

NAME:	SCIENCE TEACHER:	<b>9A</b>
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# SCIENCE

## Year 9 Examination 2006

**9A – 40 marks**

**Make sure that you have answered all the questions in paper 9B 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 (e.g. kg or m) unless they are already provided.

*For Teacher Use*

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

**Question 1 (3 marks) Practically Dangerous?**

Below is a scene from one of Mr. Thomas' exciting science lessons!



Choose **2 hazards** from the picture. Say why each one is a hazard. Then explain what you would do to make it safer. An example has been done for you.

**Example**

Hazard	Drinking in the lab
Reason	The boy might get chemicals on his straw
To make it safer I would	Not allow drinking in the lab

(a)

Hazard	
Reason	
To make it safer I would	

(b)

Hazard	
Reason	
To make it safer I would	

**Question 2 (5 Marks) The Bunsen Burner.**

(a) Look at the diagram on the right.

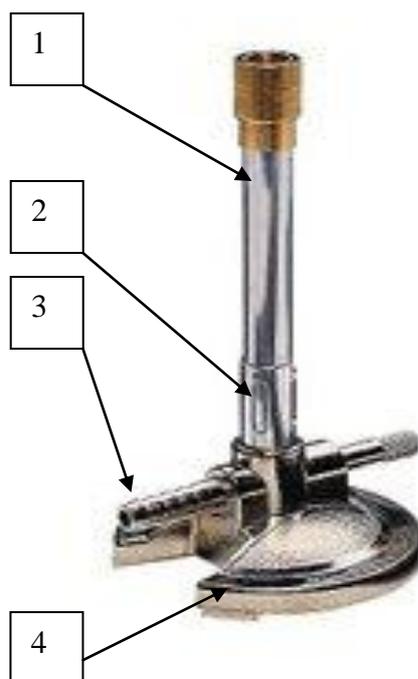
Write the name of the **parts** numbered 1 to 4 in the spaces below.

Part 1 is called the \_\_\_\_\_.

Part 2 is called the \_\_\_\_\_.

Part 3 is called the \_\_\_\_\_.

Part 4 is called the \_\_\_\_\_.



b) A Bunsen burner can be adjusted to give a blue or a yellow flame. When would you use a blue and a yellow flame in the laboratory?

Yellow Flame	
Blue Flame	

c) Apart from the colour, what other differences are there between a blue and a yellow Bunsen flame? Give 2 differences.

1<sup>st</sup> difference \_\_\_\_\_

2<sup>nd</sup> difference \_\_\_\_\_

**Question 3 (7 marks)    How's the Weather , Jim?**

What type of cloud is shown below?    Choose from the cloud list below.

Cloud list    cumulus    stratus    cumulonimbus    cirrus



answer \_\_\_\_\_



answer \_\_\_\_\_



answer \_\_\_\_\_



answer \_\_\_\_\_

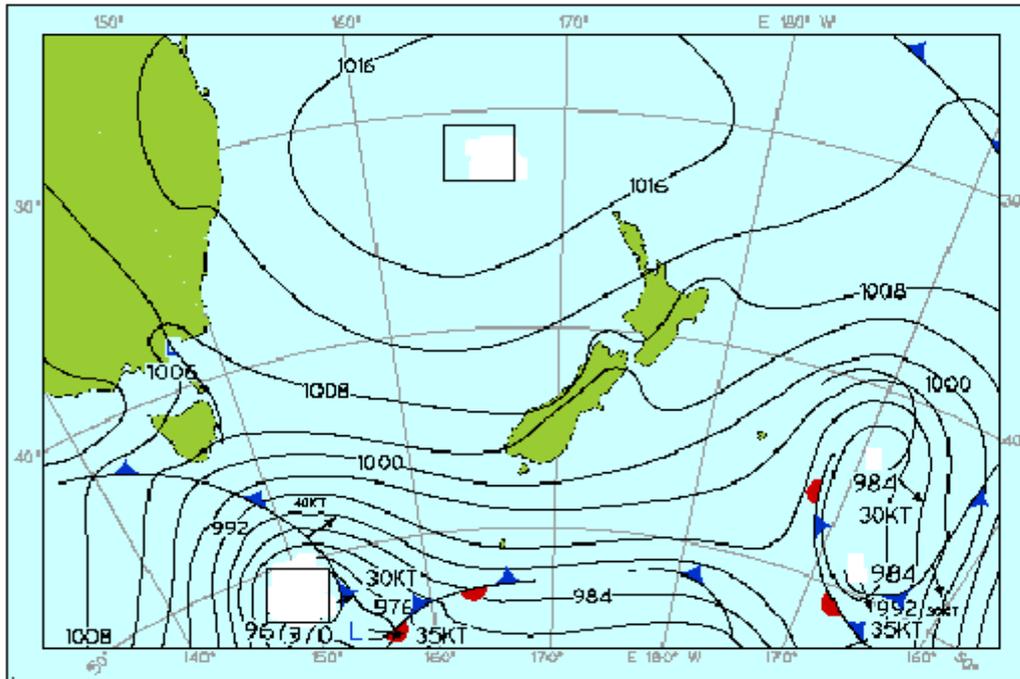
(e) Which type of cloud would you expect to see if the weather was:-

(i) About to rain?    Answer \_\_\_\_\_

(ii) Showers?    Answer \_\_\_\_\_

(iii) Fair weather    Answer \_\_\_\_\_

- (f) A weather map that you might see on the TV weather forecast is shown below. Use it to answer the questions that follow.



- (i) Label the boxes on the map to show which is the high pressure is and which is the low pressure.

- (ii) In which direction is the wind blowing over Wanganui?

Answer \_\_\_\_\_

- (iii) Copy the symbol from the map above that shows a

**Cold front** symbol \_\_\_\_\_

**Isobar** symbol \_\_\_\_\_

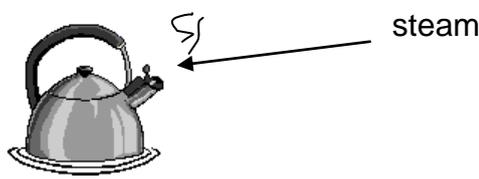
**Question 4 (5 marks)      Ice is nice**



- a) i) One example of a **solid** is ice.  
What is another example of a solid? \_\_\_\_\_
- ii) Write down **two** things that are generally true for all **solids**.
- \_\_\_\_\_
  - \_\_\_\_\_



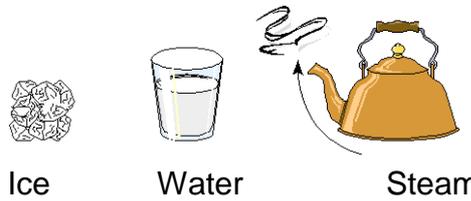
- b) i) One example of a **liquid** is water.  
What is another example of a liquid? \_\_\_\_\_
- ii) Write down **two** things that are generally true for all **liquids**.
- \_\_\_\_\_
  - \_\_\_\_\_



- c) One example of a **gas** is steam.
- i) Write down **two** things that are generally true for all **gases**.
- \_\_\_\_\_
  - \_\_\_\_\_

**Question 5 (3 marks)      I'm in a right state now**

These pictures show water in three different forms (states).



Use the words in the box below to finish the sentences about **changes** in the state of water. The first one is done for you.

<b>Solid</b>	<b>Liquid</b>	<b>Gas</b>
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- a) When water changes to steam, a liquid changes to a gas
- b) When ice changes to water, a \_\_\_\_\_
- c) When steam changes to water, a \_\_\_\_\_
- d) When water changes to ice, a \_\_\_\_\_

**Question 6 (5 marks) Bird Food**



**Diets of some New Zealand birds**

<b>New Zealand bird</b>	<b>Food eaten by this bird</b>
Black backed gull	Shellfish, fruit, and a wide range of other food
Fantail	Insects
Kereru	Leaves, flowers, and fruit
Kiwi	Worms, seeds, and fruit
Morepork	Insects, spiders, lizards, and mice
Rifleman	Insects and spiders
Tui	Nectar, fruit, and large insects like cicadas and stick insects
Wax eye	Fruit

(a) Use the information above about diets of some New Zealand birds to fill in the table below. List each bird in the table only **once**.

<b>A</b> Which birds are <b>herbivores</b> ?	<b>B</b> Which birds are <b>omnivores</b> ?	<b>C</b> Which birds are <b>carnivores</b> ?

(b) Birds are a group of living things called **vertebrates**.

(i) What does the word vertebrate mean? Answer \_\_\_\_\_

(ii) Give one other feature (characteristic) that all birds have in common.

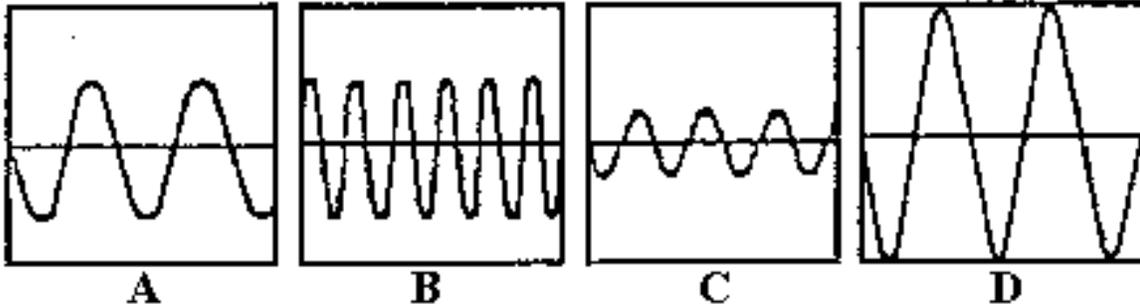
Answer \_\_\_\_\_

**Question 7 (5 marks) Mr D sings like a bird!**



It is a well known fact that Mr Drabczynski can sing like a bird. Sound waves can be captured with a microphone and displayed on an oscilloscope screen,

The diagrams show the sound waves made by Mr. D as he sang beautifully one day!



a) Which letter shows a **high-pitched** sound? \_\_\_\_\_

b) Which letter shows the **loudest** sound? \_\_\_\_\_

c) The loudness of a sound is determined by the sound waves' (circle one letter)

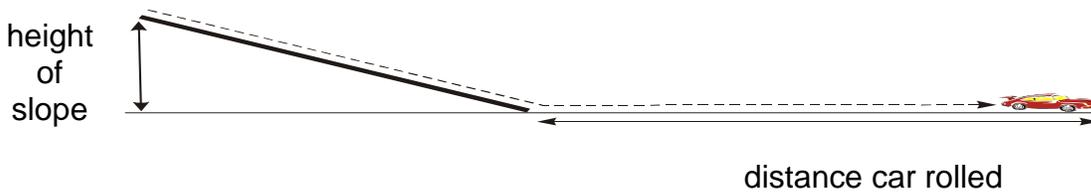
- (A) frequency.
- (B) wavelength.
- (C) amplitude.
- (D) rate of vibration.

(d) Describe a situation in which sound can be **harmful** to our health


(e) What would you do to solve the problem you have described in your answer to question (d) above


**Question 8 (5 marks) Downhill**

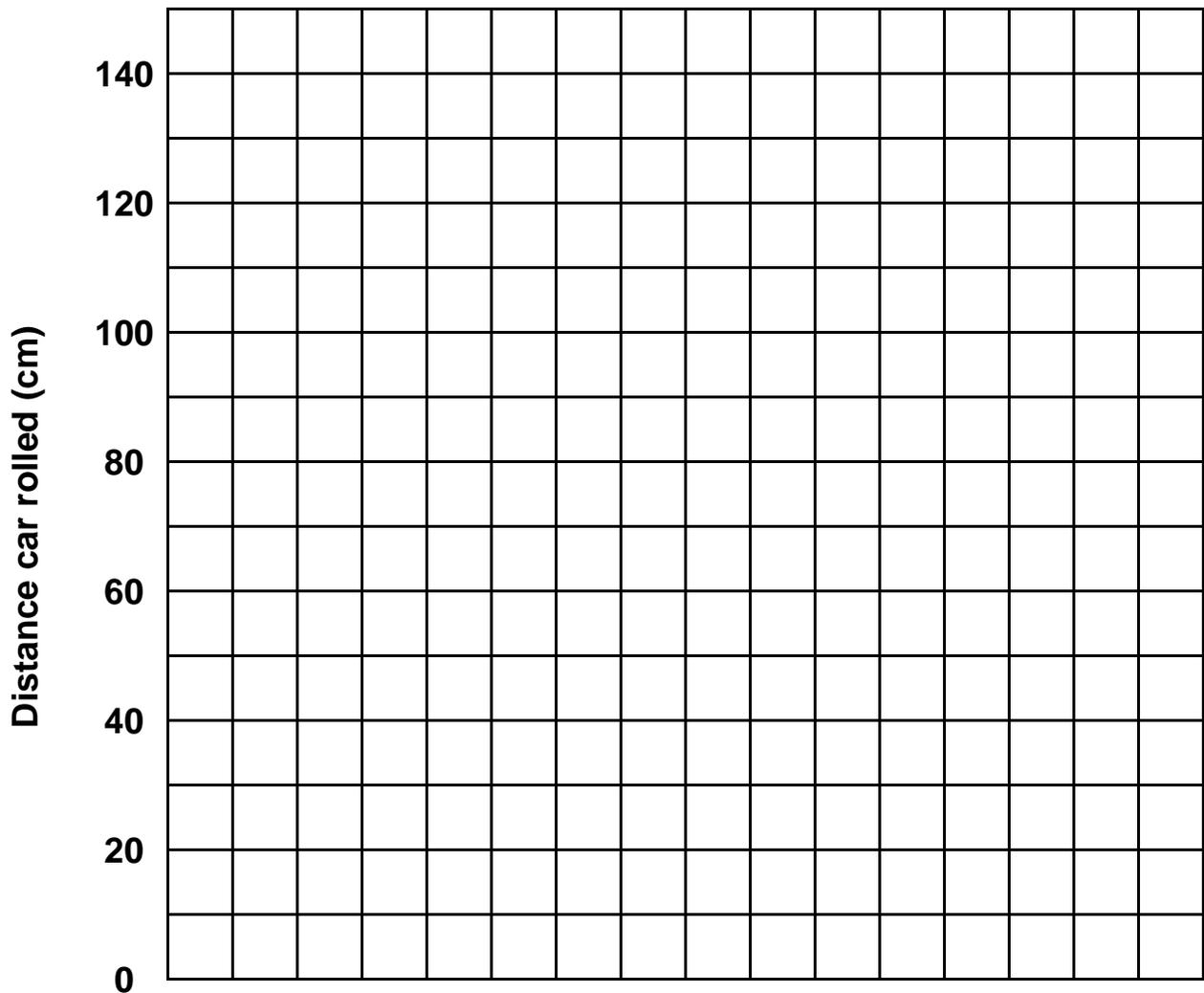
John placed his toy car at the top of a slope and then let it roll down. He measured the height of the slope and how far the car rolled along the floor.



John did this again, but with different heights of the slope. Here are John's results.

<b>Height of slope (cm)</b>	3	6	9	12	15
<b>Distance car rolled (cm)</b>	5	45	80	110	120

a) i) Draw a **line** graph in the space below to show John's results.



box X		( )
	label	units

- ii) In **Box X** write a label, and what units it was measured in.
- iii) If the height of the slope was 10 cm, how far would the car roll?

Answer \_\_\_\_\_ cm (show how you worked out the answer on your graph).

- b) Finish this sentence.  
The greater the height of the slope the \_\_\_\_\_  
\_\_\_\_\_.

- a) Sam and Sue each bought the same kind of rubber ball. Sue said, "My ball bounces better than yours".

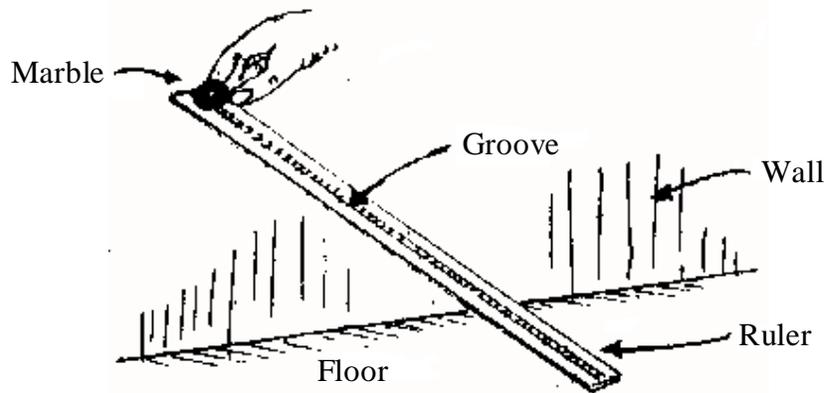


"Prove it!" Sam replied.

Which of these experiments should Sue do to find out which ball bounces higher? **Circle the correct letter.**

- (A) Drop both balls from the same height a few times and see which bounces higher.
- (B) Throw the balls against a wall and see which bounces back the greater distance.
- (C) Drop the balls one at a time from different heights and see which bounces higher.
- (D) Throw the balls on the floor a couple of times and check how high they bounce.

b)



Some children wanted to find out which of four different marbles would roll the farthest. They put a grooved metre ruler against the wall. They rolled the marbles down the ruler and measured how far they went along the floor.

To make it a "fair test", which **one** of these must **always** be the same? **Circle the correct letter.**

- (A) The size of the marble.
- (B) The colour of the marble.
- (C) The angle of the ruler.
- (D) The weight of the marble.
- (E) The width of the ruler.