

Class:

G O S F R

(D)

Student Name:

Jamie Townrow

Part A /16	
Part B / 27	
TOTAL	/43

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

QUESTION	A	B	C	D
1			✓	
2			✓	
3		✓		
4		✓		✓
5		✓		
6				✓
7	✓			✓
8				✓
9			✓	
10				✓
11				✓
12	✓			
13			✓	
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 18°C . 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 from a retort stand using water at 29°C . I found that 8.0 g dissolved.
4. I repeated it at 40°C and at 47°C and got 10.0 g and 11.2 g as my results

- (a) Write an aim appropriate for the experiment.

1

How much water dissolves after stirring, when the temperature of the water is different.

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

2

Starting Temperature	Amount Dissolved after stirring
18°C	6.0g
29°C	8.0g
40°C	10.0g
47°C	11.2g

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

2

Independent: Starting temperature of the water.

Dependent: The amount of salt and the amount of water. Also the time stirred

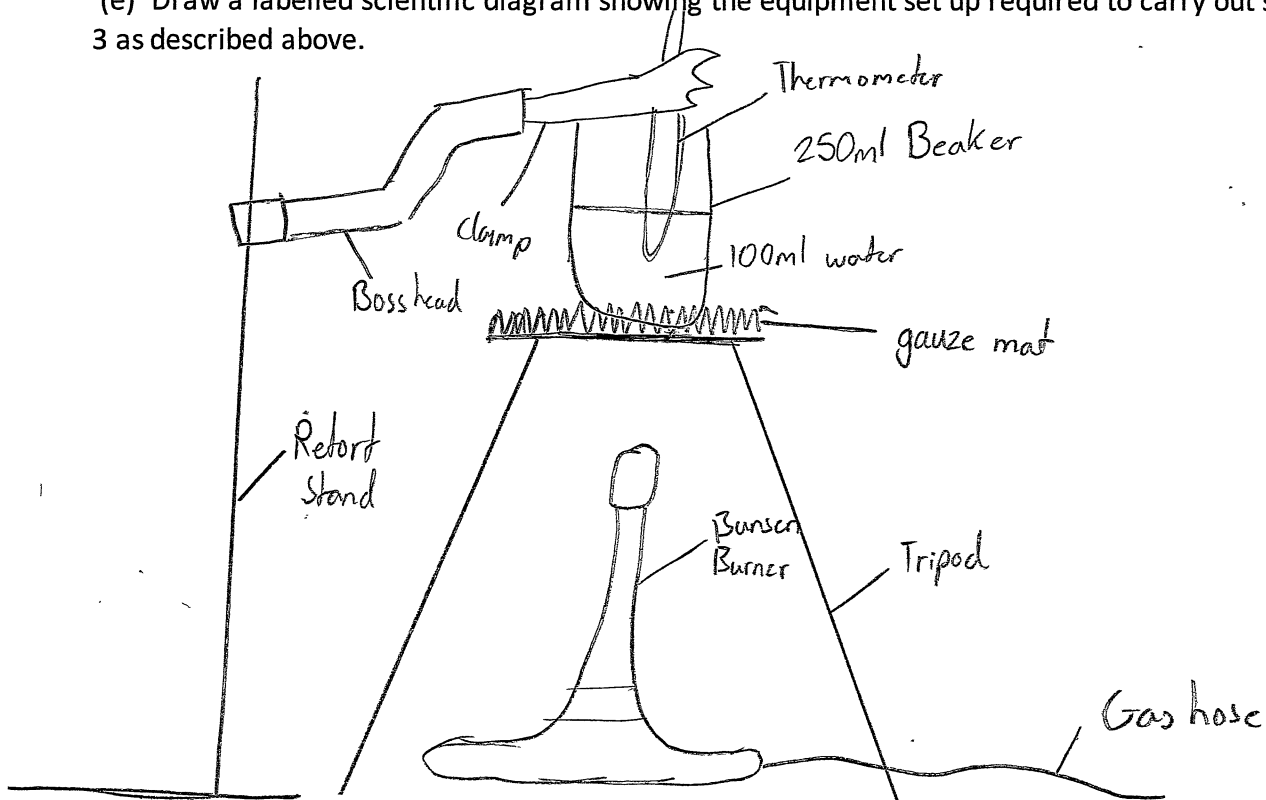
(d) Identify a variable that needs to be controlled during the experiment to make it a fair or valid test.

1

For the test to be valid the water and salt have to be controlled.

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

3



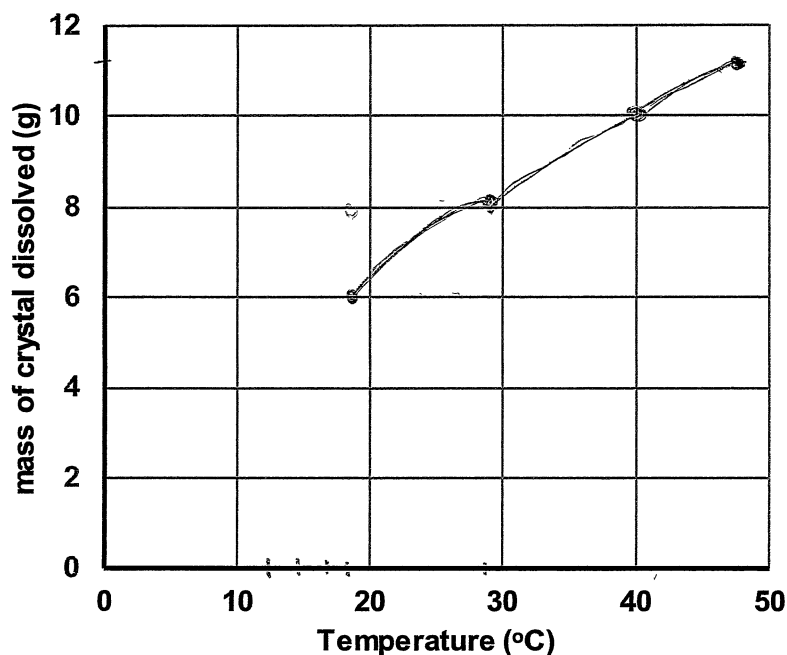
(f) Identify two safety issues the student will have to be concerned with through this experiment.

2

The students will have to make sure the bunsen is set up correctly and that no water will erupt spit up out of the beaker.

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

3



(h) Write a conclusion for the experiment.

1

As the conclusion of my experiment the hotter the water was the more salt was dissolved.

Question 17 (4 marks)

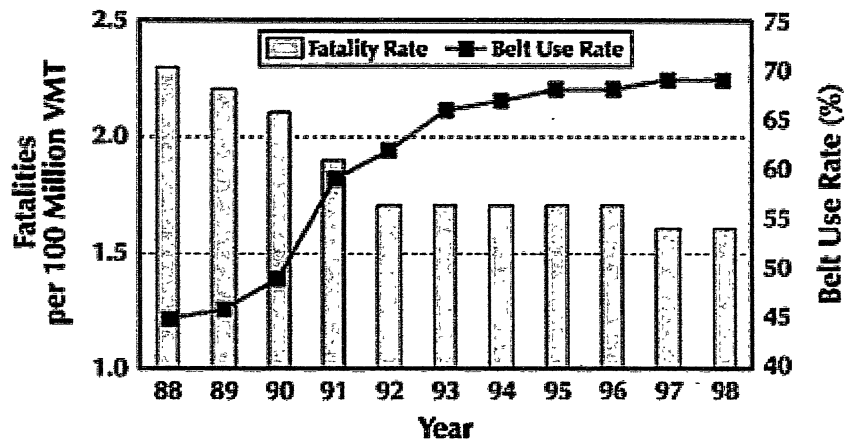
The following scientists are working in different branches or disciplines of science. Identify which branch each is working in:

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	Zoology
Angus is monitoring the movement of an asteroid	Astro physics

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

According to the graph every year since 1988 the users of seat belts has increased dropping the fatality rates.

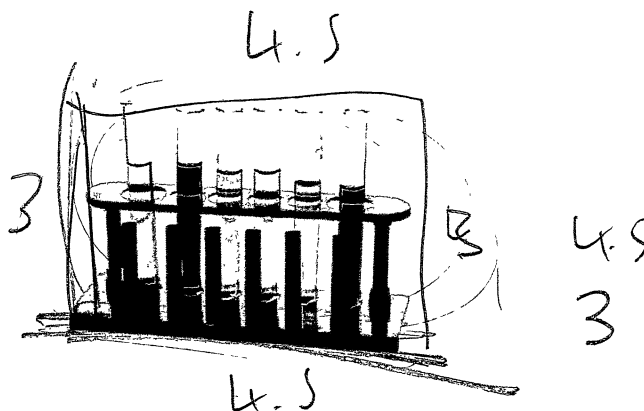
- (b) Analyse the data presented and provide reasons for the conclusion you made. 2

The data states that more people use seatbelts so death ~~chances~~ amount drop, this provides reasons that my conclusion is correct because seatbelts drop fatality rates.

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



The ~~height is 3cm and the length is 4.5cm~~
so its half that so its ~~2.25~~ 2.25cm long

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

2

They need to list the dimensions of the equipment
and try to make the drawing the real size.

END OF EXAM