

JUNIOR LYCEUM ANNUAL EXAMINATIONS 2008
DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Educational Assessment Unit

FORM 1

INTEGRATED SCIENCE

Time 1hr 30 min

Name _____

Class _____

ANSWER ALL QUESTIONS

1. (i) The diagram below shows some apparatus used in an experiment.

a. Fill in the boxes with the name of the apparatus.

i.

ii.

iii.

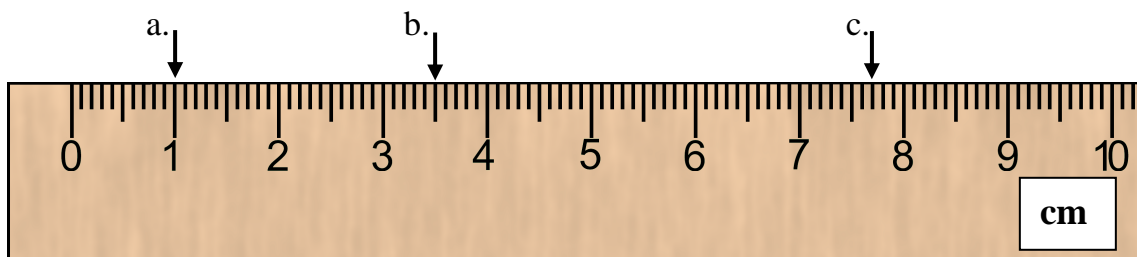
iv.

4 marks

b. In the above experiment, you need to heat 100cm^3 of water to 80°C . What other TWO apparatus do you need to use?

_____ 2 marks

(ii) What is the reading at each of the arrows a, b and c?



a = _____ b = _____ c = _____

3 marks

2. Sue and Terri did a survey in their youth club about hair colour of its members.

Colour of hair	Black	Brown	Blond	Red
Number of people	9	7	6	4

Draw a bar chart to show the information they collected in the table.

6 marks

3. A group of vertebrate animals were talking about their characteristics. Could you help them find to which group they belong?

a. I have dry scaly skin and lay eggs on land.

What am I? _____

b. My babies feed on milk produced by my body. My skin is hairy.

What am I? _____

c. I have wings and feathers. My body is always warm and I lay eggs with hard shells.

What am I? _____

d. I need water for my eggs. My skin is smooth and moist and I can breathe through it.

What am I? _____

e. I need water to live. I have gills, fins and scales.

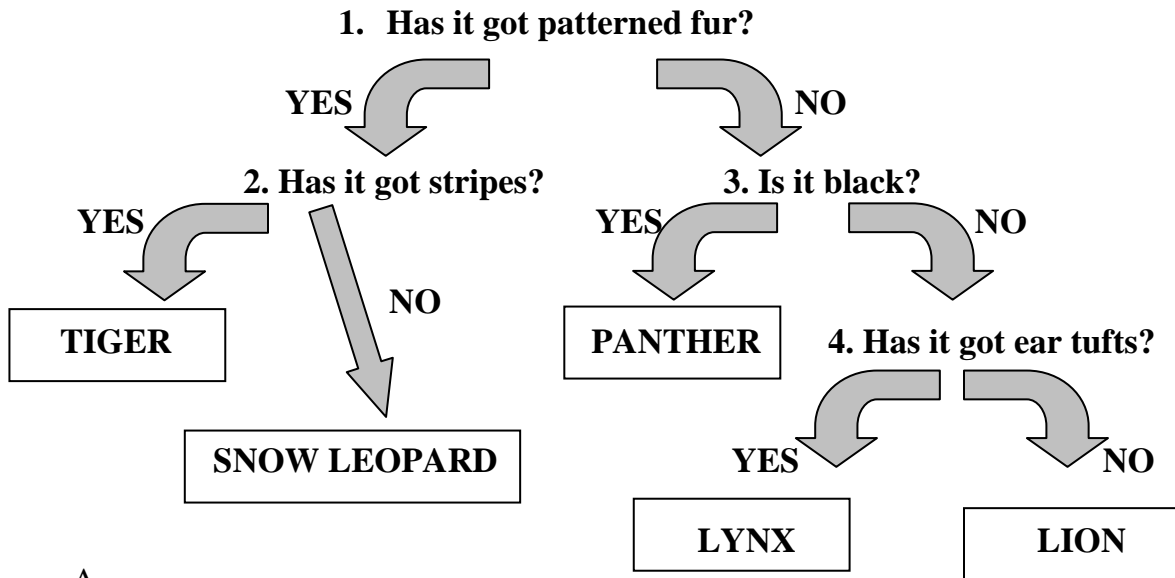
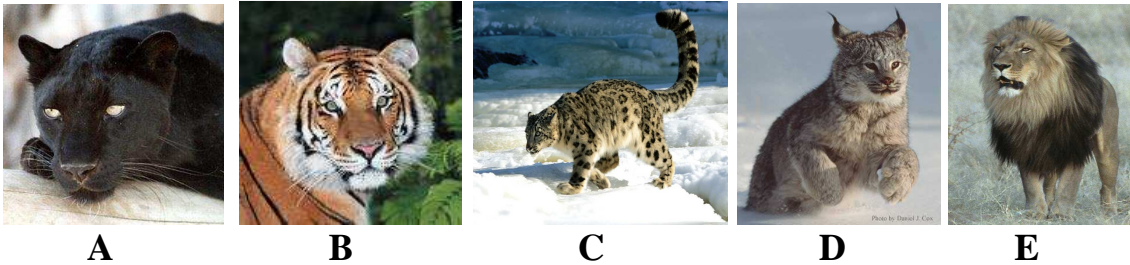
What am I? _____

5 marks

4 **We can find what an organism is by using a key.**

Here is a key you could use on a visit to a zoo to help you identify members of the cat family.

- a. Identify the animals in pictures A to E by answering YES or NO to the questions until you arrive at the name of the animal.
Write your answers below.



- A = _____
 B = _____
 C = _____
 D = _____
 E = _____

5 marks

- b. Use the cat key to help you describe the following animals:

- i. A panther is _____
 ii. The fur of a tiger has _____
 iii. A lynx has _____
 iv. A snow leopard has _____ fur.

4 marks

5 **Materials can change state in certain conditions.**

Complete the following sentences

All the answers are to do with liquids, solids, gases and changing state.

- a. When water seems to disappear into the air, it _____.
- b. A change of a liquid to a solid is called _____.
- c. The _____ helps water outside to evaporate.
- d. The state to which a liquid changes when it freezes is called _____.
- e. When a gas turns into a liquid, it _____.
- f. _____ is one of the three states of matter.
- g. To change a liquid into a gas, _____ is needed.
- h. Water _____ at 100⁰C
- i. When a solid turns into a liquid, it _____.

9 marks

6 a. **The following are different forms of energy.** For each form of energy give one object that shows that form of energy when it is being used.

- i. Light energy: _____
- ii. Heat energy _____
- iii. Sound energy _____
- iv. Stored energy _____
- v. Movement energy _____

5 marks

- b. Write **YES** or **NO** in each blank space in the table to show whether each energy source is a fossil fuel or not and whether the energy coming from these sources is renewable or not. One example has been done for you.

Fuel	Fossil fuel?	Renewable?
Solar energy	No	
Coal		
Wind energy		
Oil		
Natural gas		

9 marks

7. **This question is about chemicals.**

- a. Fill in the blanks, choosing words from the following. You can use the same word more than once or not at all.

Nonmetals metals atoms compounds elements

- i. _____ are usually hard and shiny.
- ii. _____ are the smallest bits of elements.
- iii. _____ are good conductors of heat and electricity.
- iv. _____ are usually insulators.
- v. _____ are made from more than one element.

5 marks

- b. Write down the names of the elements with these symbols:

H _____ O _____
 C _____ N _____
 S _____

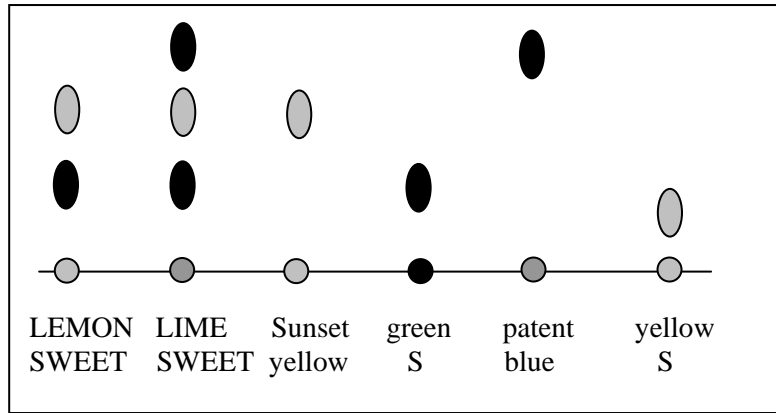
5 marks

- c. Fill in the blanks in the table below by writing the elements in each compound. The first one has been done for you.

Compound	Elements
Ammonia	nitrogen, hydrogen
Water	
carbon dioxide	
sodium chloride (salt)	

6 marks

8. Some lime and lemon sweets were tested to find what food colouring they contain. A chromatography experiment was done with some liquid taken from lime sweets, lemon sweets and 4 different food colouring. The following diagram shows the results.



a. What are the names of the four different colourings?

4 marks

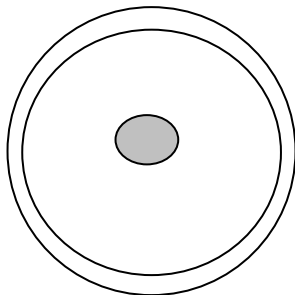
b. Which sweets contained all four of these colourings? _____

2 mark

c. Mary is allergic to Patent blue. Which sweets can she safely eat?

2 mark

9. Look at the following diagrams of the sperm and the egg.



not to scale



i. Make a list of THREE things that both the egg and the sperm have.

3 marks

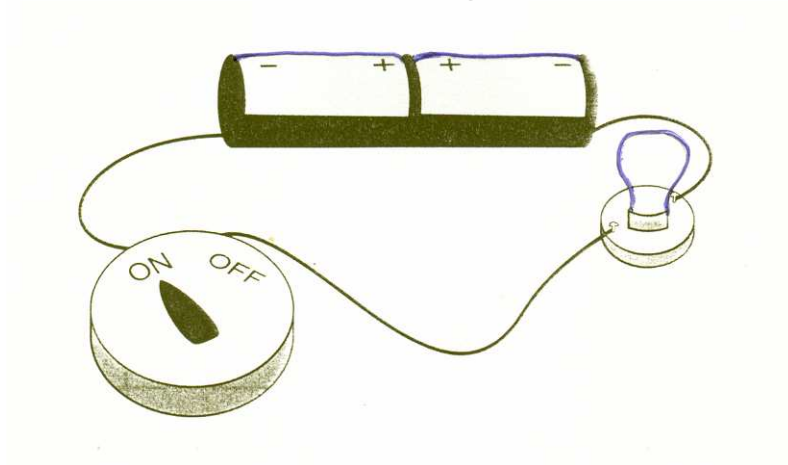
ii. Make a list of TWO differences that you can find between the egg and the sperm.

2 marks

iii. Which part of the sperm cell helps it to swim towards an egg? _____ 1 mark

iv. Which parts of the sperm cell and the egg cell join together when the egg is fertilised?
_____ 1 mark

10. Kyle has made a circuit as shown in the diagram.

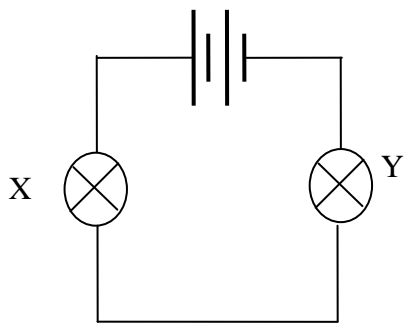


a. Why is the bulb in this circuit not lit up?
_____ 2 mark

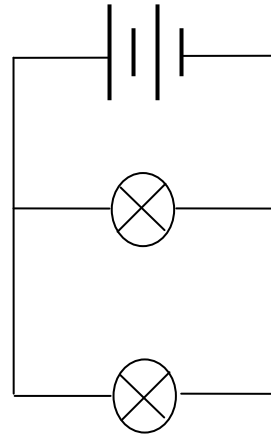
b. Draw a circuit diagram of Kylie's circuit using SYMBOLS.

4 marks

11. Look at these two circuit diagrams.



Circuit A



Circuit B

- a. How are the bulbs connected in
- i. circuit A _____ 1 mark
 - ii. circuit B _____ 1 mark
- b. John finds that the bulbs in one of the circuits are brighter than in the other.
- i. In which circuit are the bulbs brighter? _____ 1 mark
 - ii. Why are these bulbs brighter?
 _____ 2 marks
- c. One bulb is removed from each circuit, leaving a gap in the wire. Does the other bulb light or not?
- i. in circuit A _____ 1 mark
 - ii. in circuit B _____ 1 mark
- d. In circuit A, will bulb Y light if bulb X is replaced by
- i. a plastic spoon _____ 1 mark
 - ii. a metal spoon _____ 1 mark

Explain your answer:

 _____ 2 marks

- END OF PAPER. PLEASE CHECK YOUR WORK AGAIN -