

JUNIOR LYCEUM ANNUAL EXAMINATIONS 2003

Educational Assessment Unit – Education Division

FORM 1

INTEGRATED SCIENCE

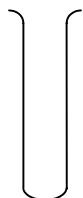
Time 1hr 30 min

Name _____

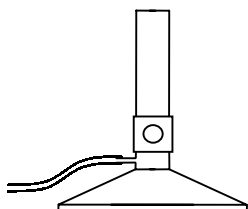
Class _____

ANSWER ALL QUESTIONS

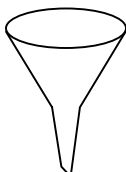
1) (a) Write the name of any **four** of these objects in the table below:



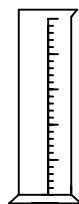
(A)



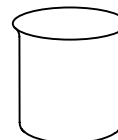
(B)



(C)



(D)



(E)



(F)

Letter	Name

4 marks

(b) Which of the objects in the pictures are measuring instruments? _____

2 marks

(c) Steven was given a mixture of soil and water in a glass and he was asked to separate the soil from the water. Draw how he set up the **apparatus** for this experiment and label it.

5 marks

(2) (a) (i) Underline the things in this list that are **alive**.

stone, cat, stream, cactus, sun, star

2 marks

(ii) How do you know these things are alive? Give two reasons.

2 marks

(b) Write these words in the correct columns to complete the table;

human, robin, slug, snail, octopus, toad

Vertebrates	Invertebrates

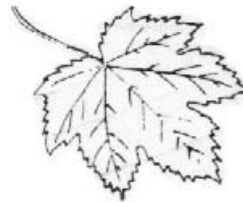
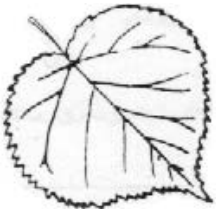
6 marks

(c) Why do scientists use keys? Underline the correct answer.

(a) to group the organisms together (c) to identify organisms

(b) to join organisms (d) to examine organisms 1 mark

(d) Use the key below to identify these leaves. Write the correct name beside each letter.



A _____

B _____

C _____

D _____

1. Leaf is in one piece

Leaf is in more than one piece

go to 3

go to 2

2. Leaves are arranged either side of stem

Leaves attached to the same point of the stem

ash

horse-chestnut

3. There is one main leaf vein

There is more than one main leaf vein

lime

sycamore

4 marks

(3)

(a) (i) Mention 2 **forms of energy** that are in the picture?



2 marks

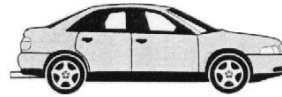
(ii) Which fuel in the picture is giving out this energy? _____ 1 mark

(iii) Name **another** fuel that can be used to make a fire. _____ 1 mark

(iv) Are the fuels mentioned above renewable or non-renewable? _____ 1 mark

(v) Give a reason for your answer. _____ 2 marks

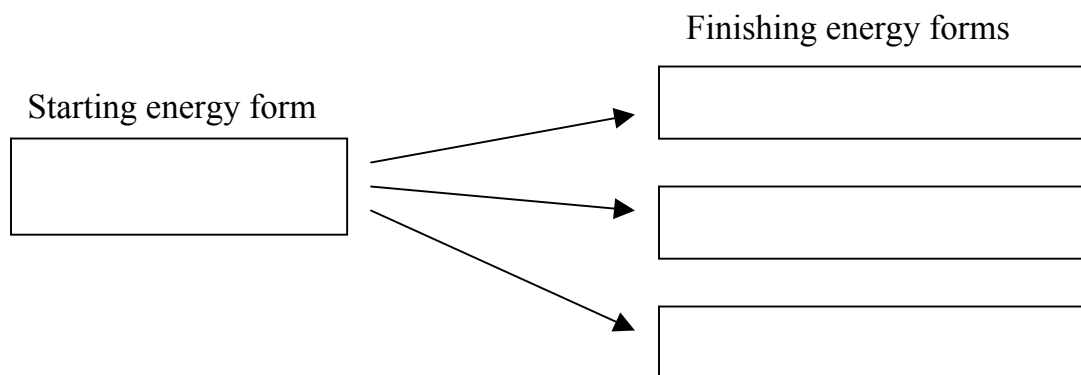
(b) (i) What **fuel** is used in this machine?



1 mark

(ii) Write the **starting energy form** and some of the **finishing energy forms** in a car in the table

below:



4 marks

(4) (a) Write these words in the correct columns to fill the table below.

Pencil air water orange juice desk oxygen

Solids	Liquids	Gases

6 marks

(b) Draw in lines to link the words together to make correct statements.

- (i) Gases have a fixed shape and a fixed volume
- (ii) Liquids have no fixed shape and no fixed volume
- (iii) Solids have no fixed shape but have a fixed volume 3 marks

(c) Which of the substances below can easily be squashed? Underline the correct answer.

Solid, Liquid, Gas.

1 mark

(5) Complete the table below using these words. Each word can be used more than once.

evaporation boiling melting freezing dissolving condensation distillation

	The change is called
ice cubes → water	
sea-water → drinking water	
water vapour in the air → droplets on the window	
puddle in the garden → water vapour in the air	
hot soup in the pan → water vapour in the air	

5 marks

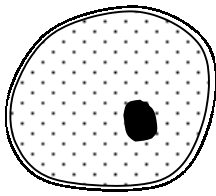
(6) The following parts are found in **cells**.

(a) Tick the correct column or columns to show in which type of cell each of these is found.

part of cell	animal cell	plant cell
cell membrane		
vacuole		
nucleus		
cell wall		

6 marks

(b) The diagrams below show special cells used in reproduction. What are these cells called?



A _____



B _____

2 marks

(c) The diagram shows the human female reproductive organs.

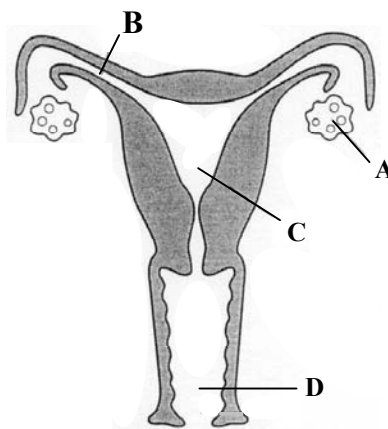
(i) Name the parts:

A _____

B _____

C _____

D _____



4 marks

(ii) What is produced in A? _____

1 mark

(iii) Where is the egg fertilized? _____

1 mark

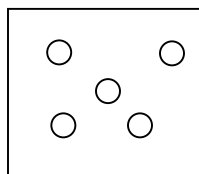
7 (a) Match the following substances with their symbols by putting the corresponding number in the box next to the symbol.

	Name
1	Oxygen
2	Hydrogen
3	Carbon
4	Magnesium
5	Iron
6	Copper

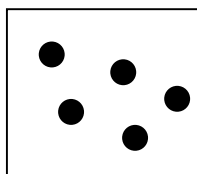
	Symbol
	Mg
	O
	H
	C
	Cu
	Fe

6 marks

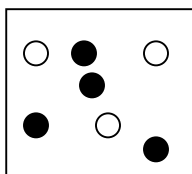
(b) These diagrams show the **arrangement of atoms** in different substances.



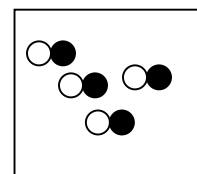
A



B



C



D

(i) Which diagrams show that the substance is an element? _____ 2 marks

(ii) Explain your answer _____

_____ 2 marks

(iii) Which diagram would show the arrangement of atoms in the substance

Sodium Chloride? _____

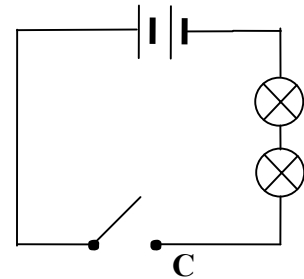
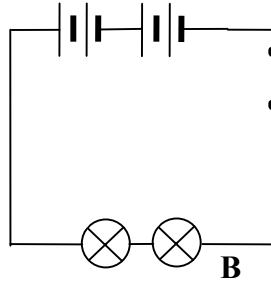
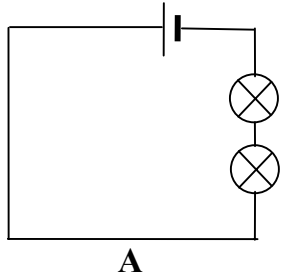
1 mark

(iv) When gold and silver atoms are mixed together they do not combine. Which diagram shows what

happens in this case? _____

1 mark

(8) Here are three circuit diagrams.



- (a) Write the letter of the circuit diagram which shows two bulbs and an open switch _____ 1 mark
- (b) In which circuits do the bulbs light? _____ 2 marks
- (c) In which circuit A, B or C are the bulbs shining brightest? _____ 1 mark
- Why? _____ 2 marks
- (d) Rearrange circuit A so that the bulbs are in parallel.

2 marks

- (e) Christmas tree lights can be a problem. When one bulb goes out, they all go out.
- Are they connected in series or in parallel? _____ 1 mark
- Why doesn't this happen when one bulb goes out at home? _____

2 marks

9 (a) Forces are used in everyday life. What **type of force** is used in each of these activities?

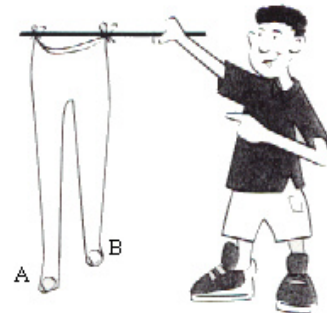
Activity	Force
(i) A leaf falling from a tree	
(ii) Opening a drawer	
(iii) Using the breaks on a bicycle	
(iv) Kicking a ball	

4 marks

(b) Bill hangs an old pair of tights from a stick. He puts a rock in each leg.

Which of the answers from (i), (ii) and (iii) is Correct? (tick):

- (i) Both rocks weigh the same
- (ii) The rock in A weighs more than the rock in B
- (iii) The rock in B weighs more than the rock in A



1 mark

(iv) How do you know? _____

2 marks

(c) Chris is using the spring balance to measure a force.

(i) What is the force measured called?

(ii) What force pulls the rock down?

(iii) What unit is used to measure this force?



3 marks