

NAME:	SCIENCE TEACHER:	10A
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SCIENCE

Year 10 Examination 2010

10A – 40 marks

Make sure that you have answered all the questions in paper 10B before you start this paper

Time allowed for both examinations: 2 hours

Answer all questions in the spaces provided on the paper.

You may use a calculator.

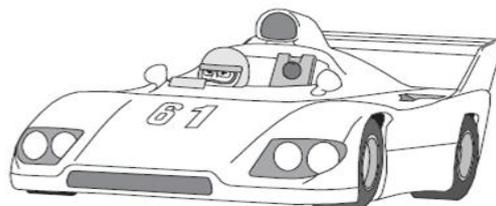
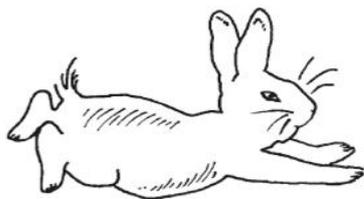
Show all your working in calculations; marks are awarded for it.

Give units for all answers (eg kg or m) unless they are already provided.

For Teacher Use

<i>Question</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	<i>Total</i>
<i>Marks gained</i>														
<i>Marks available</i>	4	2	3	5	2	4	5	2	2	4	3	2	2	40

Question 1: Living things [4 marks]



(a) Using words from the box below, which one thing can both the rabbit and the toy car do?

reproduce • move • excrete • sleep • play • grow

(b) All living things feed. List three other things that all living things do.

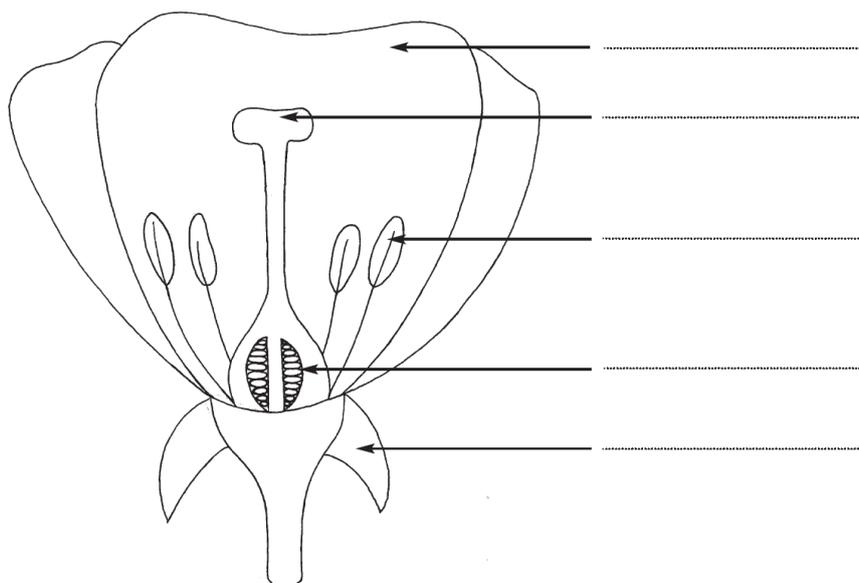
1. _____

2. _____

3. _____

(c) Label the diagram of the flower. Use the words in the box that follow:

sepal • petal • stamen • ovule • stigma



(d) **Shade** in the male parts of the flower.

(e) **Circle** the female parts of the flower.

(f) What is pollination?

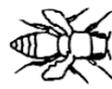
Question 2: Flies [2 marks]

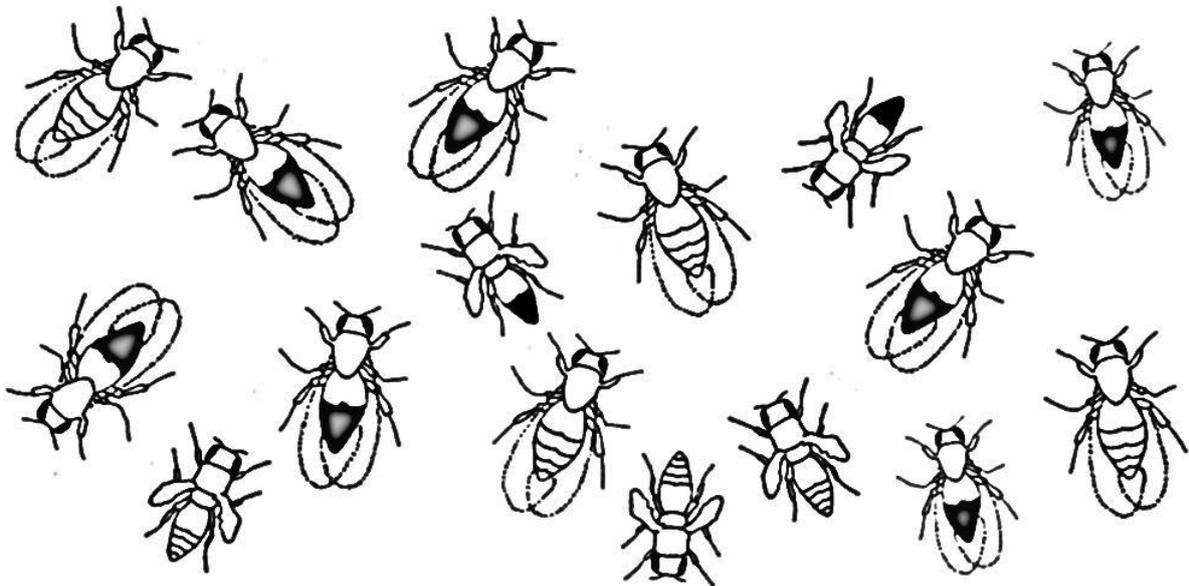
Male flies have a **black tip** to their abdomen.

Female flies do not.

The flies have either normal wings or very small wings.

Look at the flies drawn below.

SEX	NORMAL WINGS	SMALL WINGS
MALE (Black tip to abdomen)		
FEMALE		



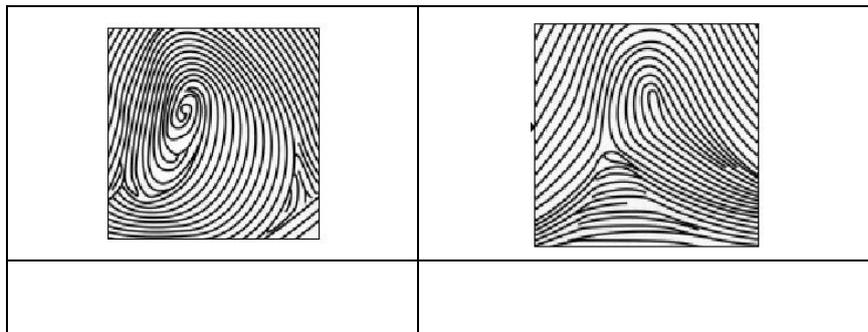
(a) How many of the flies are male?

(b) How many of the flies have normal wings?

(c) How many of the female flies have small wings?

Question 3: Crime [3 marks]

(a) Name the type of finger print shown below. Choose from loop, arch & whorl



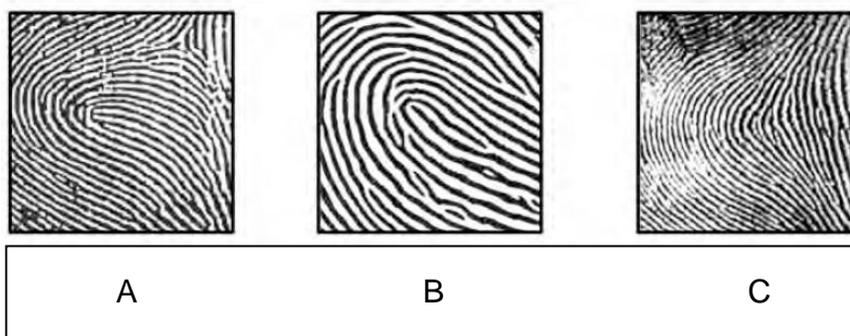
(b) The fingerprint opposite was found at the scene of a crime.



Fingerprints A, B and C come from different suspects.

Which suspect's fingerprint is the closest match to the one found at the crime scene?

Circle A, B or C



(c) Write down one way investigators do not leave their own fingerprints behind at the scene of a crime.

(d) Name the best method of storing a large number of fingerprint records in New Zealand.

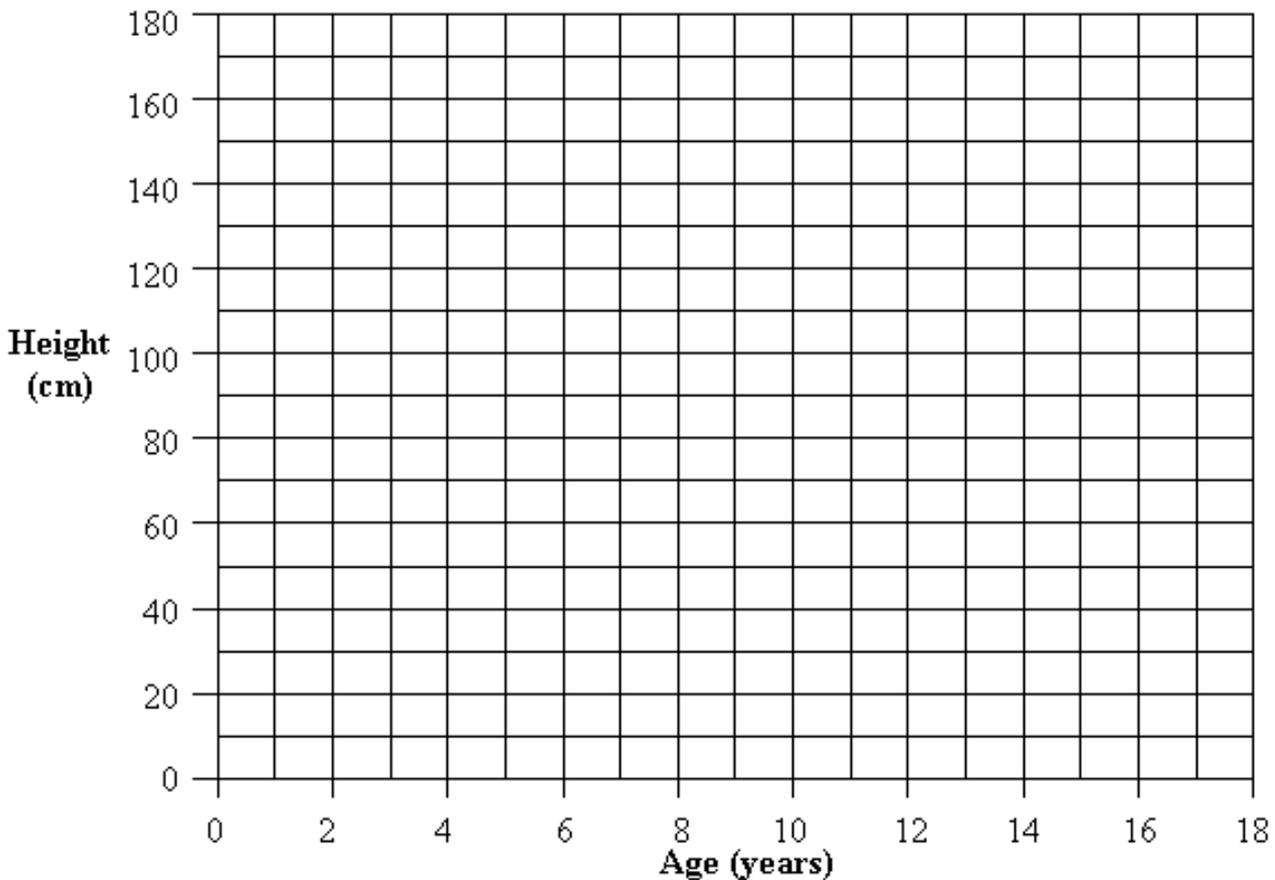
Question 4: Growing Up [5 marks]

Sally had her height measured every two years from when she was 2 years old to 18 years old. Here are her measurements in centimetres (cm).

Age (years)	2	4	6	8	10	12	14	16	18
Height (cm)	70	80	90	105	120	135	160	165	170

(a) On the graph paper below draw a line graph to show how Sally's height has changed.

Sally's Height



(b) Draw an X on the graph to show her height at 15 years of age

(c) About how tall was Sally when she was 7 yrs old? _____ cm

(d) In which two year period, did Sally grow the fastest? Circle the correct answer

(1) 6 and 8 yrs

(3) 12 and 14 yrs

(2) 10 and 12 yrs

(4) 14 and 16 yrs

Question 5: DNA [2 marks]

The chart below shows five 'DNA fingerprints' produced as evidence in a murder case. It shows the 'DNA fingerprints' taken from the victim's blood and from a blood specimen found at the crime scene. It shows the 'DNA fingerprints' taken from three suspects as well.



(a) Which of the three suspects was eventually convicted of the crime?

(b) Explain your answer.

Question 6: Baby Time [4 marks]

This question is about taking a baby for a walk in a pram.

(a) Choose a word from this box to fill in the blanks below.

move • pull • push • speed



- The pram will not _____ until a force is acting on it.
- When you start to _____, the pram moves forwards.
- Slowly, the _____ of the pram increases.
- To stop it you must _____ on the handle.



A baby-bouncer is a thick piece of elastic with a harness to hold the baby. It is attached to a door frame. The baby can bounce and support its own weight.

(b) What happens to the length of the elastic when the baby gets into the bouncer?

(c) What happens to the thickness of the elastic if it is pulled?

(d) What is the name of the force that pulls the baby downwards? Circle **one** answer.

friction weight tension push support

Question 7: Household Substances [5 Marks]

Kerry brought some stuff from home to test in Science. She wanted to find out if the substances she brought:

- were acids, bases, or neutral.
- dissolved or did not dissolve in water.

This is what she found out.

1. Citric acid was the only acid.
2. Soap, bicarbonate of soda, and indigestion tablets were all bases.
3. The other two substances were neutral.
4. Soap and flour didn't dissolve in water, everything else did

(a) Complete the table to show Kerry's results. The results for soap have been done for you

Substance	Dissolved	Did not dissolve	Acid	Base	Neutral
Soap		✓		✓	
Bicarbonate of soda					
Citric acid					
Indigestion tablet					
Sugar					
Flour					

(b) Brian was running on the grass and got a bee sting in his foot. He knew that bee stings inject formic acid into the skin.

- (i) Choose ONE of the following household chemicals that he could use to ease the pain of the sting.
(Vinegar, baking soda, ammonia, salt, sugar, lemon juice...there may be more than one suitable for use)



- (ii) Explain why you chose this chemical.

Question 8: Magnets [2 marks]

Each small box contains a magnet. The magnets are all different. Ella tests the strength of each by picking up tacks. The diagrams show her results:



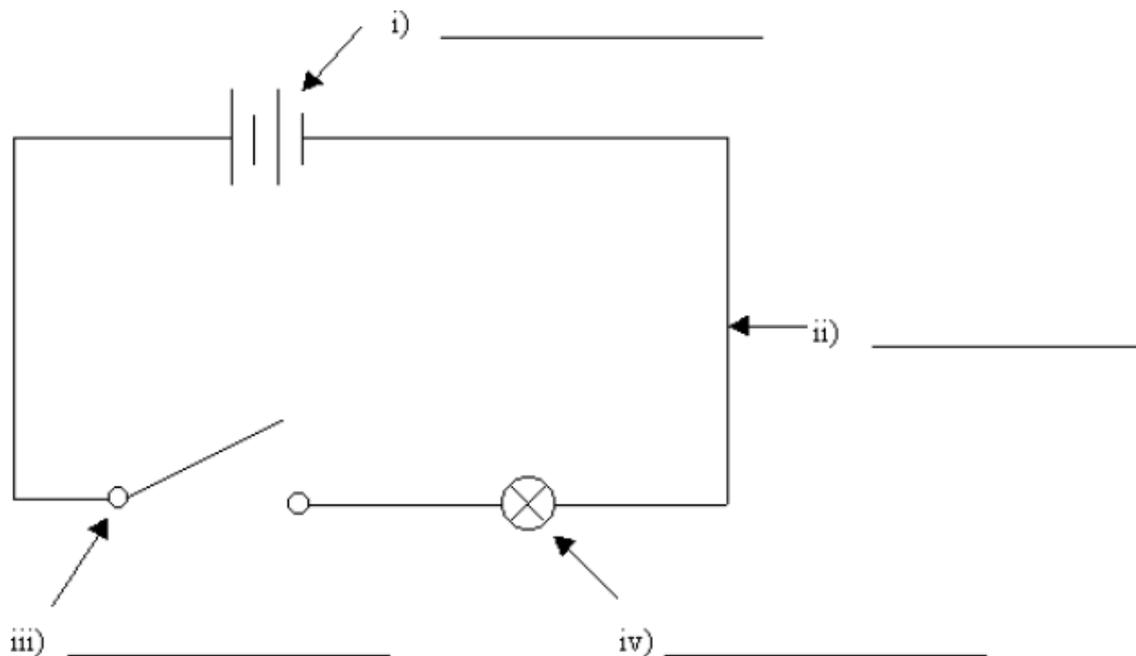
(a) Which box contains the strongest magnet? _____

(b) Explain your answer

Question 9: Electricity [3 marks]

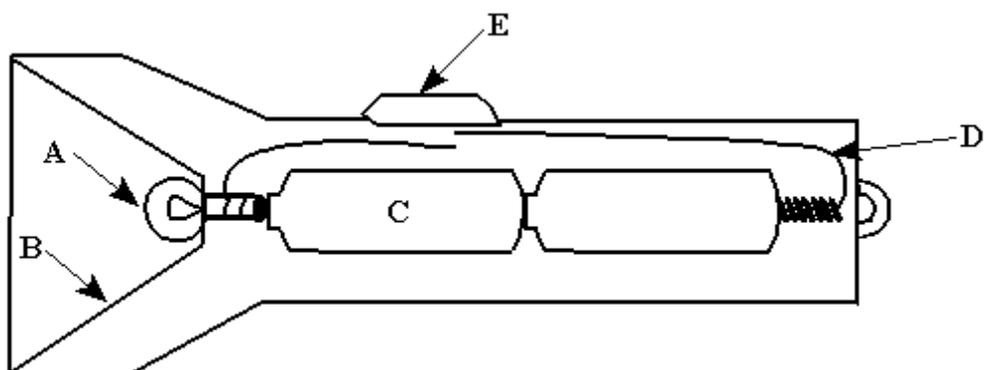
battery • bulb • connecting wire • switch • torch

(a) A circuit is drawn below. Use the words from the box above to label each part of the circuit. One word is not needed



(b) Is the circuit on or off? on / off (circle one). Explain your answer

Question 10: The torch [4 marks]



(a) Match the parts (A, B, C, D, and E) of the torch with the correct name. Draw a line between the part and the name.

Part	•	Name
A	•	• Battery
B	•	• Fuse
C	•	• Switch
D	•	• Reflective shiny material
E	•	• Wire
		• bulb

(b) Is the torch on or off? _____

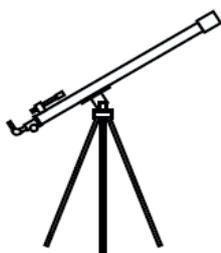
Explain your answer

Question 11: Science Instruments [3 marks]

These four instruments are used to help scientists see more clearly.



magnifying glass



telescope



microscope



binoculars

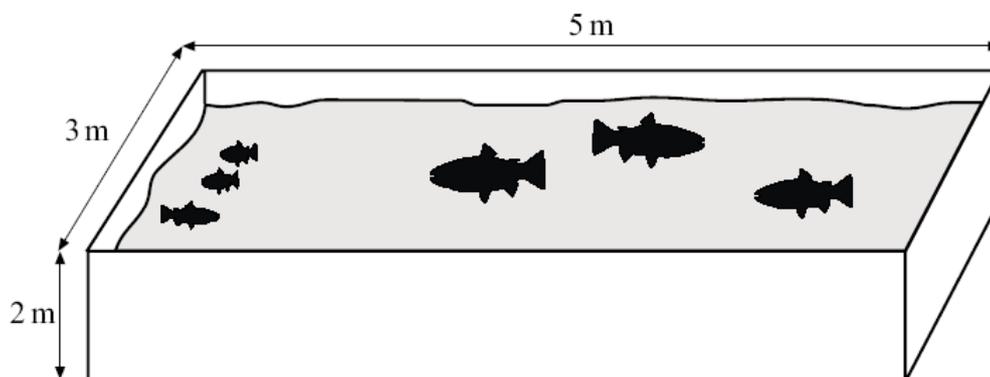
Which of the instruments above would help a scientist make the following observations?

- (a) The craters on a distant planet.

- (b) The shape of a white blood cell.

- (c) The number of petals on a small flower.

- (d) The diagram shows a tank that is used for keeping fish until they are moved to an aquarium.



Complete these sentences about the tank with the correct units chosen from the list.

cm h kg km m m² m³ s

- (i) The area of the water surface is 15 _____

- (ii) The water in this tank has a mass of 22 500 _____

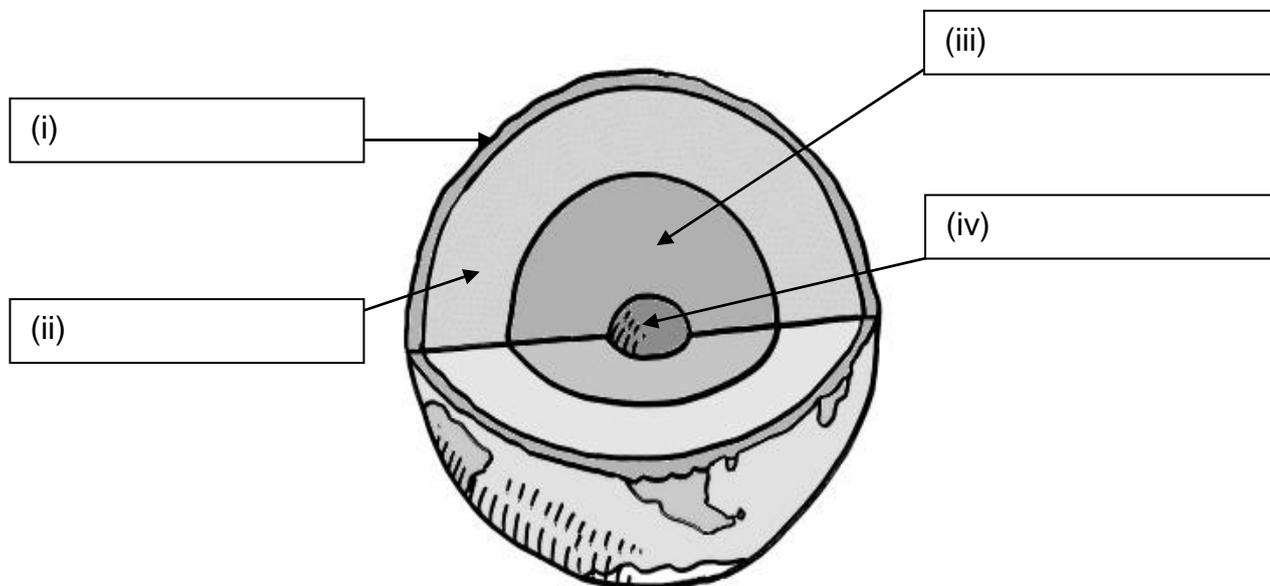
- (iii) The water is 150 _____ deep.

- (iv) The tank is filled overnight. The hose is left turned on for 12 _____

Question 12: Planet Earth [2 marks]

Below is a diagram of a cross-section of the Earth:
Label the diagram choosing words from the list below

atmosphere • crust • liquid outer core • mantle • sea • soil • solid inner core



Question 13: Digestion [2 marks]

(a) Where are proteins first digested?
Circle your answer.

A B C D

(b) Name any **one** of the labeled parts.

Part _____ is the

(c) Put an **X** on the diagram to show
where the oesophagus is.

