

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

## Year 9 Examination 2007

**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.


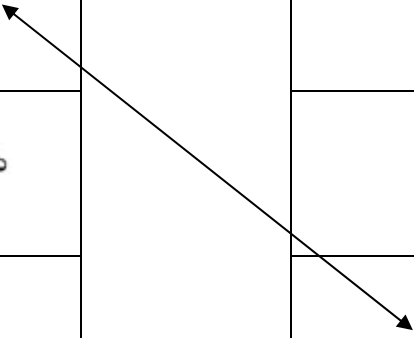




Give units for all answers (eg kg or m) unless they are already provided.

*For Teacher Use*

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

**Question 1** Have you got the right gear?

(a) Match the picture of the apparatus to its correct name. The first one has been done for you as an example.

Apparatus		Correct name
1) 		Test tube holder
2) 		Test tubes
3) 		Filter funnel
4) 		Safety goggles
5) 		Stirring rod

(b) Which piece of apparatus should you **always** use when doing experiments in a laboratory?

\_\_\_\_\_ (1)

(c) Which piece of apparatus is used when separating a mixture of a solid from a liquid \_\_\_\_\_(1)

**Question 2    The Bunsen Burner.**

A Bunsen burner is used for heating experiments in a laboratory. When it is correctly used it can make different types of Bunsen flames.

A Bunsen burner has the following parts: - A collar, a barrel, a base and a gas tubing connector.

(a) Look at the diagram on the **right**.

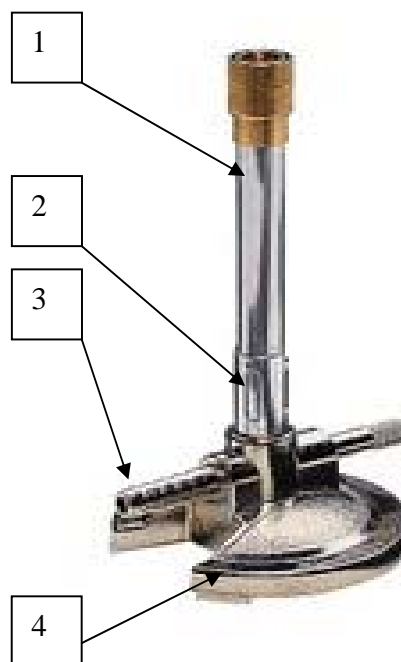
Write the **name of the parts** numbered 1 to 4 in the spaces below.

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?

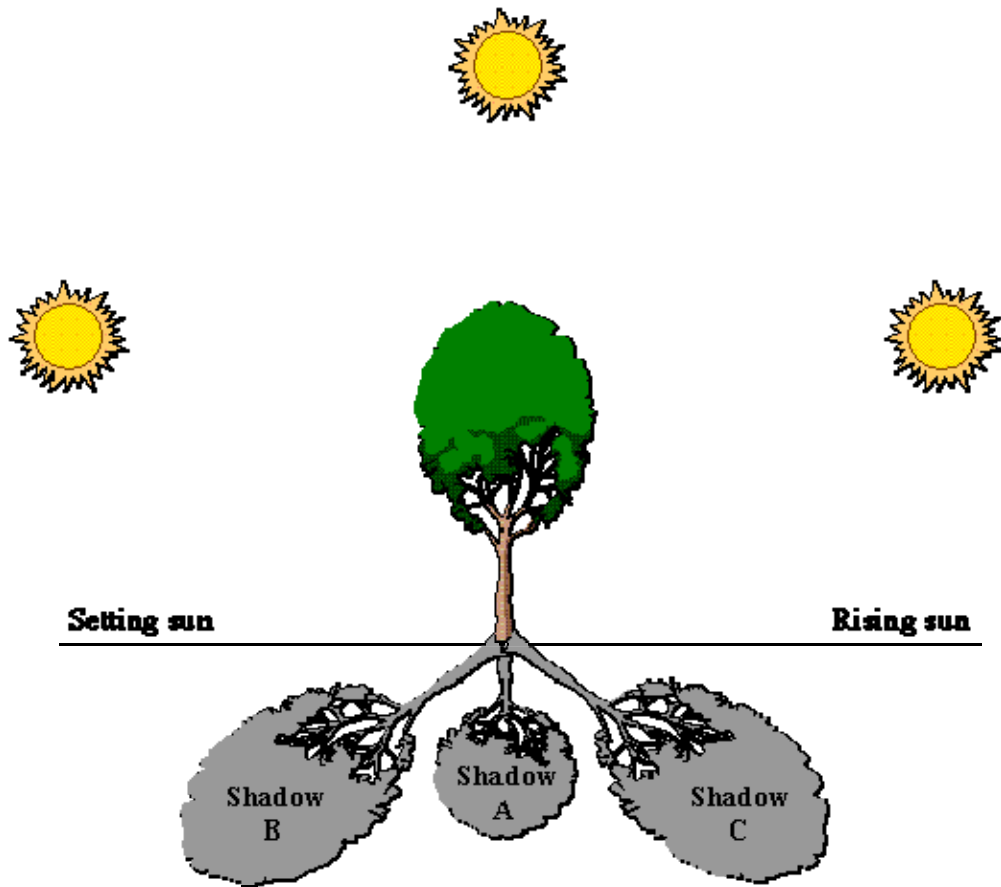
A yellow flame is used when ...

A blue flame is used when ....

(c) **Apart from the colour**, how else could you tell the difference between a blue Bunsen flame and a yellow Bunsen flame?

Difference  
\_\_\_\_\_.

**Question 3 Slim Shady ?**

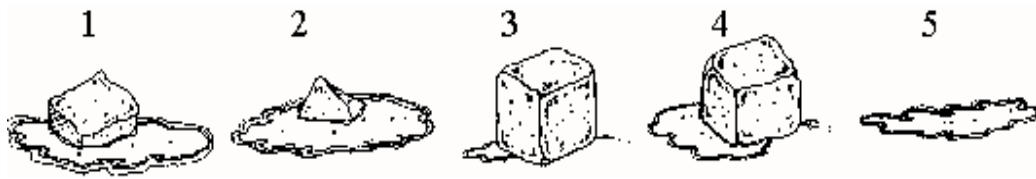


Finish the sentences by **circling A, B, or C** to show how shadows look at different times of the day.

- (a) Which shadow will you see in the morning? A, B, C (**circle one**)
- (b) Which shadow will you see in the middle of the day? A, B, C (**circle one**)
- (c) Which shadow will you see in the evening? A, B, C (**circle one**)

**Question 4 Ice is nice**

Here are five pictures of an ice-cube as it melts.



**What order** should they be placed in from start to finish? **Circle the correct letter.**

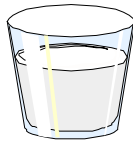
- (A) 1, 2, 3, 4, 5
- (B) 3, 4, 1, 2, 5
- (C) 4, 3, 1, 2, 5
- (D) 5, 2, 1, 4, 3

**Question 5 I'm in a right state now**

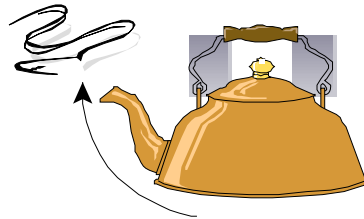
These pictures show water in three different forms (states).



Ice



water



steam

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.

**Solid      Liquid      Gas**

- (a) When water changes to steam, a liquid changes to a gas
- (b) When ice changes to water, a \_\_\_\_\_ changes to a \_\_\_\_\_
- (c) When steam changes to water, a \_\_\_\_\_ changes to a \_\_\_\_\_
- (d) When water changes to ice, a \_\_\_\_\_ changes to a \_\_\_\_\_

### Question 6 Materials

Imagine four new substances have been discovered. They are listed in the table below with their melting points.

Substance	Melting point
Mandy	6°C
Andy	74°C
Sandy	169°C
Gandy	1025°C

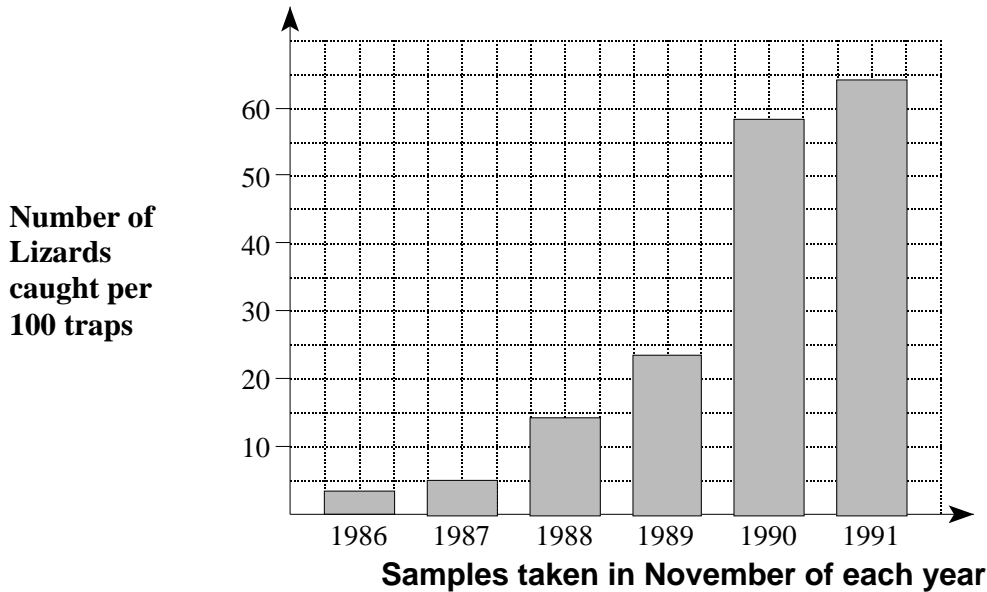
Which of these new substances would be **best suited** for each of the following?

- (a) To make a saucepan. \_\_\_\_\_
- (b) As a liquid to float flowers on for a table decoration. \_\_\_\_\_
- (c) To make candles. \_\_\_\_\_



### Question 7 Environmental Issues

LIZARD NUMBERS IN THE MERCURY GROUP OF ISLANDS



- (a) How many lizards were caught in 1988? \_\_\_\_\_
- (b) All rats were taken off the Mercury Group of Islands in 1986. How does this appear to have affected the **number of lizards** on the islands?

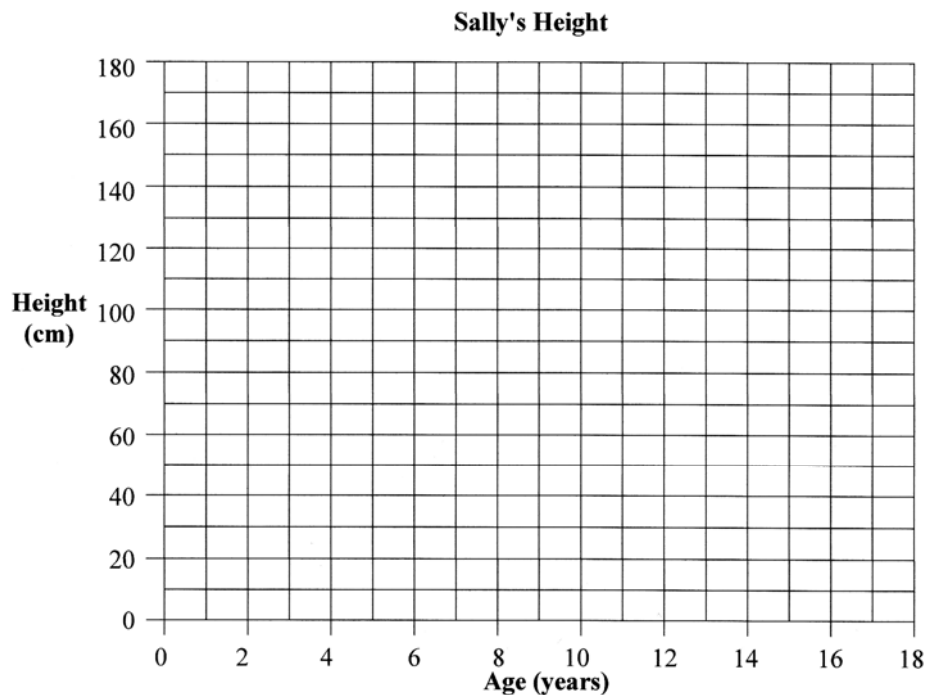
- (c) How did the rats affect the lizard numbers on the islands before 1986?

**Question 8**    **Tall as a tree?**

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

- (a) Sally measured 40 cm when she was born. Draw an **X** on the graph to show this.
- (b) On the grid below draw a **line** graph to show the rest of the data.

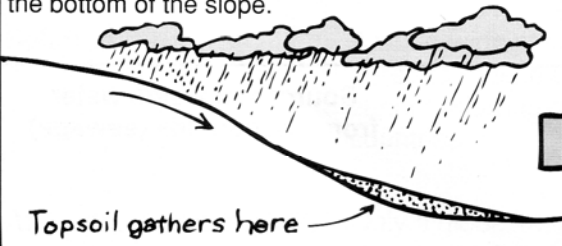


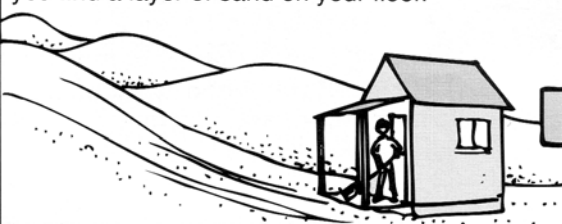
Use the graph to answer the following questions.

- (c) About how tall was Sally when she was **7 years old**? \_\_\_\_\_ cm
- (d) Between which two year gap did Sally grow the **fastest**?
- (A) 6 and 8 years      (B) 10 and 12 years  
(C) 12 and 14 years    (D) 14 and 16 years
- (e) Did Sally grow more between 0-2 years than during any other two-year period?  
**Yes** or **No**      (Circle one)

**Question 9** It's a slippery slope

Read the problems below. **Draw labeled diagrams** to show how you could solve each problem

<p><b>Problem 1</b> You are a farmer and every time it rains, more and more topsoil is washed down to the bottom of the slope.</p> 	<p><b>Possible solution</b></p>
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<p><b>Problem 2</b> Your house is situated at the foot of sand dunes. Every time the wind blows strongly, you find a layer of sand on your floor.</p> 	<p><b>Possible solution</b></p>
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**Question 10** Class tramp

(a) During a class tramp a teacher called out to a group of children. Her shout produced an echo. For her voice to echo, where would the teacher **most probably** have been standing?

- (A) Amongst large trees
- (B) Facing a tall cliff
- (C) On a hill top
- (D) In a clearing in the bush

(b) Explain what happens to the sound when an echo is made.

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(c) Which of the following would most help in **reducing** the noise level in a room?

- (A) A bare wooden floor and no window coverings
- (B) A carpeted floor and curtains on the windows
- (C) A tile floor and metal blinds on the windows
- (D) A concrete floor and wooden shutters on the windows

(d) Why are some materials better at keeping noise levels down than others?

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**Question 11** What will I use?



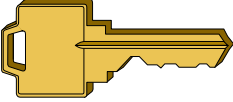

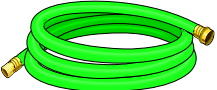

This task is about picking the best material to make things.

MATERIALS					
Plastic	Metal	Wood	Paper	Rope	Glass

Finish the table by:

- Picking the **best material** from the list to make each object. (You can choose a material more than once if you want to.)
- Writing down **why this material would be best** to use.

The first one has been done for you.

Object	What is the best material to make this object?	Why is this the best material to use?
(a) Stirring spoon 	<i>Wood</i>	<i>Wood takes a long time to heat up, so you won't burn your hand.</i>
(b) Window 		
(c) Door key 		
(d) Hammer head 		
(e) Garden hose 		
(f) Rubbish bags 		

### Forensic Science Wordfind.

Only do this if you have spare time. It will NOT be marked as part of the exam.

You must also have finished paper 3B.

F	W	O	L	F	O	R	E	N	S	I	C	P	R	Y
S	H	O	E	I	W	O	O	L	B	L	O	O	D	H
E	O	F	E	N	I	D	O	I	A	N	S	L	I	P
P	R	I	C	G	Y	M	O	T	D	H	A	I	R	A
W	L	B	L	E	N	S	A	R	E	M	A	C	U	R
I	C	R	S	R	E	C	N	E	D	I	V	E	V	G
T	A	E	D	P	L	A	S	T	E	R	E	N	I	O
N	R	N	L	R	O	B	B	E	R	U	U	E	C	T
E	A	A	C	I	D	I	T	Y	L	G	M	P	T	A
S	N	M	N	N	T	S	A	C	R	O	H	A	I	M
S	O	K	U	T	H	E	F	T	H	E	E	T	M	O
A	B	I	O	D	E	R	U	T	A	N	G	I	S	R
C	R	C	L	A	Y	E	U	Q	E	H	C	R	N	H
I	A	C	R	I	M	E	M	U	R	D	E	R	O	C
D	C	E	H	S	U	S	P	E	C	T	E	R	I	F

ACID  
BLOOD  
CARBON  
CHROMATOGRAPHY  
CRIME  
FIBRE  
FORENSIC  
HAIR  
IODINE  
MURDER  
PH  
ROBBER  
SIGNATURE  
TALC  
VICTIM  
WOOL

ACIDITY  
CAMERA  
CAST  
CLAY  
DYES  
FINGERPRINT  
FORGERY  
HOME  
LENS  
MUD  
PLASTER  
SAND  
SOIL  
TAPE  
WHORL

ARCH  
CAR  
CHEQUE  
CLUE  
EVIDENCE  
FIRE  
GUN  
INK  
LOOP  
PEN  
POLICE  
SHOE  
SUSPECT  
THEFT  
WITNESS

