Gosford High School

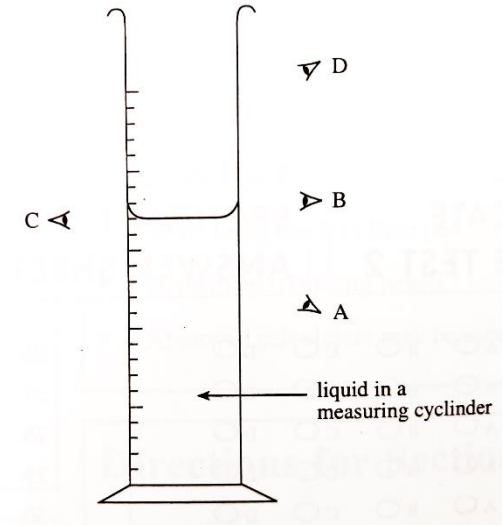
Year 7 Term 1 Assessment

General Instructions	• Working time – 50 minutes • Reading time - 5 minutes • Write using blue or black pen • Draw diagrams using pencil • Calculators approved by NESA may be used
Total marks: 40	Section I – 16 marks • Attempt Questions 1–16 • Allow about 10 minutes for this section
	Section II – 25 marks • Attempt Questions 16–20 • Allow about 35 minutes for this section
Please circle your class below Class: G O S F R D	Student Name: …….

Part A /16	
Part B / 27	
TOTAL	/43

Part A
15 Multiple Choice Questions

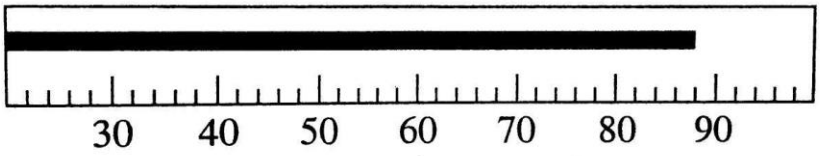
1. If you want to accurately measure the volume of liquid in a measuring cylinder, which position (A, B, C or D) is the correct position for your eye?



2. When heating a liquid in a beaker, a tripod needs to be used.
   Why is a gauze mat used between the tripod and the beaker?

   A. So that a Bunsen burner can fit underneath the tripod.
   B. So that metal tongs can be used to pick up the gauze mat after it has been used.
   C. To spread the heat so that the glass does not melt.
   D. To spread the heat evenly over the base of the beaker.

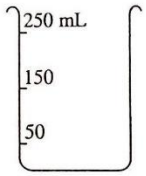
3. Part of a 300 mm ruler which was used to measure a thick black line is shown.



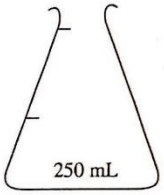
   What is the reading on the scale of the ruler?
   A. 89.0 mm
   B. 88.0 mm
   C. 80.8 mm
   D. 84.0 mm

4. A student needed to measure 225 mL of water for an experiment. Which of these containers would enable the student to measure out the water most precisely?

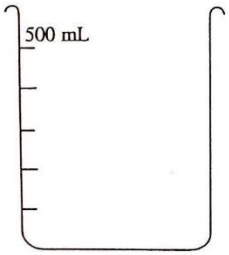
(A)



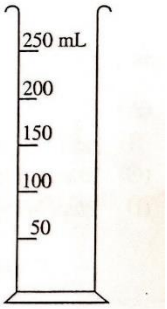
(C)



(B)



(D)



5. Which of the following statements is incorrect?

A. The yellow flame of a Bunsen burner is not as hot as the blue flame.
B. If you open the air hole of a Bunsen burner, the colour of the flame will change from blue to yellow.
C. The Bunsen burner flame heats things faster than a candle flame.
D. A Bunsen burner is used to heat liquids and solids in science classes.

6. Which of the following statements is an example of a hypothesis?

A. Will water boil more quickly if salt is added to it?
B. Which glue is the best for sticking wood to cardboard?
C. If salt is added to water, then it will boil more quickly
D. Both A and B

7. In her laboratory journal, a microbiologist writes the following.

'Some mould growth was seen on the bread that was exposed to bacteria three days ago. Bacterial colonies were observed on the plate, but the area surrounding the mould did not show any bacteria.'

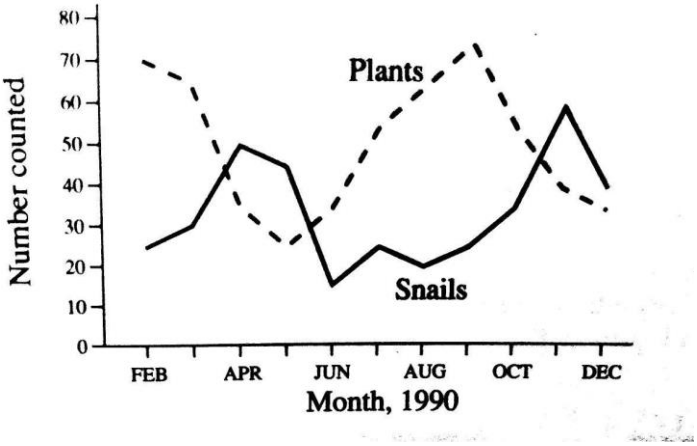
Which of the following describes the microbiologist's journal entry?

A. Observation
B. Conclusion
C. Hypothesis
D. Prediction

8. Which of the following pieces of equipment can be used to collect quantitative data?

   A. a thermometer
   B. an electronic balance
   C. a measuring tape
   D. all of the above

Questions 9 and 10 refer to the line graph shown below.
Michelle and Ben counted the number of water snails and plants in an aquarium. This was done on the first day of each month for a whole school year.



9. How many water plants were counted at the beginning of the school year?

   A. 25
   B. 62
   C. 70
   D. 80

10. Which answer shows the months when the number of water snails was the same as the number of plants?

    A. February, July, November
    B. March, May, October
    C. April, June, November
    D. The number of water snails was never the same as the number of plants on the days data was collected.

11. Printed on a label of cough medicine was the following instruction:
'Store away from light, below 30^{o}C.'

Choose the best *inference* that can be made about the cough medicine.

A. The cough medicine is affected by heat and light.
B. The cough medicine is in a dark 'light-proof' bottle.
C. The cough medicine should be hidden away from children.
D. The cough medicine should be stored in the refrigerator.

12. Mark and Maxine designed an experiment to find out what effect adding salt to water had on its melting temperature. They carried out the following steps, but they are out of order.

1. Measure the temperature of the melting ice in each cup.
2. Sprinkle 10 g of salt over the ice in five of the cups.
3. Put four ice cubes each into 10 cardboard coffee cups.
4. Record the lowest temperature reading from each cup.
5. Put a thermometer into each cup.

Select from the following answers, the correct order:

A. 3, 2, 5, 1, 4
B. 3, 1, 5, 2, 4
C. 5, 4, 3, 2, 1
D. 1, 2, 3, 4, 5

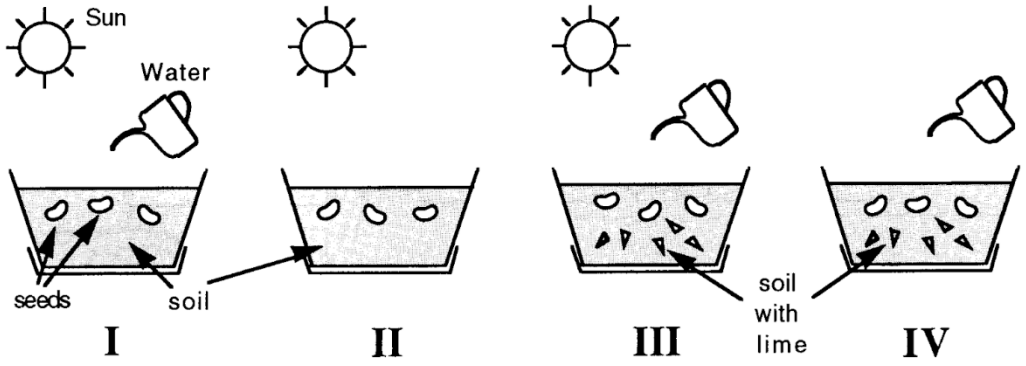
13. The sections of an experimental report in correct order is

A. Aim, results, hypothesis, method, conclusion and discussion
B. Aim, hypothesis, results, method, discussion and conclusion
C. Aim, hypothesis, method, results, discussion and conclusion
D. Hypothesis, aim, results, method, discussion and conclusion

14. There are two main types of data – qualitative data and quantitative data. Which of the options below does not relate to quantitative data?

A. Information relating to temperature, length or mass.
B. Information that could be graded or ranked.
C. Information that is numerical.
D. Information that is not numerical.

15. Nino wants to see whether beans grow better with lime in the soil.

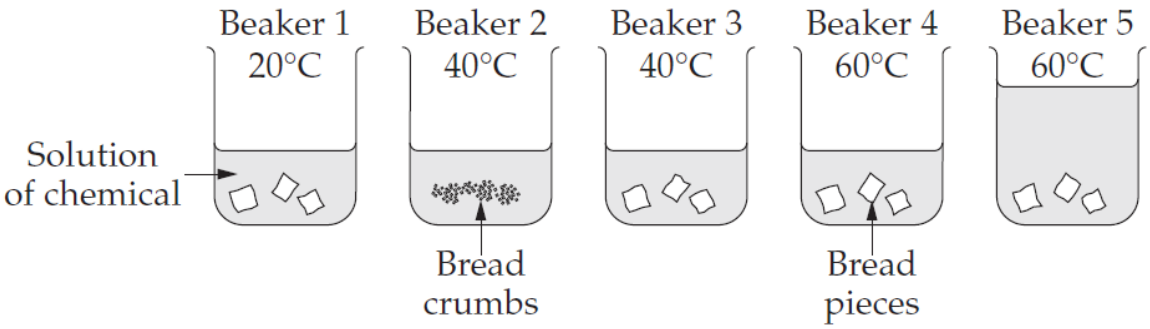


Which two pots should he grow to find out?

A. I & II
B. I & III
C. II & III
D. III & IV

16. A class had to test the effect of temperature on the speed with which a chemical reacts with bread.

They were given a set of beakers with solutions of equal concentration of the chemical to choose from.



Which combination of beakers should they use to ensure it was a fair test?

A. Beakers 1, 2 and 5
B. Beakers 3, 4 and 5
C. Beakers 1, 2 and 4
D. Beakers 1, 3 and 4

End of Part 1

Class:
G O S F R D

Part A /16	
Part B / 27	
TOTAL	/43

Student Name:

…….

ANSWER SHEET for MULTIPLE CHOICE -Clearly mark 1 answer for each question.

QUESTION	A	B	C	D
1				
2				
3				
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11				
12				
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14				
15				
16				

Part II

27 marks
Attempt Questions 16-19.
Allow about 35 minutes for this section

Question 16 (15 marks) **Marks**

The paragraph below is a student's write-up of an experiment.

1. I put 100 mL of water in a test tube and measured its temperature. It was 18ºC. Then I put some of the crystals in it and stirred the mixture to dissolve the crystals. I kept stirring until some remained on the bottom of the tube no matter how much longer I stirred.
2. I filtered the mixture and then evaporated all the water from the solution. I weighed the amount of solid left behind and found that 6.0 g had been dissolved.
3.Then I did it again but this time I heated the water using a Bunsen burner, gauze mat and tripod while the thermometer was suspended form a retort stand using water at 29ºC. I found that 8.0 g dissolved.
4. I repeated it at 40ºC and at 47ºC and got 10.0 g and 11.2 g as my results

(a) Write an aim appropriate for the experiment. **1**

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(b) Complete the table for the student's results. **2**

(c) Identify the independent and dependent variable for this experiment. **2**

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(d) Identify a variable that needs to be controlled during the experiment to make it a fair or valid test. **1**

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(e) Draw a labelled scientific diagram showing the equipment set up required to carry out step 3 as described above. **3**

(f) Identify two safety issues the student will have to be concerned with through this experiment**.** **2**

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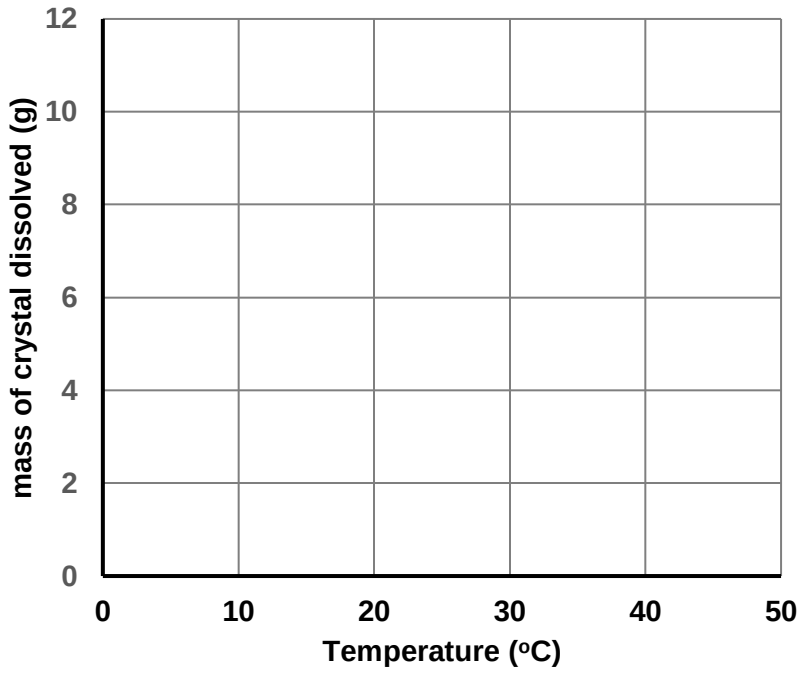
(g) Graph the students results on the axes provided. **3**



(h) Write a conclusion for the experiment. **1**

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Question 17 (4 marks)

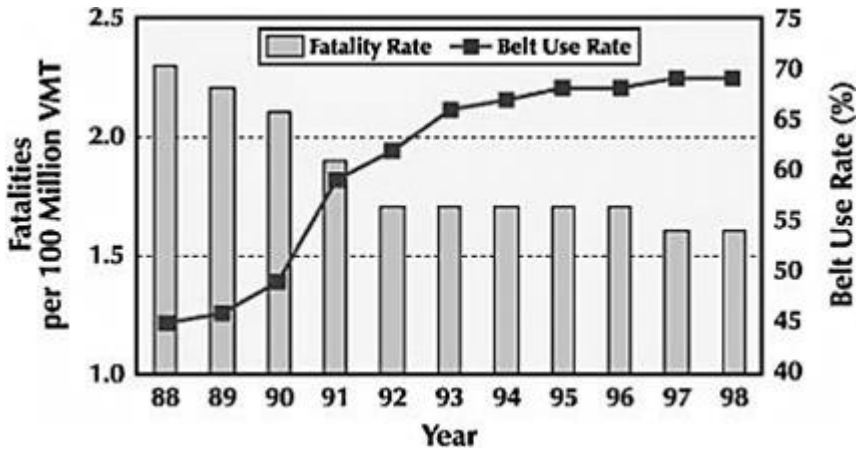
The following scientists are working in different branches or disciplines of science. Identify which branch each is working in:

4

Activity	**Branch of Science**
Paris is studying the crystals embedded in a rock.	
Beau is developing a new type of plastic	
Shaun is investigating the eating habits of insects	
Angus is monitoring the movement of an asteroid	

Question 18. (4 marks).

The graph shows information about road fatalities and the use of seat belts in cars.



(a) According to this data what is the trend shown in the number of fatalities between 1988 and 1996? Provide data to support your answer**.** **2**

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(b) Analyse the data presented and provide reasons for the conclusion you made. **2**

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Question 19. (4 marks).

The drawing made by a scientist was twice as big as the real size of the object.
Determine the actual length of the whole piece of equipment. *Show your working.*
2

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b) There are some problems with the equipment diagram above. Identify two things that the scientist needs to change to accurate represent the equipment above. 2

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END OF EXAM