rocks home.

She looked at them with a hand lens.

Rock A



Corbis Premium R F Alamy

Rock B

WILDLIFE GmbH/Alamy

7 Charlotte says that Rock A is an igneous rock.

Use the photograph to give a reason why Charlotte says this.

(1)

.....

.....

8 Rock B is soft and in layers.

Which type of rock is Rock B?

(1)

.....

9 Draw **one** line from each rock name to its rock type.

(2)

name	**type of rock**
granite	sedimentary
marble	metamorphic
chalk	igneous

10 Explain why fossils are often found in sedimentary rock.

(2)

.....

.....

Questions 11 to 13

Limestone is dug from a quarry.

11 State **one** use of limestone.

(1)

.....

12 Give an advantage to a community of having a local limestone quarry.

(1)

.....

13 Give a disadvantage to a community of having a local limestone quarry.

(1)

.....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 4

1 Volcanoes (1)

2 Oxygen (1)

3 Photosynthesis (1)

4 Condensed (1)

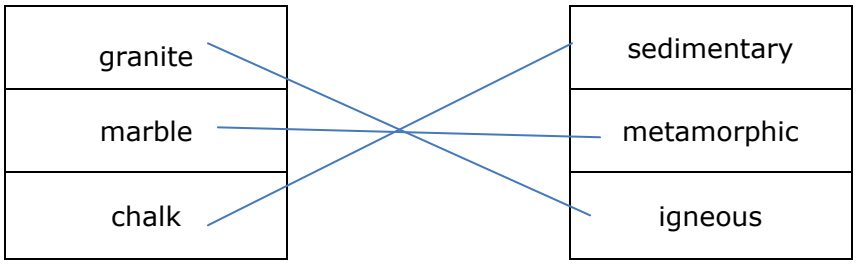
5 D – oxygen (1)

6 Any example of burning fossil fuels/deforestation (1)

7 Any characteristic of igneous rock, e.g. has crystals (1)

8 Sedimentary (1)

9



One correct line scores 1 mark
Three correct scores 2 marks

(2)

10 Dead organisms can be covered in sediment (1)
and become part of the sedimentary layer that becomes rock (1)

11 Any valid use for limestone, e.g. building (1)

12 Brings in money/jobs to local area (1)

13 Noise/dust/more traffic (1)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 4: The Earth, its atmosphere and chemical reactions

Sample Assessment Material
Assignment for Topic 4

For teacher's use only	Total Marks /20

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44280A

S 4 4 2 8 0 A 0 1 0 5

PEARSON

Answer all questions in the spaces provided

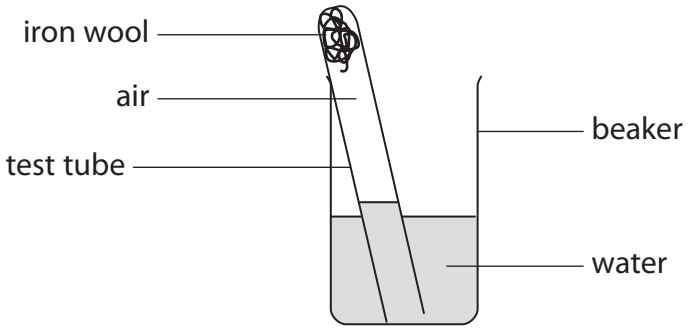
Questions 1 to 7

Edward wants to find out how much oxygen there is in the air.

He puts some iron wool in the bottom of a test tube.

He turns the test tube upside down.

He puts the test tube in a beaker of water.



The iron reacts with the oxygen in the air slowly.

He leaves his experiment and looks at it again in one week.

Edward sees that the water level has risen up the tube.

1 Give a reason why Edward leaves the experiment for a week.

(1)

.....

.....

2 Explain why the water level rises up the test tube.

(1)

.....

.....

3 Complete the word equation to show what happens to the iron in the experiment.

(1)

iron + oxygen → .....

Edward writes the results of his experiment in a table.

Volume of air at the start	20 cm^3
Volume of air at the end	16 cm^3

4 Work out the volume of air used up in the experiment.

(1)

.....

5 Use this formula to work out the amount of oxygen in the air.

(2)

$$\text{amount of oxygen} = \frac{(\text{volume of air at the end} - \text{volume of air at the start})}{\text{volume of air at the start}} \times 100\%$$

amount of oxygen = ...

6 Describe a test that Edward can use to test for oxygen.

(2)

Test: .....

.....

Result: .....

.....

7 Name **one** other gas that is present in the air.

(1)

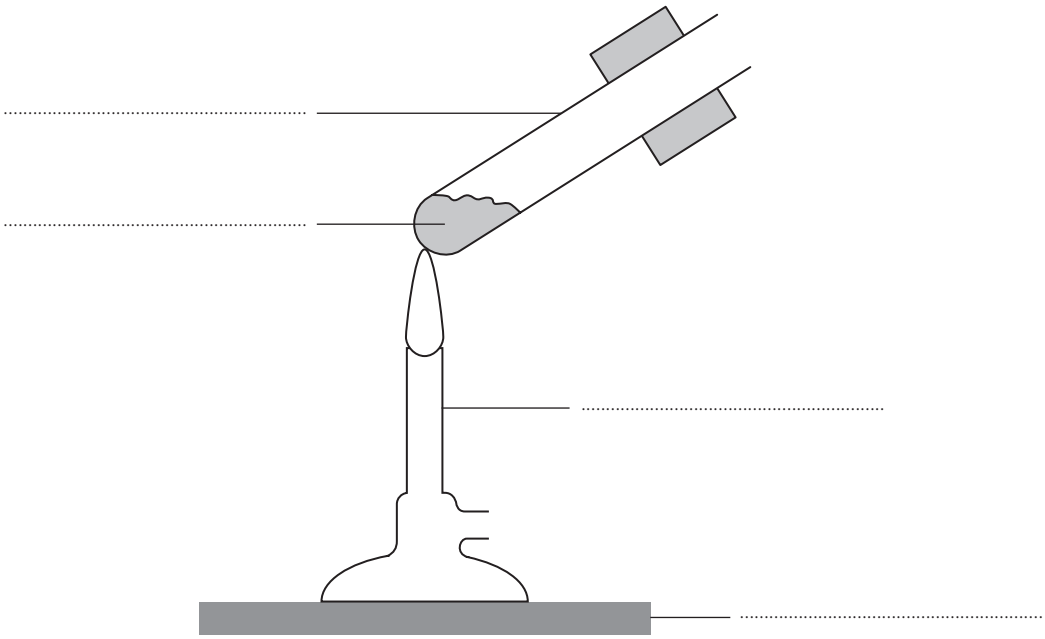
.....

Questions 8 to 14

Mimi does an experiment using calcium carbonate.

She heats the calcium carbonate very strongly.

She used the equipment in this diagram.



8 Use the words in the box to label the equipment above that Mimi uses.

(4)

Bunsen burner	**calcium carbonate**	**heatproof mat**	**test tube**

9 Underline the correct word to complete this sentence.

(1)

To heat the calcium carbonate very strongly, Mimi uses a **blue** / **roaring** / **yellow** flame.

10 State **one** thing Mimi would do to make sure her experiment is safe.

(1)

.....

.....

Calcium carbonate breaks down in this reaction.

The products made in this reaction are calcium oxide and carbon dioxide gas.

11 Give the name of this type of reaction.

(1)

Tick (✓) the correct box.

A combustion ☐

B dissolving ☐

C neutralisation ☐

D thermal decomposition ☐

12 Mimi started with 5 grams of calcium carbonate.

At the end of the experiment, she had 2.8 grams of calcium oxide.

Write down the mass of carbon dioxide produced.

(1)

.....

Mimi lets the calcium oxide cool down.

She then adds water to the calcium oxide.

13 Describe **two** things Mimi would see in this reaction.

(2)

1 .....

2 .....

14 Give the name of the chemical formed in this reaction.

(1)

Tick (✓) the correct box

A calcium carbonate ☐

B calcium hydroxide ☐

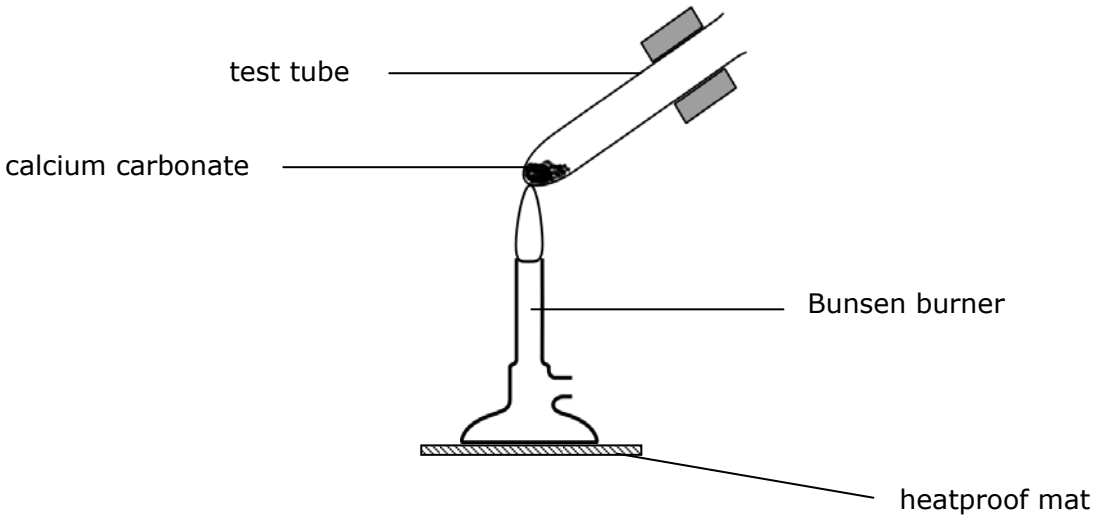
C calcium oxide ☐

D calcium sulfate ☐

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 4

1	It is a slow reaction/iron rusts slowly	(1)
2	The oxygen has been used up/reacts with the iron	(1)
3	Iron oxide	(1)
4	4 cm^3	(1)
5	(4/20) x 100 = 20%	(2)
6	Glowing splint 1 mark Splint reignites 1 mark	(2)
7	Nitrogen/carbon dioxide/water vapour/argon (1)	
8	1 mark for each correct label	



(4)

9	Roaring	(1)
10	Any sensible response, e.g. use goggles/safety coat, use test tube holder, point tube away from people	(1)
11	D: Thermal decomposition	(1)
12	2.2 grams	(1)

13 Any two from:
the solid crumbles/breaks down
steam given off
fizzing/hissing noise heard
dish gets hot
solid dissolves
for 1 mark each (2)

14 B: calcium hydroxide (1)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 5: Acids and metals

Sample Assessment Material
Test for Topic 5

For teacher's use only	Total Marks /15

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44283A

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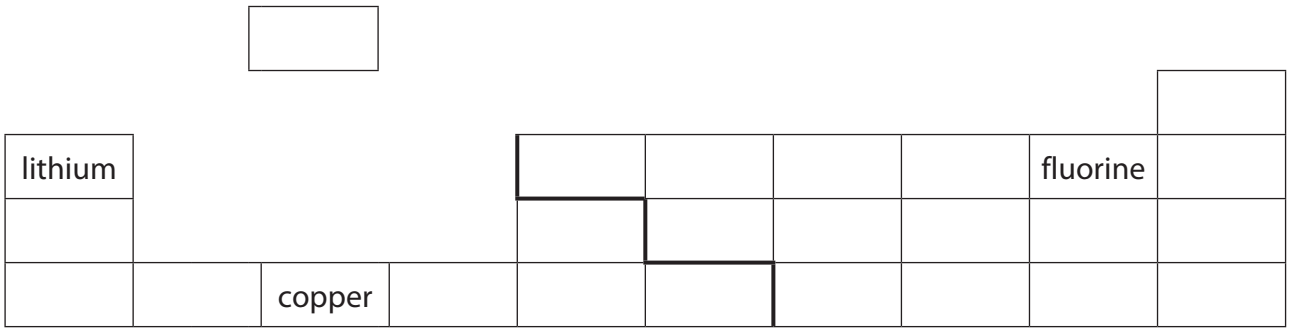
PEARSON

Answer all questions in the spaces provided

Questions 1 and 2

Mia and Luke are doing some research into metals.

They looked at the Periodic Table to find metals.



1 One of these elements shown on the Periodic Table is a non-metal.

Underline the non-metal.

(1)

copper **fluorine** **lithium**

2 One of these is a property of all metals.

Underline the one that is the property of all metals.

(1)

non-magnetic **conducts electricity** **insulator**

Questions 3 to 6

Mia found that different metals could be used for different jobs because of their properties.

Use the words from the box to complete the following sentences.

(4)

brittle	**electricity**	**hard**	**heat**	**rusty**	**shiny**	**water**

3 Gold is used to make rings because it is .....

4 Copper is used to make wire because it conducts .....

5 Aluminium is used to make saucepans because it conducts .....

6 Iron is used to build bridges because it is .....

Questions 7 and 8

7 Platinum can be used to make rings and other jewellery.

Give **two** reasons why platinum, instead of steel, is used to make jewellery.

(2)

1 .....

.....

2 .....

.....

8 Luke found that metal salts can be used to make fireworks.

Luke found out that the different colours of fireworks are made by using different metal compounds.

Draw lines to match each metal salt to the colour the firework makes.

The first one has been done for you.

(2)

metal salts	**colour**
barium chloride	green
lithium chloride	red
potassium chloride	yellow-orange
sodium chloride	lilac

Questions 9 to 12

Luke and Mia reacted copper carbonate with an acid.

The reaction made the compound copper nitrate.

Underline the words from the boxes to complete the sentences.

9 The acid used to make copper nitrate was

hydrochloric
nitric
sulfuric

acid.

(1)

10 The other products of the reaction were water and

carbon dioxide
hydrogen
oxygen

.

(1)

11 This type of reaction is called a

combustion
neutralisation
recycling

reaction.

(1)

12 Hydrochloric acid can be broken down using electricity.

State the names of the **two** substances that are made when hydrochloric acid is broken down.

(2)

1 .....

2 .....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 5

1	Fluorine	(1)
2	Conducts electricity	(1)
3	Shiny	(1)
4	Electricity	(1)
5	Heat	(1)
6	Hard	(1)
7	Any two from: it is rare it is valuable it does not corrode for 1 mark each	(2)
8	Potassium chloride – lilac Lithium chloride – red Sodium chloride – yellow-orange One correct line – 1 mark Three correct lines – 2 marks	(2)
9	Nitric	(1)
10	Carbon dioxide	(1)
11	Neutralisation	(1)
12	Hydrogen	(1)
	Chlorine (in either order)	(1)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 5: Acids and metals

Sample Assessment Material
Assignment for Topic 5

Total Marks
/20

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44282A

S 4 4 2 8 2 A 0 1 0 8

PEARSON

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Answer all questions in the spaces provided

Question 1

1 Harry was given these four objects.

copper coin	**glass beaker**	**gold ring**	**plastic cup**	**steel spoon**

Harry tested each object to see if it conducted electricity.

Complete the table to show the results of Harry's tests.

The first one has been done for you.

(2)

Did the object conduct electricity?	
Yes (✓)	**No (×)**
copper coin	

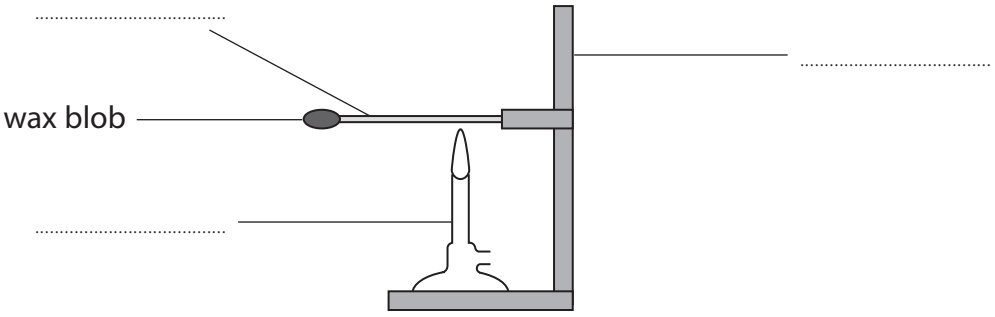
Questions 2 to 5

2 Shona has three metal rods.

One rod is made of aluminium, one rod is made of copper and one rod is made of steel.

Shona wanted to see which metal conducted heat the quickest.

She used the equipment in the diagram.



Label the diagram using some of the words from the box.

(3)

clamp stand	**Bunsen burner**	**heatproof mat**
	tripod	**metal rod**

3 Underline the correct word to complete the following sentences.

(1)

The wax fell off because the metal in the rod is a **good** / **bad** conductor of heat.

The heat melted the **wax** / **metal** .

4 Shona timed how long it took for the wax blob to fall off the end of the metal rod.

Shona put her results in a table.

Metal rod	Time for wax to drop off rod (seconds)
aluminium	75
copper	58
steel	157

Complete the following sentences using the information from the table.

(2)

The wax melted off the ..... metal rod the slowest.

The best conductor of heat was the rod made from ..... .

5 Shona uses a wooden spoon to stir her baked beans when she is cooking.

Explain why Shona uses a wooden spoon for cooking and not a metal spoon.

(2)

.....

.....

.....

.....

Questions 6 to 10

Faiza is doing some research into how indigestion tablets work.

6 Here is the label from a packet of indigestion tablets.

AcidAway
Indigestion tablets

Ingredients: sugar
calcium carbonate
starch
flavouring

Name the ingredient that neutralises acid in the stomach.

(1)

Tick (✓) the correct box.

A calcium carbonate ☐

B flavouring ☐

C starch ☐

D sugar ☐

7 Faiza put some hydrochloric acid in a test tube.

She dipped pH indicator paper into the hydrochloric acid.

What colour would the pH paper change to in the hydrochloric acid?

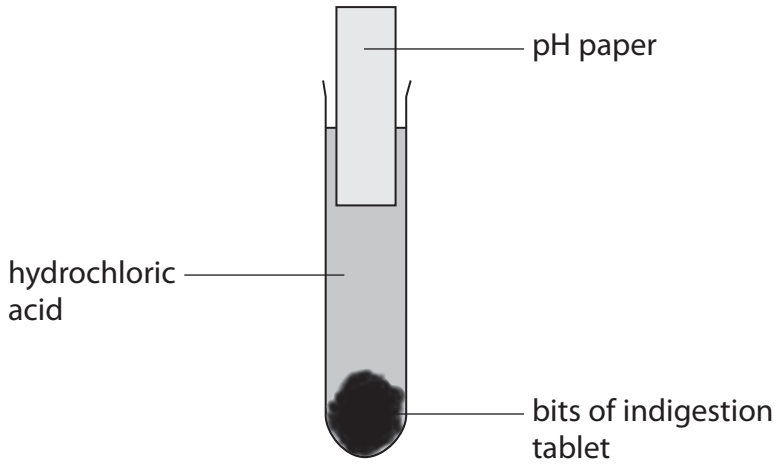
(1)

Faiza put two indigestion tablets into hydrochloric acid.

There were lots of bubbles.

At the end of the experiment, bits of the tablet were left in the test tube.

Faiza tested the solution in the test tube with pH paper.



8 What colour would the pH paper be at the end of the experiment?

(1)

.....

9 Explain why the pH paper changed colour.

(1)

.....

.....

10 What gas are the bubbles made of?

(1)

.....

Questions 11 to 14

Jenny wanted to find out which metal reacted fastest with hydrochloric acid.

She added hydrochloric acid to different metals.

Jenny counted how many bubbles were created in one minute from each metal.

She recorded her results in the table.

metal	magnesium	iron	gold	zinc
number of bubbles in one minute	57	8	0	24

11 Give the name of the metal that reacted fastest with hydrochloric acid.

(1)

.....

12 Explain why there were no bubbles when hydrochloric acid was added to gold.

(1)

.....

.....

13 What is the name of the type of salt produced when hydrochloric acid is added to a metal?

Underline the correct answer.

(1)

chloride **nitrate** **sulfate**

14 The bubbles in this experiment are made of hydrogen gas.

Jenny tested the gas to prove it was hydrogen.

Describe the test that Jenny used to prove the gas was hydrogen.

(2)

Test: .....

.....

Result: .....

.....

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 5

1	Ring and coin in 'yes'	(1)
	Beaker and cup in 'no'	(1)
2	Correct labels for -	
	Metal rod	(1)
	Clamp stand	(1)
	Bunsen burner	(1)
3	Good	(1)
	Wax (NB Must have both to score this mark)	
4	Steel	(1)
	Copper	(1)
5	Metal conducts heat/wooden spoon does not	(1)
	Could get too hot to hold/burn her hand	(1)
6	A	(1)
7	Red/orange	(1)
8	Yellow/green	(1)
9	The acid has been neutralised OWTTE	(1)
10	Carbon dioxide	(1)
11	Magnesium	(1)
12	Gold didn't react/unreactive	(1)
13	Chloride	(1)
14	Lit splint/burning splint/flame	(1)
	Squeaky pop	(1)

Total: 20 Marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 6: Fuels

Sample Assessment Material
Test for Topic 6

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44285A

S 4 4 2 8 5 A 0 1 0 6

PEARSON

Answer all questions in the spaces provided

Questions 1 to 3

Underline a word from the box to complete these sentences.

1 When a fuel burns it reacts with

carbon dioxide
nitrogen
oxygen

in the air.

(1)

2 When a fuel burns the reaction is called

combustion
neutralisation
recycling

.

(1)

3 When a fuel burns, it gives out useful energy in the form of

heat
smoke
sound

.

(1)

Questions 4 and 5

Reena is making a bonfire.

She can use either wood or coal to make her bonfire.

4 Give **one** reason why Reena chooses to use wood to make the bonfire.

(1)

.....

.....

5 Reena covers the bonfire with sand.

The bonfire goes out.

Explain why covering the bonfire with sand makes it go out.

Underline the correct answer:

(1)

it removes the heat energy

it removes the fuel

it removes the oxygen

Questions 6 to 10

6 Fossil fuels are often used to heat our homes.

Which of these is a fossil fuel?

(1)

Tick (✓) the correct box.

A coal ☐

B ethanol ☐

C paper ☐

D wood ☐

7 Complete the word equation for burning a fuel.

(1)

Underline the correct answer in the box.

fuel + oxygen → carbon dioxide + **water** / **hydrogen** / **ethanol**

8 Burning fuels can sometimes produce carbon monoxide and soot.

Why is it a problem if carbon monoxide is produced when a fuel burns?

(1)

Underline the correct answer.

it is flammable **it is lighter than air** **it is toxic**

9 Different substances are produced when a fuel burns.

Some of these substances cause problems in the environment.

Complete the table to show a substance that causes each problem.

(3)

Problem	Substance
acid rain	
greenhouse effect	
poor air quality	

10 Crude oil is a mixture of lots of compounds.

Give the name of the process that separates crude oil into simple substances.

(1)

Tick (✓) the correct box.

A combustion ☐

B distillation ☐

C radiation ☐

D recycling ☐

Questions 11 to 13

Crude oil is used to make many different products.

Complete each sentence below by underlining the correct answer from the box.

11 Cars often run on a fuel called

bitumen
fuel oil
petrol

.

(1)

12 Road workers cover the surface of roads with

bitumen
fuel oil
petrol

.

(1)

13 Crude oil can be made into

glass
paper
plastic

to make drink bottles.

(1)

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 6

1	Oxygen	(1)
2	Combustion	(1)
3	Heat	(1)
4	Any sensible reason, e.g. easy to light/less pollution/lighter to carry/cheaper/easier to find	(1)
5	It removes the oxygen	(1)
6	A coal	(1)
7	Water	(1)
8	It is toxic	(1)
9	Acidic gases	(1)
	Carbon dioxide (or water vapour)	(1)
	Smoke	(1)
10	B distillation	(1)
11	Petrol	(1)
12	Bitumen	(1)
13	Plastic	(1)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 6: Fuels

Sample Assessment Material
Assignment for Topic 6

Total Marks
/20

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44284A

S 4 4 2 8 4 A 0 1 0 6

PEARSON

Answer all questions in the spaces provided

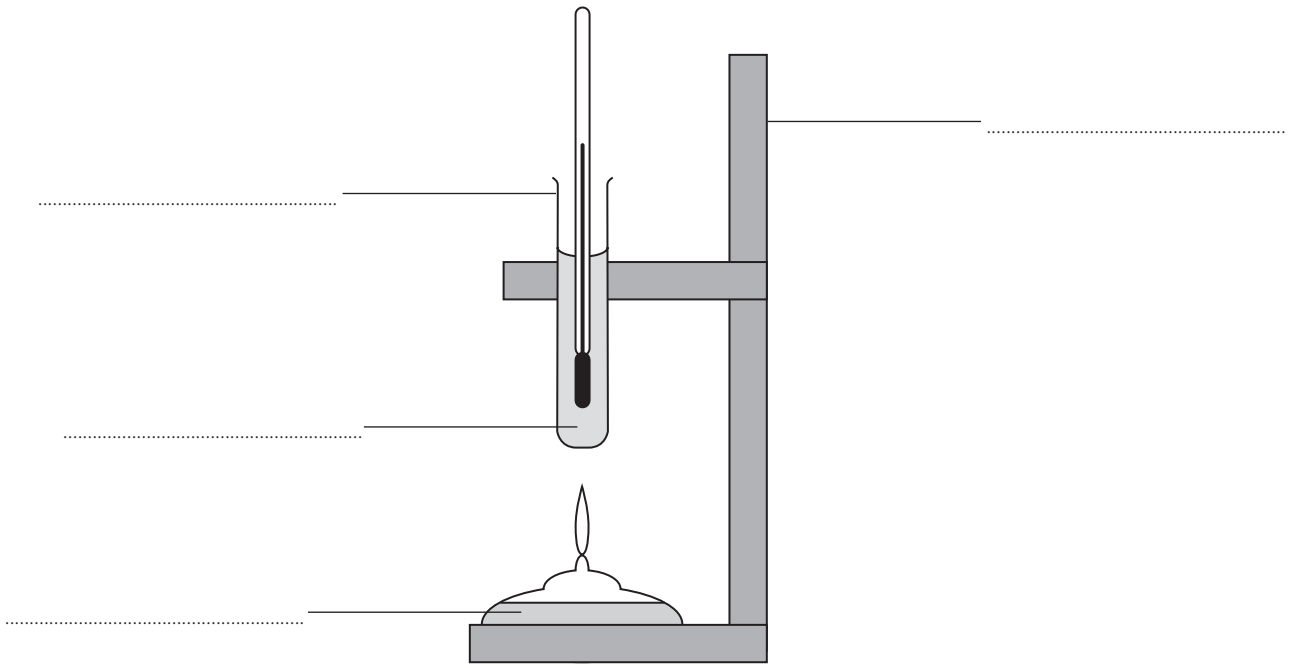
Questions 1 to 5

Harry has three different fuels – ethanol, oil and petrol.

He wants to find out which fuel gives off the most heat.

Harry burns each fuel. He uses the energy to heat some water.

He uses the equipment shown in this diagram.



1 Label the diagram using some of the words from the box below.

(4)

water	**fuel**	**test tube**	**clamp stand**	**Bunsen burner**

2 In this experiment, Harry measures the temperature of the water.

Name the equipment Harry needs to measure the water temperature.

(1)

.....

Harry wrote his results in this table.

Fuel	Starting temperature (°C)	End temperature (°C)	Temperature rise (°C)
ethanol	20		22
oil	20	38	18
petrol	20	50	30

3 The result for the end temperature of ethanol is missing from the table.

Work out the end temperature for ethanol and write it in the empty box in the table.

(1)

4 Tick (✓) the fuel that gave off the most heat energy.

(1)

A ethanol ☐

B oil ☐

C petrol ☐

5 Harry's teacher said that the experiment might have given the wrong results.

This is because Harry's experiment was not a fair test.

Give **one** thing Harry could do to make his experiment a fair test.

(1)

.....

.....

Questions 6 to 8

Meera wants to know what is made when a fuel burns.

She reads some information on the internet.

This information says that water and carbon dioxide are made when a fuel burns.

6 Complete each sentence below using some of the words from this box:

(3)

carbon	**hydrogen**	**nitrogen**	**oil**	**oxygen**

When a fuel burns, it reacts with a gas in the air called .....

Water is made when a fuel burns because the fuel contains .....

Carbon dioxide is made when a fuel burns because the fuel contains .....

7 Meera collects the gas made when a fuel burns.

She uses limewater to see if this gas is carbon dioxide.

(1)

The limewater would turn ..... if the gas is carbon dioxide.

8 Meera also collects the liquid made when the fuel burns.

She thinks this liquid is water.

Meera tests the liquid with some copper sulfate powder normally used for this test.

(2)

The copper sulfate powder changes colour from .....

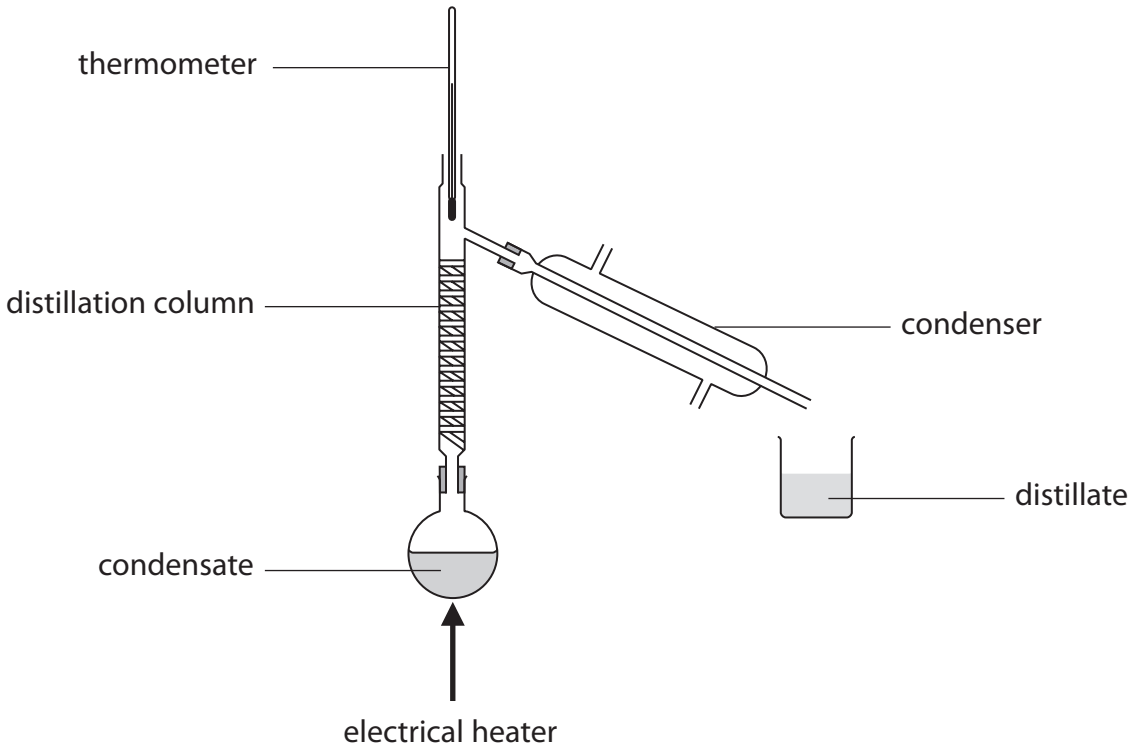
to ..... if the liquid is water.

Questions 9 to 12

Zain knows that crude oil is a mixture of compounds.

He asks his teacher how scientists separate crude oil into simpler substances.

Zain's teacher does an experiment to show how this process works.



Here is a diagram of the experiment.

9 Underline the name of this process.

(1)

distillation **combustion** **pollution** **evaporation**

10 Where does Zain's teacher put the crude oil at the start of the experiment?

(1)

Tick (✓) the correct answer.

A round-bottomed flask ☐

B condenser ☐

C conical flask ☐

D electrical heater ☐

11 Zain's teacher could use a Bunsen burner to heat the crude oil.

Explain why the teacher uses an electrical heater instead of a Bunsen burner.

(1)

.....

.....

12 Two substances found in crude oil are hexane and octane.

Both hexane and octane are liquids at room temperature.

Both hexane and octane become gases when they are boiled.

Hexane boils and becomes a gas at a lower temperature than octane.

Complete the following sentences by underlining the correct words in the box.

(3)

Hexane and octane boil at different | **fractions** / **melting points** / **temperatures** | and become gases.

The first liquid to boil and become a gas is | **hexane** / **octane** / **water** | .

The condenser | **boils** / **cools** / **freezes** | the gas and turns it back into a liquid.

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 6

1	Correctly labelled:	
	Water	(1)
	Test tube	(1)
	Clamp stand	(1)
	Fuel	(1)
2	Thermometer	(1)
3	42 (°C)	(1)
4	C petrol	(1)
5	Any reasonable response, e.g. same volume of water/fuel, same time to be heated, same mass of fuel burned	(1)
6	Oxygen	(1)
	Hydrogen	(1)
	Carbon	(1)
7	Milky/cloudy	(1)
8	White	(1)
	Blue	(1)
9	Distillation	(1)
10	A round-bottomed flask	(1)
11	Oil is flammable/it is safer	(1)
12	Temperatures	(1)
	Hexane	(1)
	Cools	(1)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 7: Waves and radiation

Sample Assessment Material
Test for Topic 7

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44287A

S 4 4 2 8 7 A 0 1 0 5

PEARSON

Answer all questions in the spaces provided.

Questions 1 to 3

Sue has a telescope.

She uses it to look at the Moon.

1 Underline the correct answer. **(1)**

The reason why she uses a telescope to look at the Moon is……

A to see more detail.

B to see the Moon in colour.

C to make the Moon look further away.

D to see the back of the Moon.

2 Underline the correct answer. **(1)**

Give the name of the lens closest to her eye.

A near piece.

B see piece.

C look piece.

D eyepiece.

3 Underline the correct answer. **(1)**

The job of the lens closest to her is……

A to form an image.

B to magnify the image.

C to keep the light out.

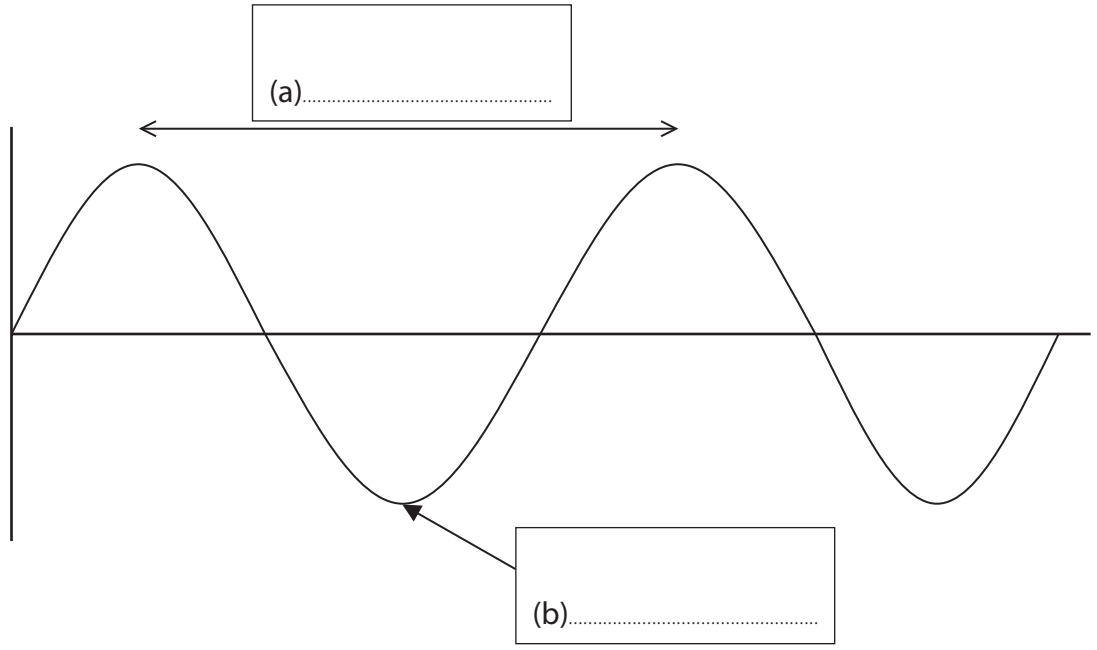
D to turn the image round.

Questions 4 to 7

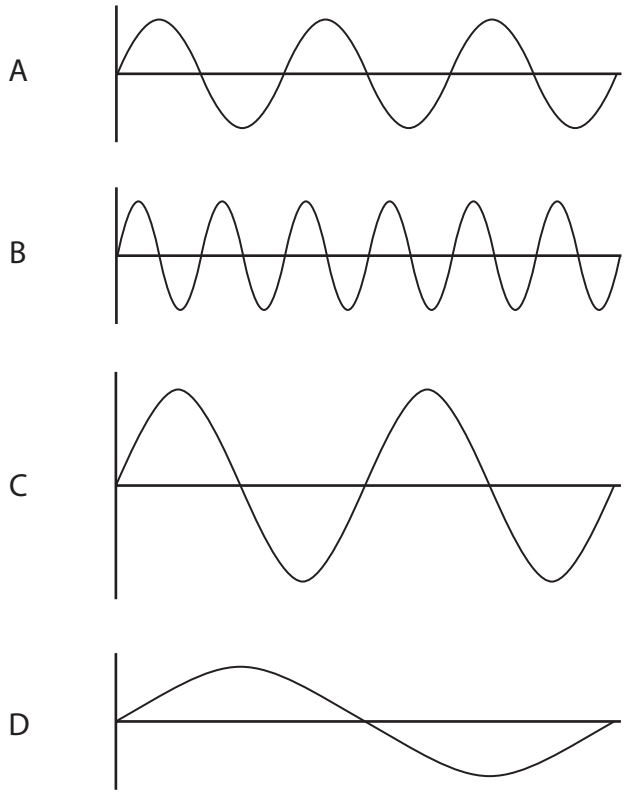
4 Use the correct **two** words from the box to label (a) and (b) on the diagram of a wave.

(2)

amplitude	crest	frequency	trough	wavelength



The diagrams show 4 waves, A, B, C and D.



5 Which wave has the biggest amplitude?

(1)

.....

6 Which wave has the largest frequency?

(1)

.....

7 Which diagram shows only three complete waves?

(1)

.....

Questions 8 to 12

8 State **one** property that all electromagnetic waves have.

(1)

.....

.....

9 This table for the electromagnetic spectrum is not finished.

gamma waves	.....	ultraviolet waves	.....	infrared waves	.....	radio waves

Complete the chart by writing in the names of the missing regions.

(3)

10 State **one** harmful effect of gamma rays.

(1)

.....

11 Name the wave in the electromagnetic spectrum which carries the most energy.

(1)

.....

12 State **one** use of infrared waves.

(1)

.....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 7

1	A	(1)
2	D	(1)
3	B	(1)
4	1 mark for each: wavelength trough	 (1) (1)
5	C	(1)
6	B	(1)
7	A	(1)
8	Any of: same speed (in air or in a vacuum) travels in a vacuum does not need a particle for transmission for 1 mark	 (1)
9	1 mark for each, from the left these are: X-rays visible (light) microwaves	 (1) (1) (1)
10	Killing any form of cell/damaging cell nucleus /causing cancer	(1)
11	Gamma	(1)
12	Any valid use of infrared waves, including space heating	(1)

Total = 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 7: Waves and radiation

Sample Assessment Material
Assignment for Topic 7

Total Marks
/20

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44286A

S 4 4 2 8 6 A 0 1 0 7

PEARSON

Answer all questions in the spaces provided.

Questions 1 to 3

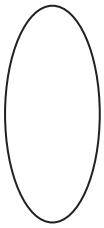
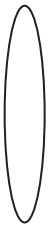
1 Irfan wants to find the focal length of some lenses.

Put a tick next to the four items of equipment he should use.

(4)

Equipment	Tick (✓) if he should use this
a distant object	
some lenses	
a mirror	
a prism	
a ray box	
a ruler	
a screen	
a telescope	

The diagram shows his results.

	A	B	C	D
				
Focal length	10 cm	100 cm	30 cm	20 cm
Lens thickness	6 mm	8 mm	2 mm	4 mm

2 The focal length for lens B is wrong.

Explain why this focal length is wrong.

(1)

.....

.....

3 Describe the pattern shown by the results for lenses A, C and D.

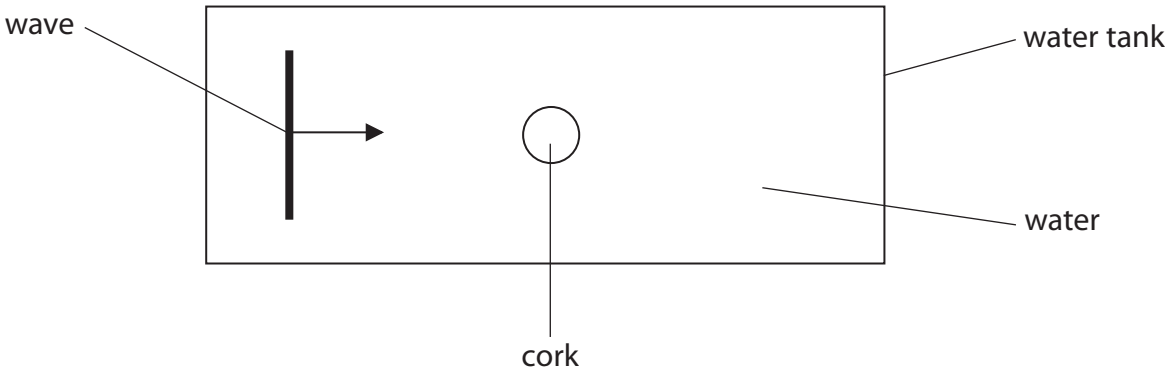
(1)

.....

.....

Questions 4 and 5

A cork is floating in a water tank in a laboratory.
Tom sends a wave towards the cork.



4 The wave makes the cork move.
What movement does the cork make?

(1)

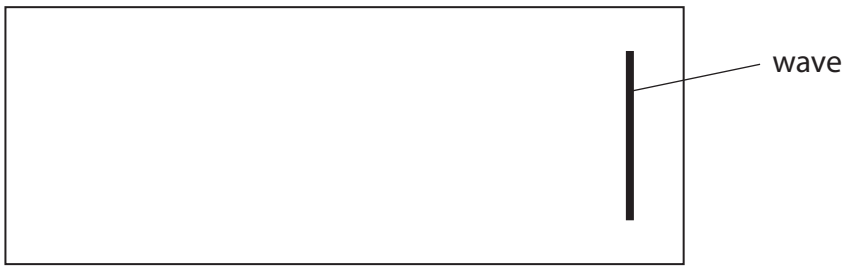
.....

.....

.....

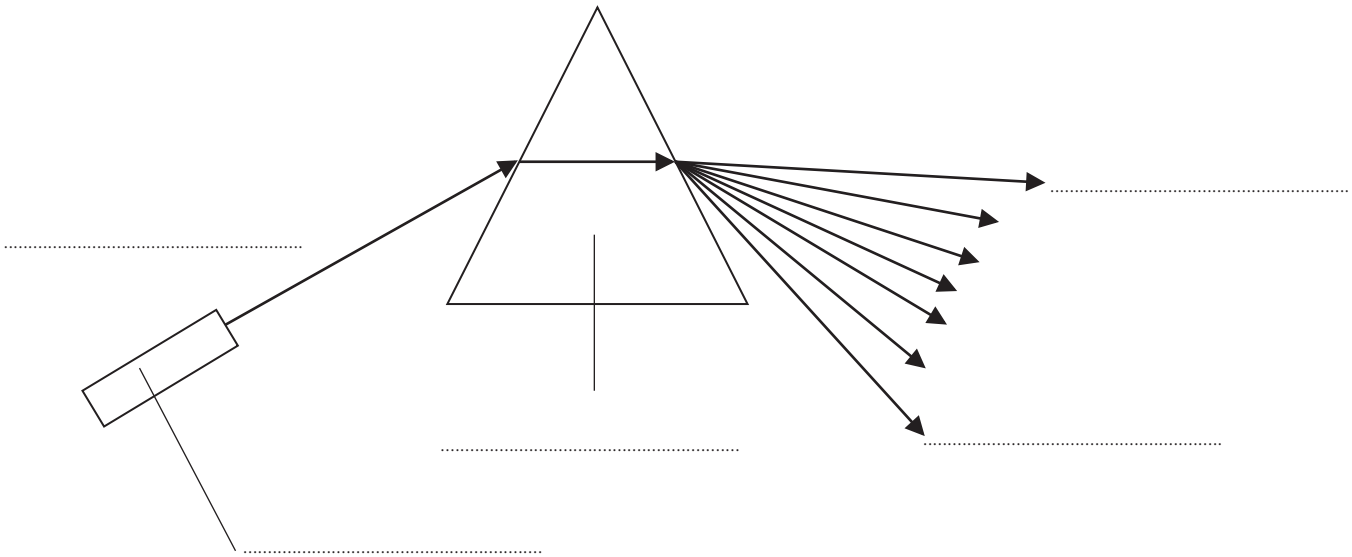
5 The wave reaches the position shown.
Draw the position of the cork on this diagram.

(1)



Questions 6 to 8

6 Meena draws a diagram showing her results for an experiment with a prism.



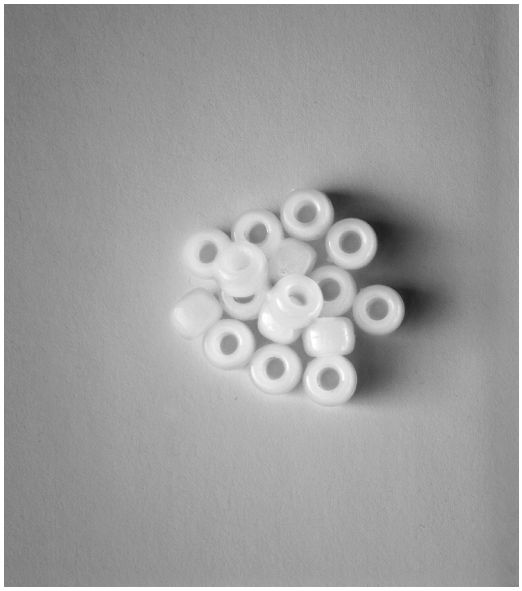
Choose some of the words from the boxes below and add them to the right places on the diagram.

(5)

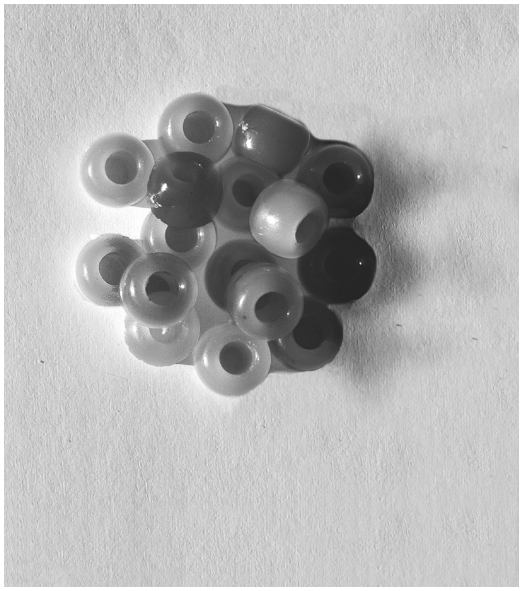
green light	lens	mirror	prism
ray box	red light	violet light	white light

A student has some white beads.

She takes them outdoors into bright sunlight.



Indoors



Outdoors

7 Describe what has happened to the beads.

(1)

.....

.....

8 Suggest a reason why this happened to the beads.

(1)

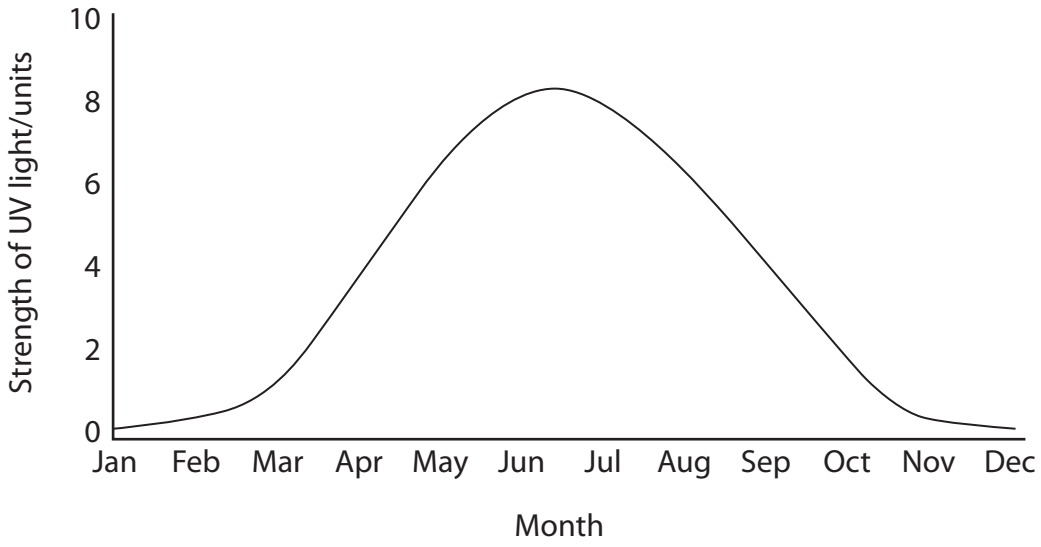
.....

.....

Questions 9 to 12

Amir sketches this graph.

The graph shows the strength of the ultraviolet (UV) light from the Sun for one year.



9 Describe the pattern shown in the graph.

(2)

.....

.....

10 Give the name of the months when the UV level is strongest.

(1)

.....

.....

11 Children should wear sunscreen when the strength of UV light is greater than 3.

Give a month when children do not need to wear sunscreen.

(1)

.....

.....

12 Suggest a reason why the strength of the ultraviolet level goes up and down for different days.

(1)

.....

.....

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 7

1

Equipment	Tick ✓ if he should use this
a distant object	✓
some lenses	✓
a mirror	
a prism	
a ray box	
a ruler	✓
a screen	✓
a telescope	

ONE MARK FOR EACH CORRECT ANSWER, IGNORE WRONG ANSWERS UP TO 4 TICKS, BUT MINUS 1 FOR EACH ADDITIONAL WRONG ANSWER, E.G. IF 5 TICKS WITH 3 CORRECT, THEN MARK IS 3-1 = 2

A ray box may be selected as an alternative to the distant object. (4)

2 Any mention of it being a fat thick lens (1)

3 The thinner the lens the longer the focal length (or converse argument) (1)

4 The cork moves up and down (OWTTE) (1)

5 The cork should be drawn in the same position as on the first diagram (1)

6 1 mark for each correct label, ignore incorrect but allow one mark out of two for both the red light and violet light being in each other's place (i.e. for the colours of the spectrum being inverted)

Labels clockwise from top right are:

red light

violet light

prism

white light

ray box (5)

7	The beads have become coloured	(1)
8	Implication that something in the sunlight/UV has caused this change	(1)
9	The line/UV strength rises then it falls	(1) (1)
10	Allow June or July or summer	(1)
11	Allow January, February, March, October, November, December, winter	(1)
12	Any reasonable answer, e.g. some days more sunny	(1)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 8: Earth and space

Sample Assessment Material
Test for Topic 8

For teacher's use only

Total Marks
/15

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44289A

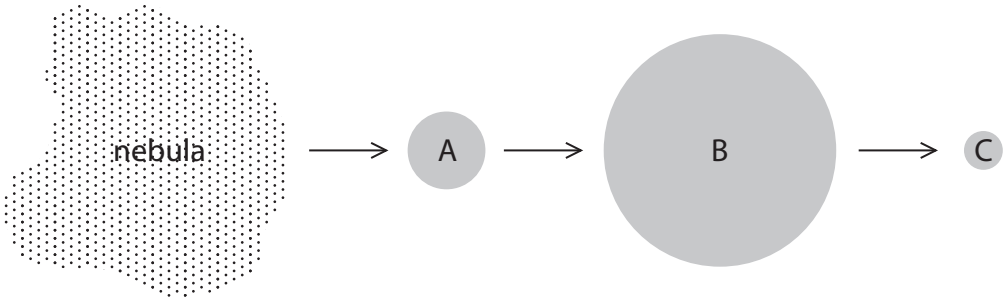
S 4 4 2 8 9 A 0 1 0 6

PEARSON

Answer all questions in the spaces provided

Questions 1 to 3

The diagram below shows what happens after the dust and gases in a nebula become a star.



1 The force which pulls the dust and gases together is called

(1)

.....

2 Choose words from the box to describe the three types of star at A, B and C.

(2)

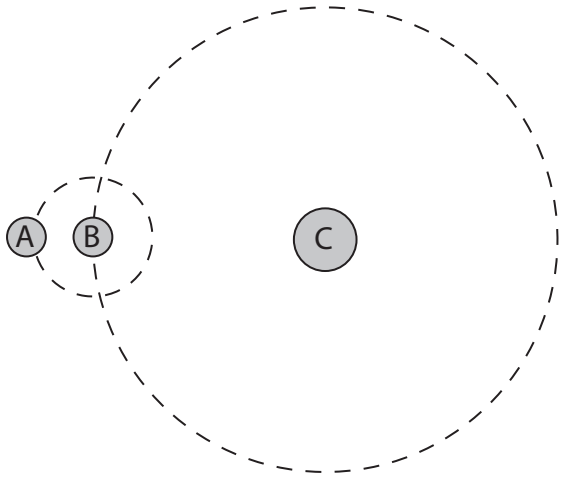
main sequence	**white dwarf**	**red giant**

A is a ..... star.

B is a ..... star.

C is a ..... star.

3 The diagram shows a sun, with a planet and a moon in their orbits.



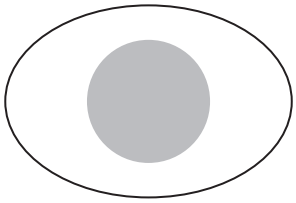
Draw a straight line from each letter to the correct object.

(2)

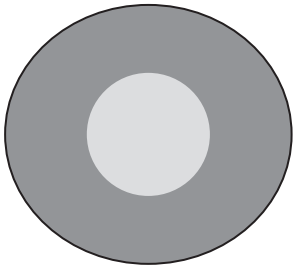
Letter	Object
A	sun
B	planet
C	moon

Questions 4 to 8

John was told that the Earth was like a hard-boiled egg.



an egg



the Earth

4 Name the part of the Earth that is like the yolk of an egg.

(1)

.....

5 The Earth is more like a soft-boiled egg.

Explain why the Earth is more like a soft-boiled egg.

(1)

.....

.....

6 The crust of the Earth is made up of plates.

They move and rub against each other.

This can cause earthquakes.

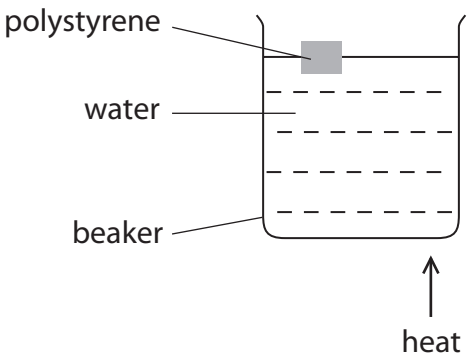
(2)

The plates move because of ..... currents in the

..... .

7 The currents are made by uneven heating inside the Earth.

This can be shown by heating some water in a beaker.



The water is heated and the polystyrene starts to move.

Draw an arrow (→) on the diagram to show in which direction the polystyrene starts to move.

(1)

8 Underline the word in this list which best describes earthquakes.

(1)

predictable **tested** **unpredictable** **untested**

Questions 9 and 10

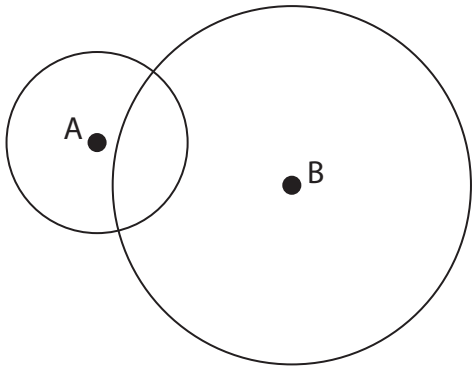
Waves spread out from the place where an earthquake starts.

A scientist at **A** can say how far away the earthquake happened.

But she cannot tell the direction.

She draws a circle on a map.

A scientist at **B** also draws a circle for the distance from her.



9 Draw an arrow (→) pointing to where the earthquake could or has happened.

(1)

10 Give **one** reason why it is important to discover where an earthquake has happened.

(1)

.....

.....

11 Describe **two** advantages of space exploration.

(2)

Advantage 1:

.....

.....

Advantage 2:

.....

.....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 8

1 Gravity/gravitational attraction (1)

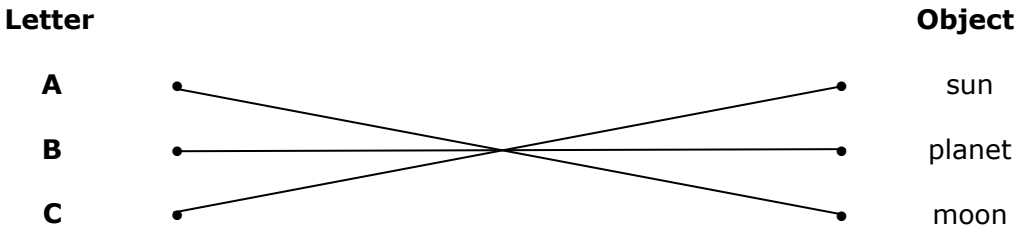
2 A main sequence

B red giant

C white dwarf

three correct scores – 2 marks
any one correct scores – 1 mark (2)

3 Three lines correct – 2 marks
One line correct – 1 mark



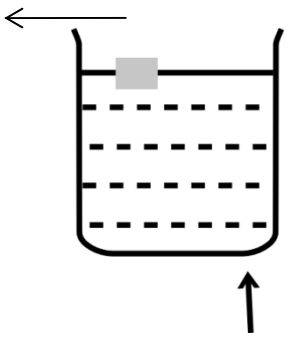
(2)

4 Core (1)

5 Core is liquid (1)

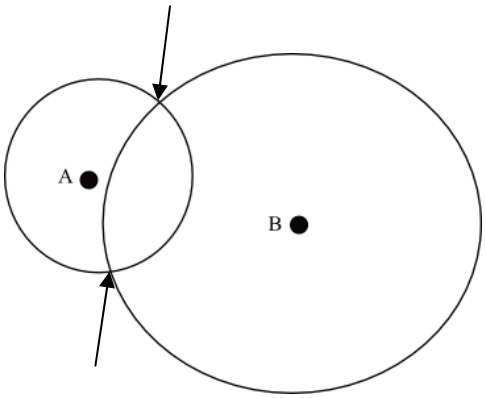
6 Convection (currents in the) mantle (2)

7 Arrow to left (1)



8 Unpredictable (1)

9 Arrow clearly pointing at one or both intersections of the circles (1)



10 Any sensible response such as:
so that aid can be sent/to help the victims
so that they can warn people if a tsunami is likely
to warn people to look out for more shocks (1)

11 1 mark for each of two suitable benefits, such as:
may find new resources
may find new forms of life
may discover other useful materials (while researching problems)
may discover new scientific ideas
(2)

Total: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 8: Earth and space

Sample Assessment Material
Assignment for Topic 8

Total Marks
/20

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44288A

S 4 4 2 8 8 A 0 1 0 7

PEARSON

Answer all questions in the spaces provided

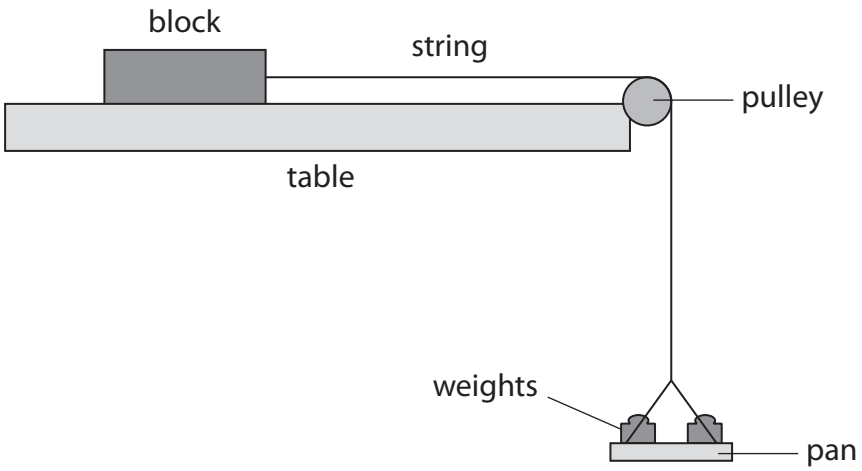
Questions 1 to 10

Sections of the Earth's surface rub against each other.

This can cause an earthquake if the sections suddenly slide past each other.

Irfan set up the apparatus as shown.

The block slides over the table when enough weights are put in the pan.



Irfan carefully added weights to the pan.

1 Complete this sentence:

(1)

He kept adding weights until

.....

.....

2 Give **two** reasons why he repeated the experiment three times.

(2)

1 .....

.....

2 .....

.....

3 Complete this sentence:

(1)

Each time he repeated the experiment he had to make sure that he placed the block

.....

.....

4 Give **two** reasons why it is important to use the same block for each experiment.

(2)

1 .....

2 .....

Next, he placed a piece of cloth on the table.

He placed the block on the cloth.

He did the experiment again with the block on the cloth.

Then he repeated the experiment by replacing the cloth with different materials.

The table shows his results.

Material	Weight in grams added before the block slides			
	First try	Second try	Third try	Average
Cloth	220	215	225	220
Wood	100	100	100	100
Sandpaper	705	720	735	720
Plastic	300	350	400	
Cardboard	400	400	610	

5 Work out the average value for plastic.

(1)

..... g

6 Irfan wants to find the average value for cardboard.

Write down the number he should not use when he works out the average.

(1)

..... g

7 Name the material that needs the smallest weight to make the block slide over it.

(1)

.....

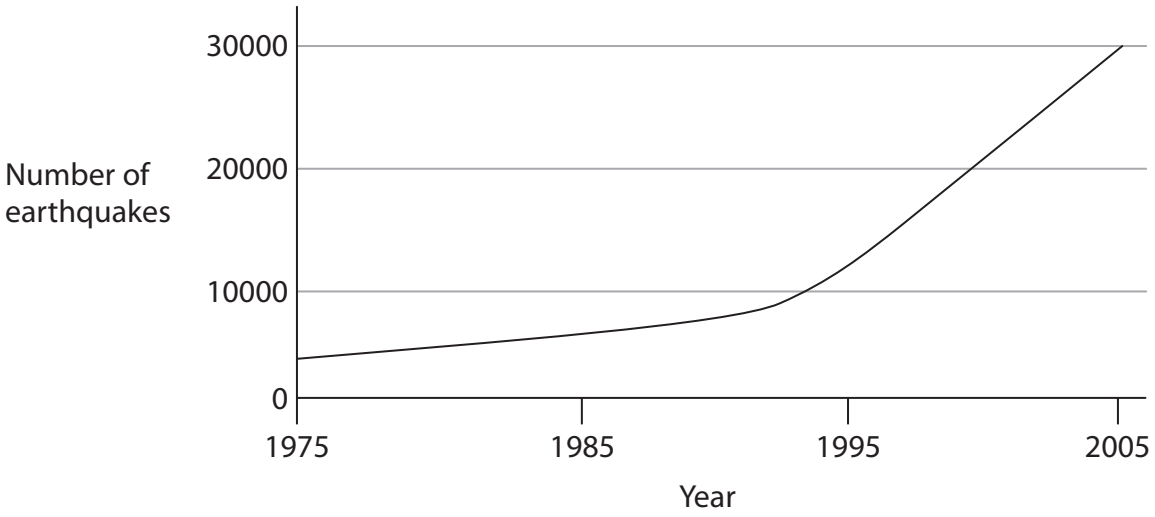
8 Earthquakes cause more damage if the sections of the Earth's surface do not slide easily.

Name the material used in the experiment over which the block did not slide easily.

(1)

.....

9 Irfan drew this graph.
It shows the number of earthquakes for each year.



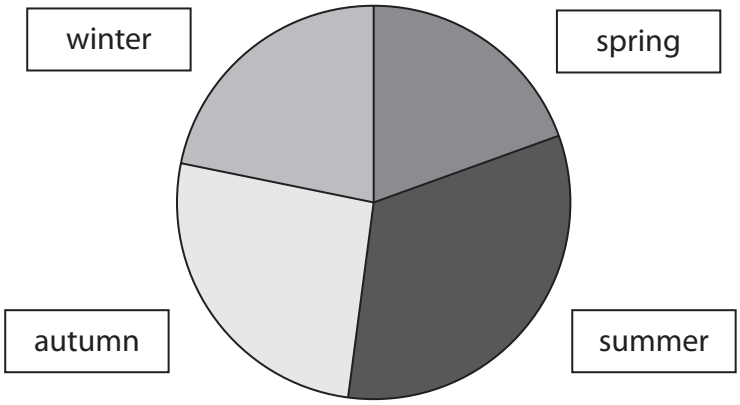
Describe the pattern shown on the graph.

(2)

.....

.....

10 Irfan draws a pie chart to show the number of earthquakes in spring, summer autumn and winter in one year.



Name the season that has the largest number of earthquakes.

(1)

Questions 11 to 17

This table gives the distance from the Sun of seven planets.

The surface temperature of each planet is also given in Kelvin (K).

Planet	Distance from Sun/ millions of miles	Temperature/K
Venus	70	730
Earth	100	290
Mars	150	220
Jupiter	520	120
Saturn	950	88
Uranus	2000	59
Neptune	3000	48

11 Name the planet furthest from the Sun.

(1)

.....

12 Venus is the nearest planet to the Earth.

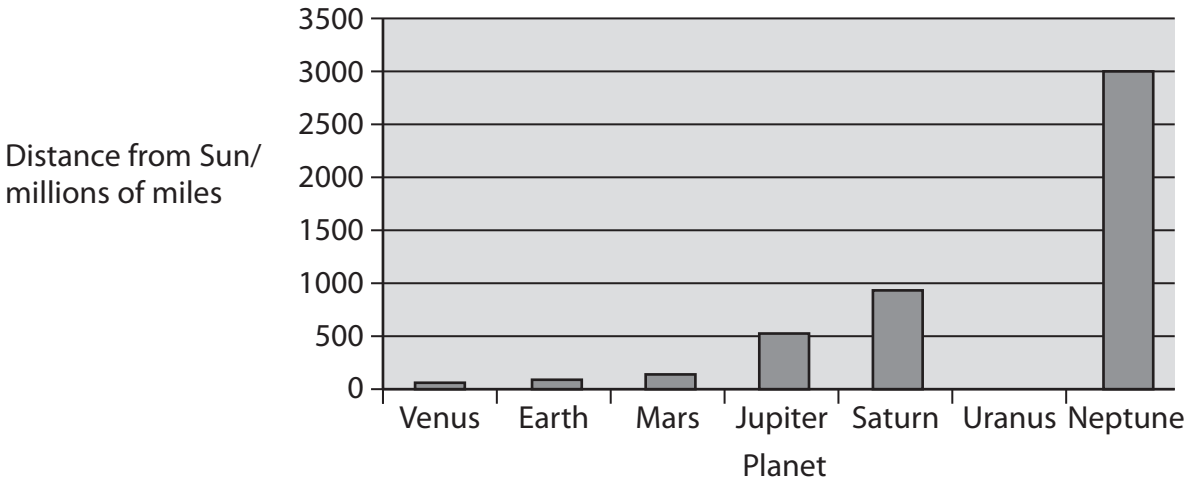
Give the distance from Venus to the Earth.

(1)

.....

13 Draw the bar on the graph for the distance of Uranus from the Sun.

(1)



14 Write down the temperature difference between Venus and Neptune.

(1)

.....

15 What happens to the temperature of the planets as they become further away from the Sun?

(1)

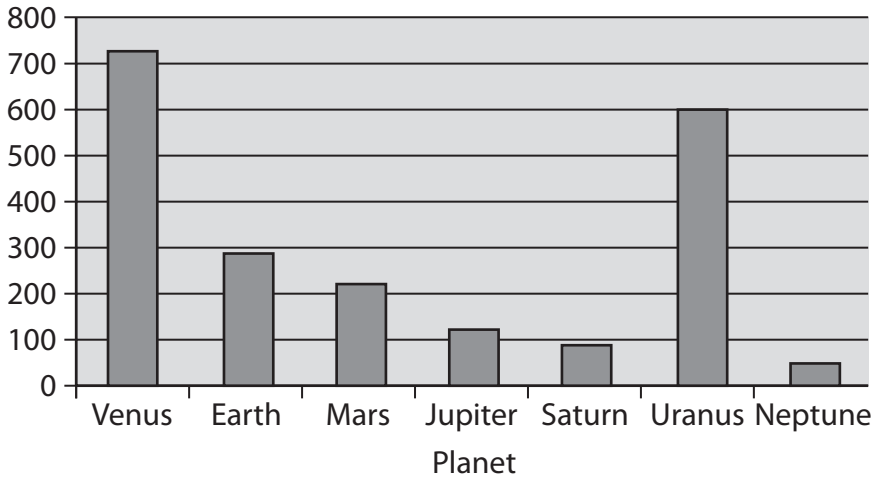
.....

16 Amir draws a graph showing the temperature of each planet.

One label is missing.

Add the missing label to the graph.

(1)



17 One of the bars in his graph is the wrong height.

Draw a circle around the bar that is the wrong height.

(1)

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 8

1	The block slid/starts to slide	(1)
2	He can calculate an average – 1 mark for each He can spot mistakes/anomalies – 1 mark for each	(2)
3	At the same position	(1)
4	Any two sensible responses such as: blocks may have different surfaces blocks may have different weights	(2)
5	350 (g)	(1)
6	610 (g)	(1)
7	Wood	(1)
8	Sandpaper	(1)
9	The line rises gradually and then rises more sharply OWTTE	(1)
10	Summer	(1)
11	Neptune	(1)
12	30 (million miles)	(1)
13	Correctly marked (± 1 scale line)	(1)
14	682 (K)	(1)
15	The temperature gets colder/goes down	(1)
16	Temperature (K)	(1)
17	Uranus	(1)

Total: 20 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 9: Electricity and Energy

Sample Assessment Material
Test for Topic 9

Total Marks
/15

For teacher's use only

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 15.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44291A

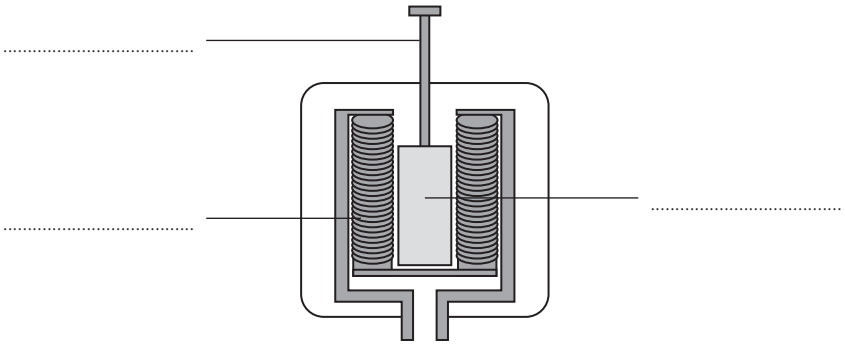
S 4 4 2 9 1 A 0 1 0 4

PEARSON

Answer all questions in the spaces provided

Questions 1 and 2

1 The diagram shows a dynamo.



A dynamo can be used to light a bicycle lamp.

Use three of the words in the box below to complete labels on the diagram.

(3)

axle	**battery**	**coil**	**lamp**	**magnet**

2 The dynamo produces alternating current.

Circle the graph that shows an alternating current.

(1)

Questions 3 to 5

Electricity can be obtained from the mains supply.

3 Where is a step-up transformer used?

(1)

.....

4 Describe **one** danger of using mains electricity.

(1)

.....

.....

5 Energy from the mains is measured in units called

(1)

.....

6 Oil, coal and natural gas may run out this century.

Name other sources of energy that we could use.

(2)

..... and .....

7 Surfaces absorb and emit different amounts of radiation depending on the colour and feel of the surfaces.

The types of surface which are best at absorbing radiation are

(2)

..... and .....

Questions 8 to 10

John has two lamps of the same power.

Lamp A is an energy-saving lamp.

Lamp B is a filament lamp.

Choose words from the box below to complete the sentences in questions 8 and 9.
Each word may be used more than once.

chemical	**electrical**	**heat**	**light**

8 Lamp A saves energy by producing more ..... and less

..... .

(2)

9 Lamp B changes the useful energy from

..... to ..... .

(1)

10 Give **one** disadvantage of using an energy-saving lamp.

(1)

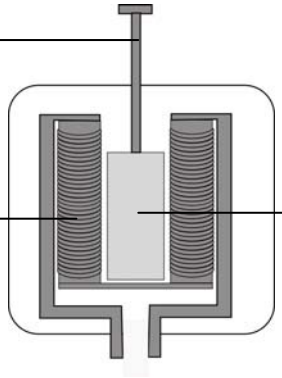
.....

.....

TOTAL FOR PAPER = 15 MARKS

Sample test mark scheme for topic 9

1 1 mark for each correct label



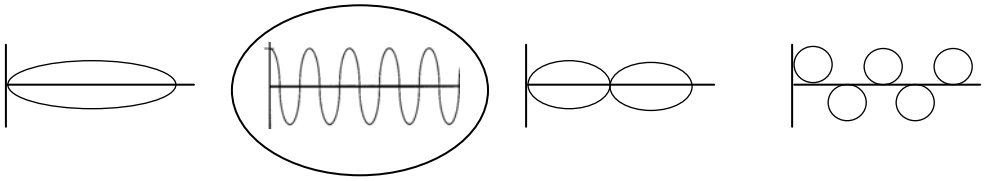
.....axle.....

.....coil.....

.....magnet.....

(3)

2



(1)

3 At/close to the power station (1)

4 Description of any suitable danger, such as:
electrocution
fire
explosion (of leaking gas) (1)

5 Kilowatt-hours (any recognisable spelling) (1)

6 Any **two** in any order from:
hydro
geothermal
wind
wave
tidal
solar
nuclear

(1)

7 A description to include:
dark/black
dull/rough/unpolished
for 1 mark each (2)

8 1 mark for each correct word in the correct place
(more) light (and less) heat

(2)

9 Electrical (to) light

(1)

10 One suitable disadvantage such as:
expensive/cost
take longer to reach maximum brightness

(1)

TOTAL: 15 marks

Write your name here

Surname	Other names

Pearson Edexcel Entry Level Certificate

Science

Topic 9: Electricity and Energy

Sample Assessment Material
Assignment for Topic 9

For teacher's use only	Total Marks /20

Instructions to candidates

- Answer **all** questions.
- Write your answers in the space provided.

Information for candidates

- The total mark for this test is 20.
- The marks for each question are shown in brackets.
- Check your answers if you have time before the end.
- If you do not understand what you need to do in a question, ask your teacher.

S44290A

S 4 4 2 9 0 A 0 1 0 8

PEARSON

Answer all questions in the spaces provided

Question 1

Coal is a non-renewable resource of energy.

1 Name another non-renewable resource of energy.

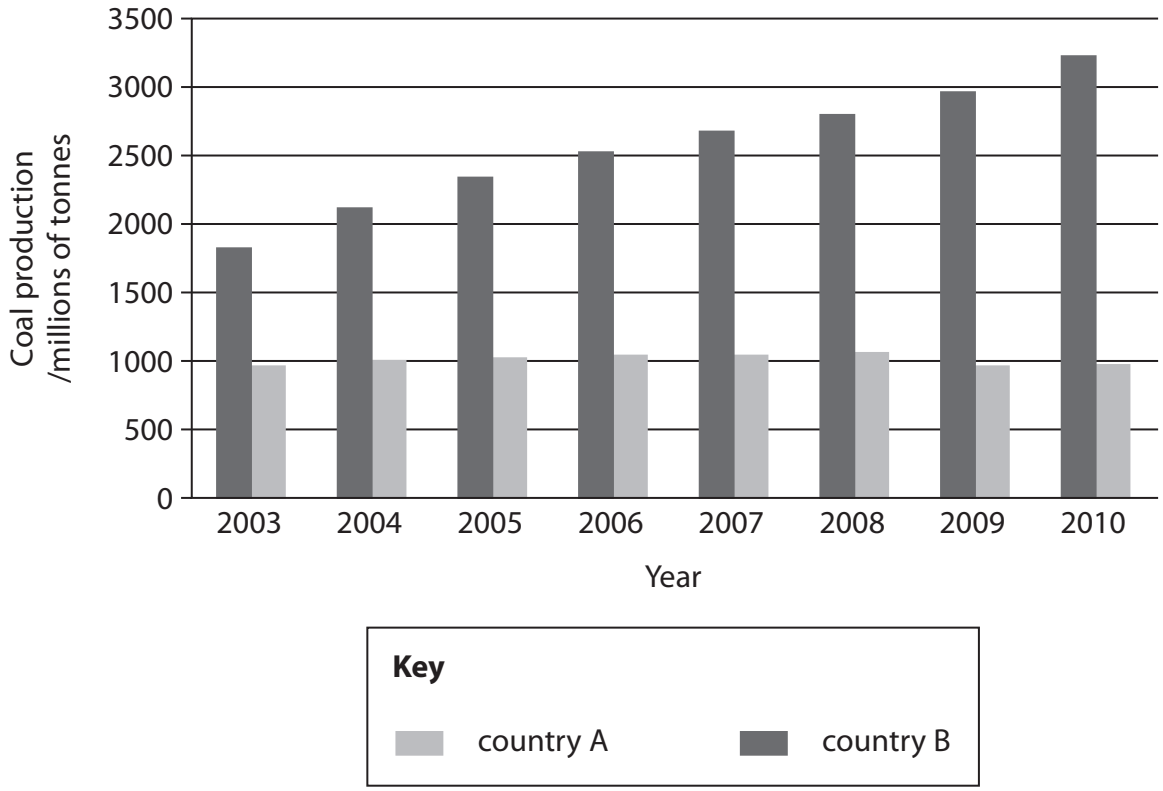
(1)

.....

Questions 2 to 5

John found this chart on the internet.

It shows the amount of coal produced in two countries over eight years.



2 State the year when the coal production in country B first went above 2500 million tonnes.

(1)

.....

3 Describe how the amount of coal produced in country A changes over the eight years.

(1)

.....

.....

4 Describe how the amount of coal produced in country B changes over the eight years.

(1)

.....

.....

5 Explain why solar power is a renewable resource.

(2)

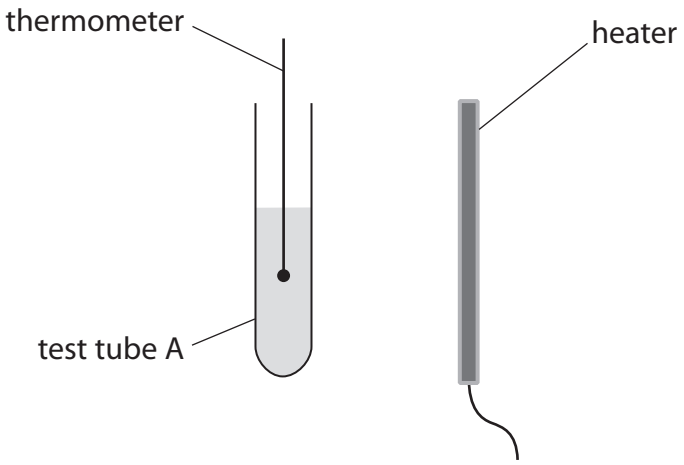
.....

.....

Questions 6 to 9

Gita wants to find out how well different surfaces absorb thermal (heat) radiation.

She sets up the equipment shown below.



She put a second test tube, called test tube B, and a thermometer on the right-hand side of the heater.

She left both test tubes until the temperatures did not change.

6 Gita places test tube B so that it receives the same amount of heat as test tube A.

Draw the position of test tube B on the diagram.

(2)

She did not change test tube A.

She tried different surfaces on test tube B.

She kept test tube B in the same position.

Here are the results.

Paint on tube at B	Temperature of tube at A	Temperature of tube at B
dull white	25	24
dull black	25	27
shiny	25	24
dull grey	25	26

7 Name the surface that is the best at absorbing radiation.

(1)

.....

8 Explain why you have chosen the surface in your answer to question 7.

(1)

.....

.....

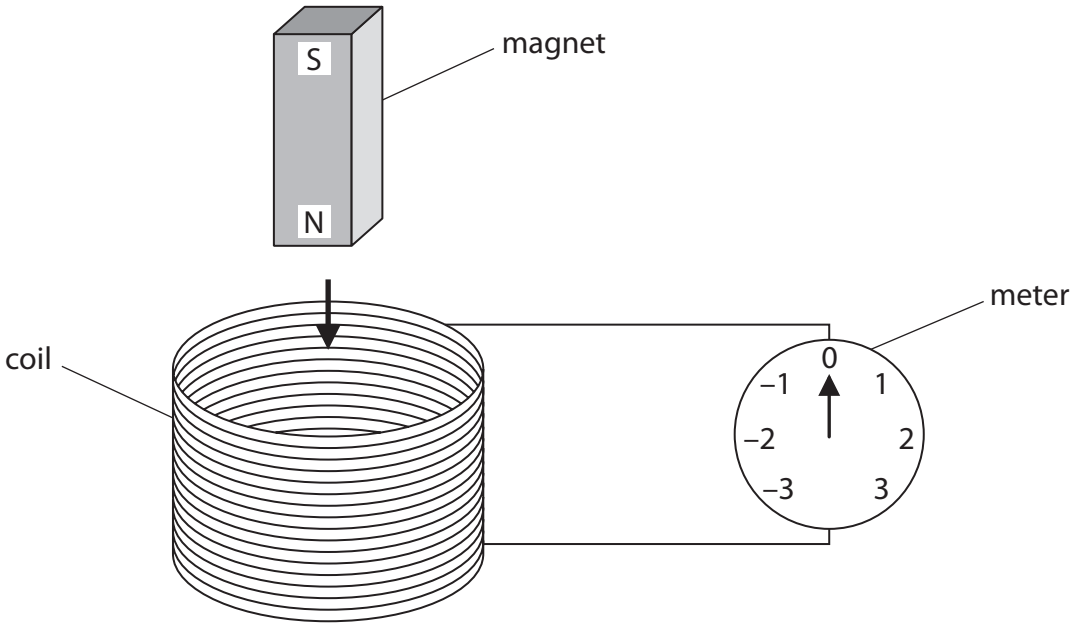
9 Does the unpainted glass surface absorb radiation better than the glass painted white?

(1)

.....

Questions 10 to 14

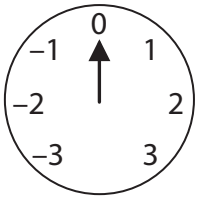
You have investigated how to produce electricity using magnets and coils of wire.



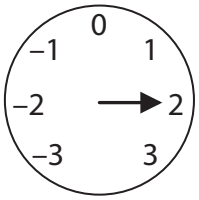
10 To produce electricity the magnet must ..... near a coil.

(1)

This diagram shows the position of the pointer on the meter when a magnet is held near a coil of wire.

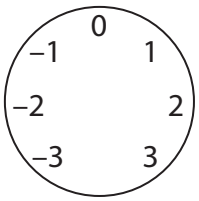


This diagram shows the position of the pointer on the meter when a magnet is lowered into a coil of wire.



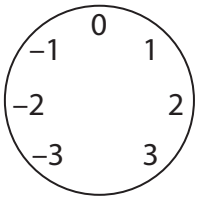
11 Draw a pointer on the meter to show what happens when the magnet stops moving.

(1)



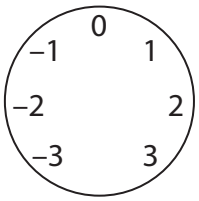
12 Draw a pointer on the meter to show what happens when the magnet is raised out of the coil at the same speed.

(1)



13 Draw a pointer on the meter to show what happens when the magnet is lowered faster into the coil.

(1)



14 Suggest another way to make the pointer turn more.

(1)

.....

Questions 15 to 18

The diagram shows the label attached to an electrical machine.

220 V	**20 W**
50 Hz	**11 A**

15 The power rating of this machine is

(1)

.....

16 The number which tells you that the machine probably works from the mains electricity is

(1)

.....

17 The cost of each kilowatt (kW)-hour of electricity is 10 p.

A water heater uses 2 kW for 1 hour.

Underline the letter that shows the cost.

(1)

A 5 p **B** 10 p **C** 13 p **D** 20 p

18 An energy-saving lamp uses less energy than a normal lamp of the same power.

This is because it produces less

(1)

.....

TOTAL FOR ASSIGNMENT = 20 MARKS

Sample assignment mark scheme for topic 9

1 Any one of oil, gas or nuclear (1)

2 2006 (1)

3 Nearly constant/steady (accept up and down slightly) (1)

4 (Continually) increasing (1)

5 Renewable will not run out
the Sun will give out radiation for a very long time (accept forever) (2)

6 Tube drawn (on opposite side of heater) with thermometer at about the same height (1 mark)
(Tube) at an equal distance from heater (1 mark) (2)

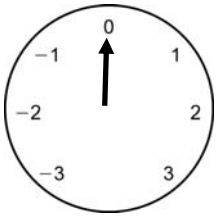
7 Black (1)

8 It gave the highest (final) temperature (1)

9 Unpainted glass absorbed radiation better than white surface (1)

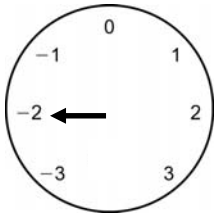
10 Move/turn/rotate/twist, i.e. some idea of moving (1)

11 Pointer should be drawn as shown



(1)

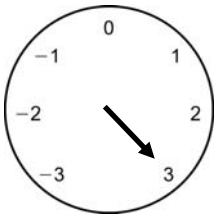
12 Pointer should be drawn as shown



(1)

13 The pointer should be positioned after the second mark. For example:

(1)



14 Any suitable example, such as:
use stronger magnet
move magnet faster
use coil with more turns (1)

15 20 W (1)

16 50 Hz (1)

17 D (1)

18 Thermal/heat (energy) (1)

Total: 20 marks

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Publication code W031186