

SCIENCE Checkpoint Exam 2016

Prepare The mock exams are on Thursday & Friday 24th & 25th March. You should use the time from now to then productively by spending **an hour** or so a night (a couple of hours a day at the weekends) quietly in your room reading through your work, making notes and revising.

During the exams, be ready, have the right equipment. Have the right amount of sleep (8 hours). The more preparation you do now means the less worry you will have later.

Exam Materials – Include pens, pencils, ruler, protractor, calculator, pair of compasses,

English Exam Timetable:

Exam date	Exam type
24 th & 25 th March 2016	Mock exam period
28 th & 29 th April 2016	Checkpoint exams

Topics to revise for the mock exam.

1 Cells & Respiration	5 Classifying Materials	9 Forces & Motion
2 Humans as Organisms	6 Chemical Changes	10 Waves
3 Plants & Ecosystems	7 The Earth & Atmosphere	11 Electricity & Magnetism
4 Inheritance, Variation & Survival	8 Energy & Matter	12 The Earth & Beyond

Answers No matter how good your grades were, you can always do better. When reading the question, make sure you read it properly. Re-read it, and make sure you've understood it. Pick out the key words and take a moment to think about your answer and make sure it is actually answering the question.

In low scoring questions, worth 1 mark, you are expected to write a brief answer, if one word will do use it; if it needs a sentence write a *short* sentence. With medium scoring questions (2 to 4 marks) you need to give your answer making one valid point per mark (so for a 3 mark Q you must make 3 good statements etc). For questions worth more than 4 marks you need to be writing in complex sentences. You should be making a valid point and expanding (developing) or explaining that point using evidence.

When you have written your answer STOP! Go back and re-read the question and ask yourself, "does my answer actually answer all of that question?"

Revising for your Science Checkpoint Exam

You will need:

1. Your class exercise book
2. Your copy of the Key Stage Three Science Revision Guide – all Year 9 students should have this

The revision guide is divided into twelve topics, containing all you need to know. All Year 9 Students should have a copy; if you do not, please speak to your Science teacher immediately.

Here are some examples of questions that will come in the exam:-

Phrase used	What do I need to do?	Examples
State... Name... Suggest... Identify... What/Which/How...	Recall a basic fact or reason or name for something or recognize it from its features	State the function of the Chlorophyll in Plant Cells. State which is faster: light or sound.
Describe... Compare...	Write what something is behaving like, or write a basic model of something to explain how it works or how it is different	Use the graph to Describe how the number of strawberries found changes with distance from the shed wall. Compare the loudness and pitch of the whistles A and B.
Outline...	Write down the procedure or plan for an experiment or part of an experiment	Outline the plan for measuring the speed of the athlete.
Use the Key to... Use the information in the table to... Complete the sentence about...	These questions will require you to look at the information and complete it or describe it	Use the key to identify the fish shown in the picture.
Explain... Explain, using...	Write why something has happened by referring to your Science knowledge, or using information given elsewhere in the question	Explain, using the Particle Theory of matter, how diffusion takes place.
Calculate... Plot...	You will need to calculate something numerically, bring a calculator to your Science exam! You may need to plot data onto a graph	Calculate the average (mean) friction force for the glass experiment.

A number of sample questions are shown below.

This list shows properties that different materials can have.

- | | |
|----------------------------------|--|
| A magnetic | E good conductor of heat |
| B can be compressed | F poor conductor of heat |
| C very high melting point | G good conductor of electricity |
| D very low melting point | H non conductor of electricity |

Write down the **letter** of the property that answers each of these questions.

(a) Which **two** properties from the list make aluminium suitable for cooking pans?

1.

2. [2]

(b) Which property from the list explains why a lot of oxygen gas can be pumped into a very small container?

..... [1]

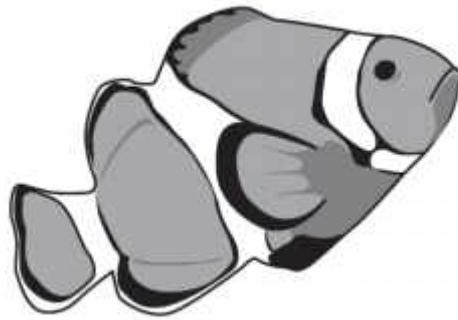
(c) Which property from the list explains why plastic makes a good material for the handle of a kettle?

..... [1]

(d) Which property from the list explains why rubber is used to cover electrical wiring?

..... [1]

Use the key to identify this coral reef fish.



- | | | |
|---|--|--------------------|
| 1 | shape is very long and very thin | go to 2 |
| | shape is not long and thin | go to 3 |
| 2 | fins are pointed | <i>trumpetfish</i> |
| | fins are smooth | <i>eel</i> |
| 3 | eyes on top of head | go to 4 |
| | eyes each side of head | go to 5 |
| 4 | long thin tail | <i>ray</i> |
| | has a blunt tail | <i>flounder</i> |
| 5 | has stripes | go to 6 |
| | does not have stripes | <i>sweeper</i> |
| 6 | has dark tips to fins and tail | <i>clownfish</i> |
| | does not have dark tips to fins and tail | <i>angelfish</i> |

The coral reef fish is a

[1]

Ahmed makes a prediction about the planets in the Solar system.



The time to orbit the Sun increases the further away the planet is from the Sun.

Prediction 1

To find evidence to support his prediction he uses the internet.

The table shows the information he finds.

planet	relative mass compared to Earth	distance from the Sun in millions of km	average surface temperature in °C	strength of gravity in N/kg	time to orbit the Sun in Earth years
Mercury	0.05	58	169	3.7	0.2
Venus	0.81	108	460	8.9	0.6
Earth	1.00	150	14	9.8	1.0
Mars	0.11	228	63	3.7	1.9

(a) Does the information in the table support **Prediction 1**?

.....

Use information from the table to explain your answer.

.....

.....

.....

(b) Ahmed makes another prediction.



The average surface temperature of a planet decreases the further away the planet is from the Sun.

Prediction 2

(i) Does the information in the table support **Prediction 2**?

.....

Use information from the table to explain your answer.

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

[2]

(ii) Ahmed thinks he needs more evidence related to **Prediction 2**.

Suggest one **extra** piece of evidence he could use.

.....
.....

[1]

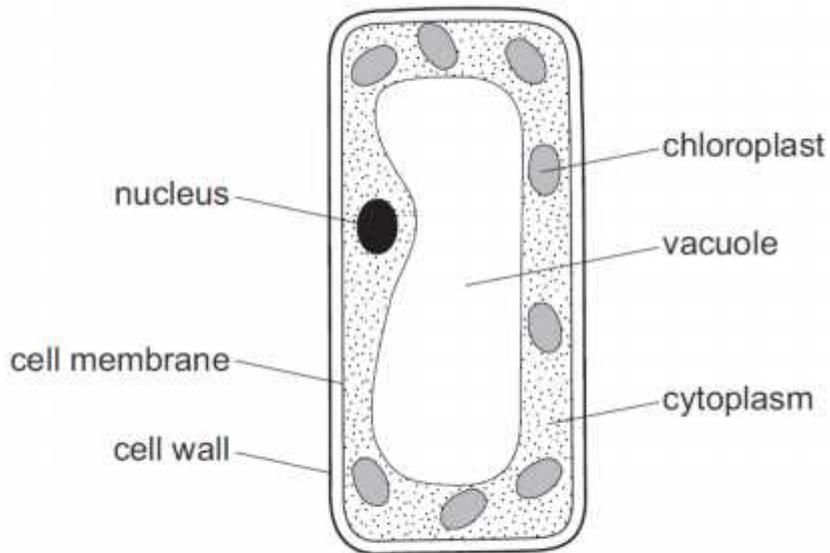
(c) Ahmed correctly predicts he will weigh more on Earth than on Mars.

Explain how the information in the table supports his prediction.

.....
.....

[1]

The diagram shows a palisade cell.



(a) Which three structures, labelled in the diagram, are **not** found in animal cells?

1.
2.
3.

[3]

(b) Name the part of the cell in which photosynthesis takes place.

.....

[1]

The Earth is made up of three layers including the core and the crust.

(a) What is the name of the **other** layer?

.....

[1]

(b) The core is made up of mainly two metals.

One of these metals is nickel.

What is the name of the **other** metal?

.....

[1]