

KULLEĠĠ SAN BENEDITTU

Boys' Secondary, Kirkop

Mark

HALF-YEARLY EXAMINATION – 2012/2013

LEVEL
5- 6- 7- 8

FORM 2

INTEGRATED SCIENCE

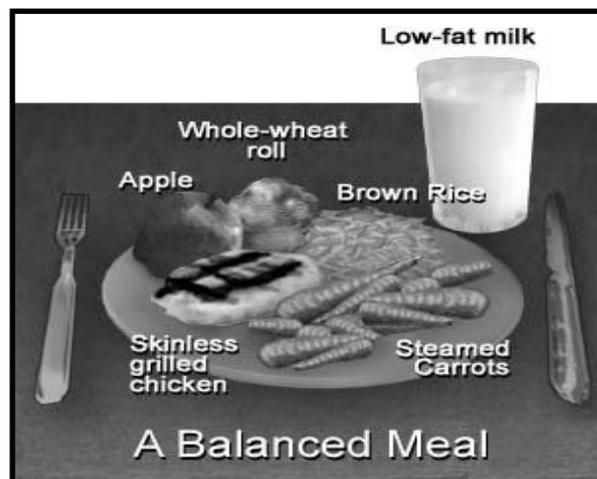
TIME: 1h 30min

Name: _____

Class: _____

Instructions to students:
Answer ALL questions.
Read each question carefully

1. This question is about food. Look at the following picture and answer the questions below. (4 marks)



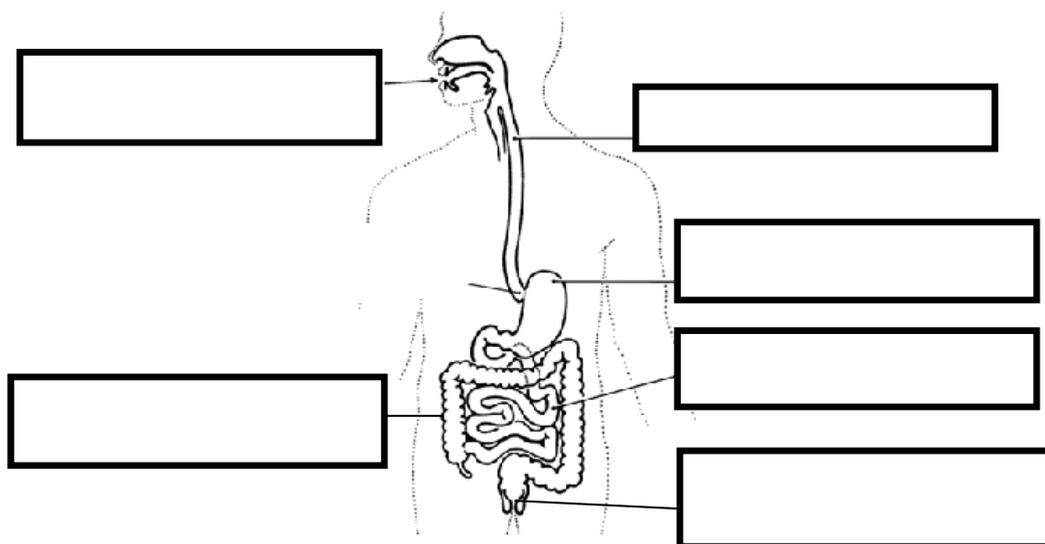
- a) Name one food that is rich in proteins. _____
- b) Why are proteins important? _____

- c) Name one food that is rich in carbohydrates. _____
- d) What are carbohydrates needed for? _____

2 a) Label the following diagram of the digestive system. Use the words in the box to help you.

(6 marks)

mouth	stomach	gullet	large intestine	small intestine	anus
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b) Where does physical digestion take place? (2 marks)

c) Why does food need to be broken down into smaller pieces? (2 marks)

d) Where is acid mixed with the food? (2 marks)

e) What happens to the undigested food? (2 marks)

f) What process uses the digested food to produce energy? (2 marks)

3. This question is about the circulatory system. Write **true** or **false** near the following statements.

(4 marks)

The heart is an organ that pumps blood around the body.

White blood cells transport oxygen around the body.

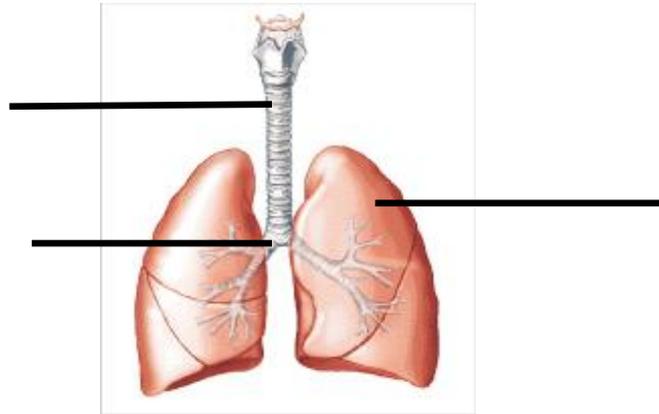
Blood passes around the body through arteries and veins.

White blood cells fight infections.

4. This question is about the Breathing System.

a) Label the following diagram by choosing words from the box. (3 marks)

lung trachea(windpipe) veins bronchi bones heart



b) Why is it better to breathe in from the nose? (2 marks)

c) What is the name of the gas that is removed when breathing out? (2 marks)

d) Give one harmful effect of smoking on the lungs. (2 marks)

5. This question is about microbes.

a) Underline the correct word in brackets in the following sentences. (4 marks)

(All / some) microbes are useful and they are used to make (bread / rice).

In yoghurt there are (live / dead) (fungi / bacteria).

b) Complete the following table. (8 marks)

Microbe	Disease it causes	How it is transmitted
Salmonella bacteria		
HIV Virus	AIDS	
	Athlete's Foot	water

c) The body has **many natural defences** against harmful materials. Which of these protect it from harmful microbes? (underline your answer). (3 marks)

The brain the skin the tears the bones stomach acid

d) Sometimes these natural barriers are not enough. What happens when a disease causing microbe enters the blood? (2 marks)

e) Mention two ways how we can avoid the spread of these microbes. (2 marks)

6. This question is about elements, mixtures and compounds.

a) Use the following words to fill in the paragraph below. Words can be used only **once**. (7 marks)



water	symbols	chemical	air	compound	periodic table
	mixture	rust	physical	element	

Iron is an example of an _____ because it is made up of only iron atoms. Carbon is added to iron to make steel. Alloys such as steel are an example of a _____. On the other hand when iron reacts with oxygen in the air to form _____, a new _____ is made. We say that a _____ reaction has taken place. The elements are all grouped together in the _____ which includes all the _____ of the elements.

b) Sort the following elements into the table below: (3 marks)

aluminium carbon sulphur silver mercury hydrogen

Metals	Non-metals

c) Write down **two** properties of metals. (2 marks)

7. Air is made up of a mixture of gases.

a) Which of the gases in air is used: (2 marks)

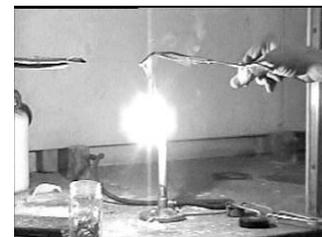
- i. for breathing? _____
ii. by plants to make their food? _____

b) Why is air described as a mixture and not as a compound? (2 marks)

8. Give the **names** of the **elements** that have the following symbols: (6 marks)

O _____ N _____
Cl _____ Mg _____
C _____ Al _____

9. During the burning of magnesium a white light is given out and a white powder is formed.



a) Why is this reaction described as a chemical reaction? (1 mark)

b) Complete the word equation for this reaction. (2 marks)

magnesium + oxygen → _____

10. Read this paragraph and answer the following questions:



Gold is a dense, soft, shiny and malleable metal that for thousands of years has been considered a symbol of status, wealth and power. The colour of this metal makes it irresistible. Its chemical symbol Au comes from a Latin term meaning ‘glowing dawn’.

This precious metal had many uses over the years. The most common use has been in the production of coins and jewellery. Gold is also important in modern medicine . For example special gold molecules called (gold-198) is used to treat cancer. Combined with other metals, gold can also be used in modern dentistry.

a) Write an important **property** of gold.

(1 mark)

b) Mention one of the **uses** of gold.

(1 mark)

c) What is the chemical symbol of gold? _____

(1 mark)

d) Why is gold so expensive to buy?

(1 mark)

11. Separate the following chemicals into mixtures and solutions.

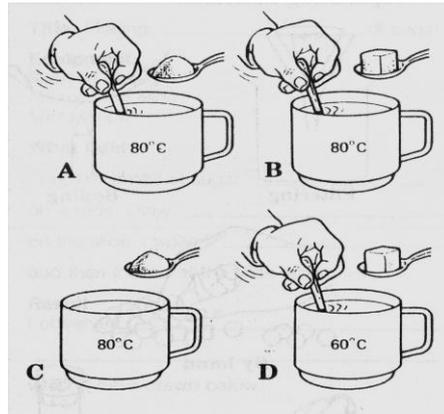
(4 marks)

sugar and water	sand and water	baking powder and water
	soil and water	



Mixtures	Solutions

12. The following mugs illustrate the dissolving of sugar in water at different temperatures.

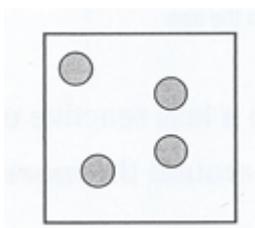


a) In which mug will the sugar dissolve fastest? Mug _____ (1 mark)

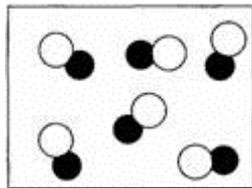
b) Give **two** reasons for this. (2 marks)

c) Which solvent has been used in the above experiment? (1 mark)

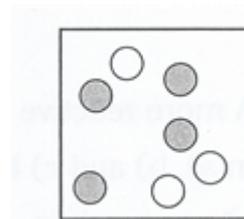
13. Look at the following diagrams which represent the arrangement of particles in different chemicals.



A



B



C

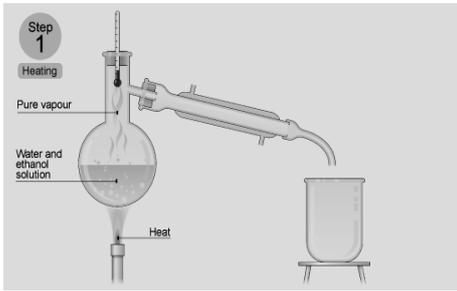
Write the letter of the diagram that represents:

i) a mixture of two elements _____ (1 mark)

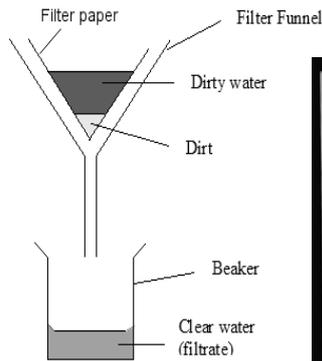
ii) a compound _____ (1 mark)

iii) an element _____ (1 mark)

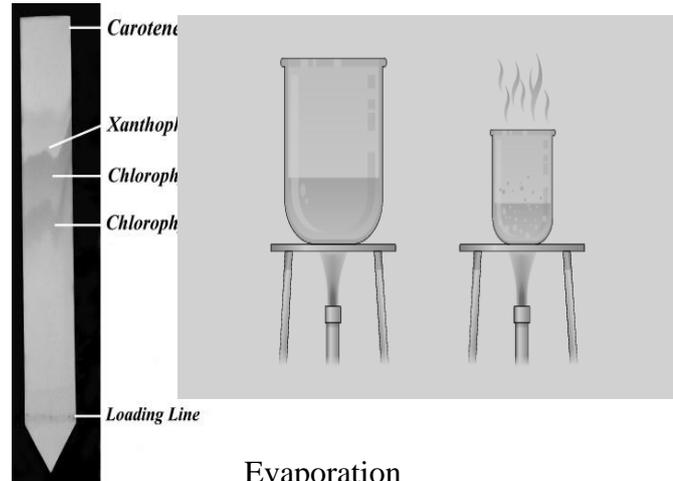
14. Look at the following ways of separating mixtures and answer the questions below.



Distillation



Filtration



Chromatography

Evaporation



By hand

- a) Which method would you use to turn sea water into drinking water? _____ (1 mark)
- b) Which method would you use to remove mud from lake water? _____ (1 mark)
- c) Which separating technique would you choose to separate the colours that make black ink? _____ (1 mark)
- d) Which methods use heat to separate a mixture? _____ and _____ (2 marks)
- e) How would you separate different coloured marbles? _____ (1 mark)
- f) Which method can be useful to obtain copper sulphate only from copper sulphate solution? _____ (1 mark)
- g) Give an example of how we can use distillation in everyday life.

 _____ (1 mark)