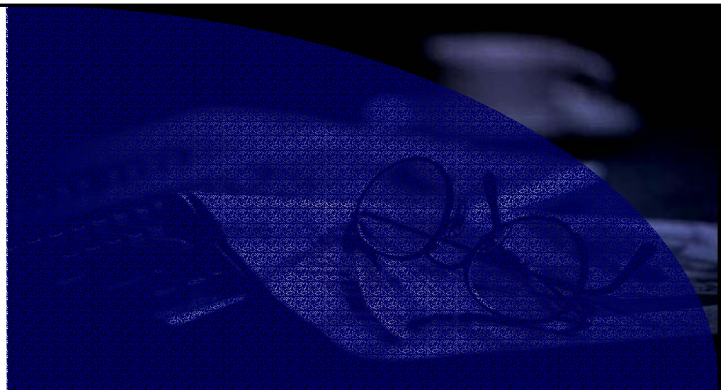


assessment for learning

year 7



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7H Solutions

Assessment for learning...year 7 (level 3-6)

Answer all questions:

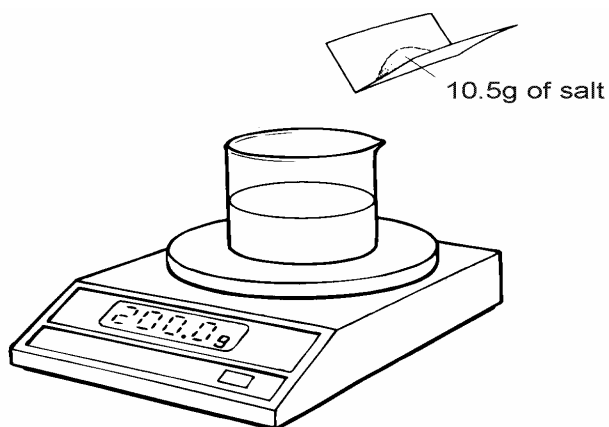
Total marks	25
Time allowed	25 mins.

Question 1:

(a) Complete the following sentence.

When a solid dissolves in a solvent, a is formed.

1 mark



A beaker contains water. It is on a balance. The balance reads 200.0 g. Patti adds 10.5 g of salt to the water. The salt dissolves.

(b) When all the salt has dissolved, what is the reading on the balance?

..... g

1 mark

(c) Patti wants to get **all the solid salt** back from the water.

Describe how she could do this.

.....
.....
.....
.....

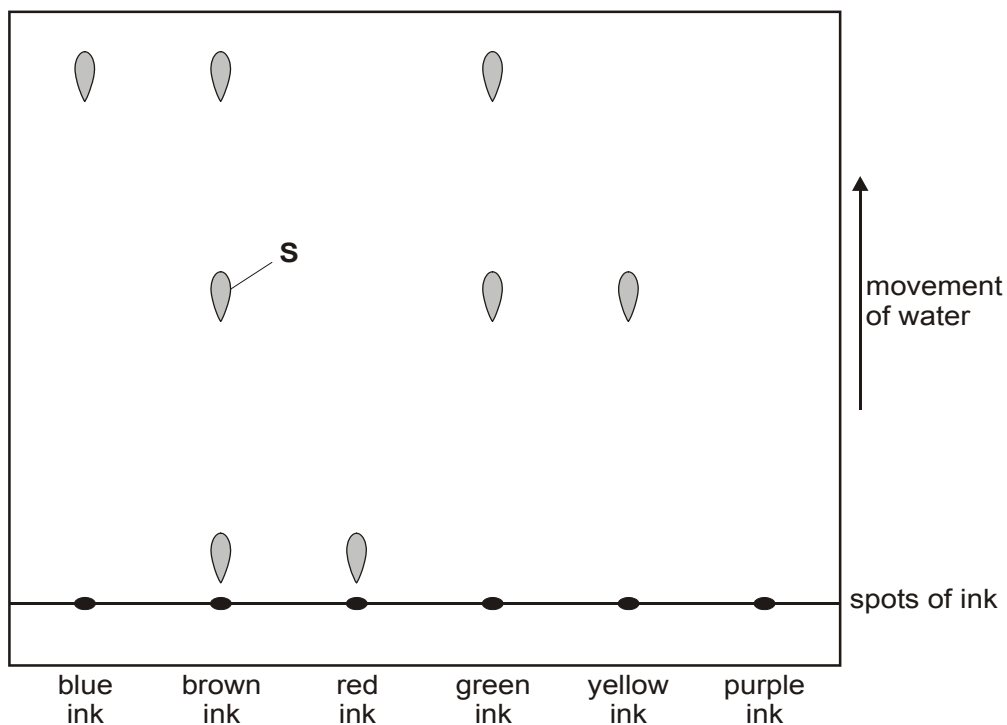
2 marks

Maximum 4 marks

Question 2:

A pupil used chromatography to show which dyes are present in different coloured inks. The diagram shows some of her results.

The results for purple ink are missing.



(a) (i) Give the colour of an ink which contains only **one** dye.

.....

1 mark

(ii) Give the colour of an ink which contains **three** dyes.

.....

1 mark

(iii) The purple ink is a mixture of the red and blue inks. On the diagram, draw the results you would expect from purple ink.

1 mark

(b) What would be the colour of the spot labelled S?

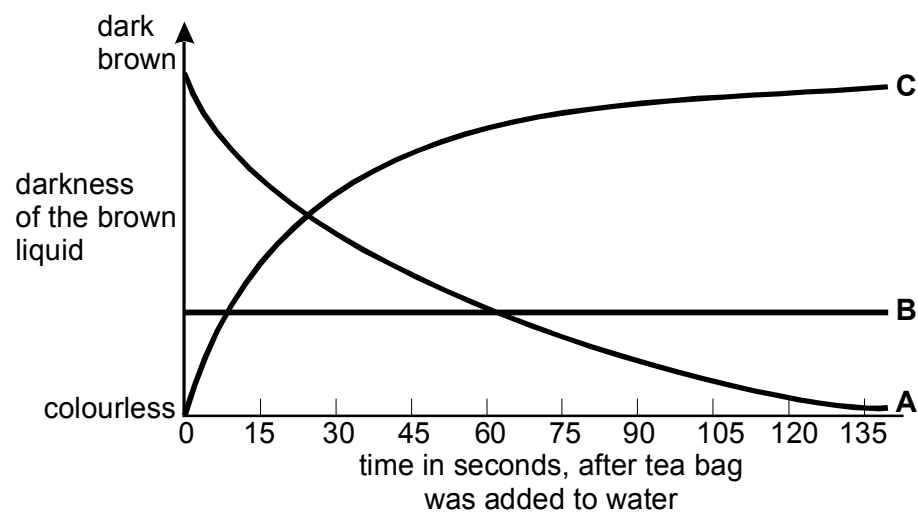
.....

1 mark

Maximum 4 marks

Question 3:

Becky puts one tea bag in a beaker and adds 50 cm³ of warm water. She stirs the liquid slowly. Every 15 seconds she takes out 2 cm³ of the liquid and measures how dark it is.



(a) Which graph, A, B or C, shows how the colour of the liquid changes?

.....

1 mark

(b)(i) Becky takes out 2 cm³ samples of the liquid each time. Why must she always put the sample back after she has tested it?

.....

1 mark

(ii) What piece of apparatus can she use to measure the volume of the 2 cm³ samples of liquid?

.....

1 mark

(iii) Suggest **two** ways Becky could make the tea dissolve more quickly.

1

.....

2

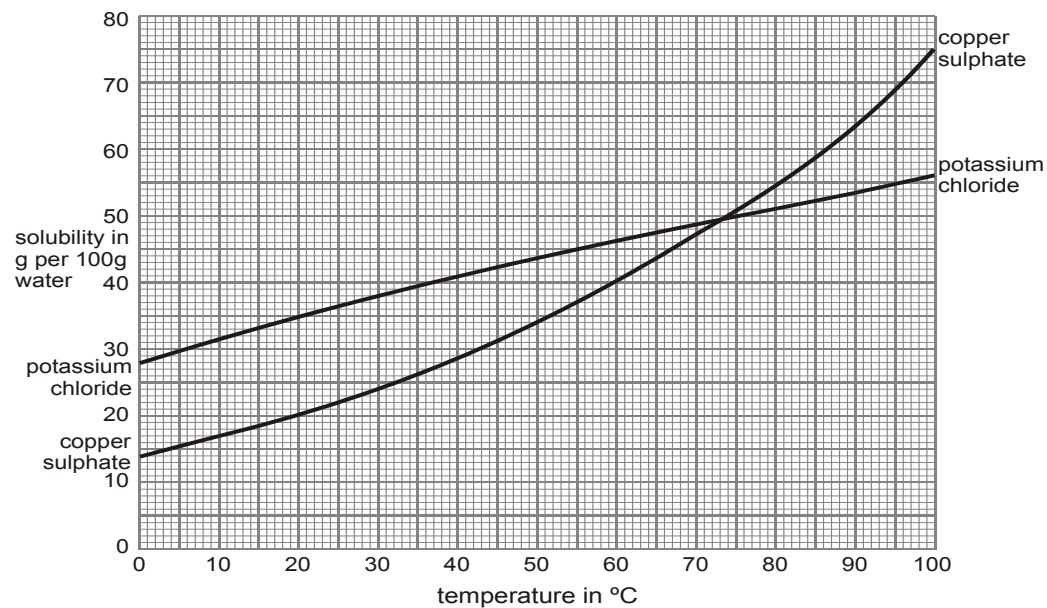
.....

2 marks

Maximum 5 marks

Question 4:

The graph shows how the solubility of two salts in water changes with temperature. The solubility is the number of grams of the salt which will dissolve in 100 g of water.



(a) Describe how the solubility of copper sulphate changes with temperature.

.....
.....

1 mark

(b) Use the information in the graph to answer the questions below.

(i) What is the solubility of potassium chloride at 40°C?

..... g per 100 g of water

1 mark

(ii) At what temperature are the solubilities of the two salts the same?

..... °C

1 mark

(iii) What is the largest mass of copper sulphate which can be dissolved in 50 g of water at 60°C?

.....
.....
.....

1 mark

(c) Why is the solubility of salts in water normally given only for temperatures between 0°C and 100°C?

.....
.....
.....
.....

2 marks

Maximum 6 marks

Question 5:

At school Ellen heated some copper powder until it went black.

(a) Give the name of the black substance formed when copper reacts with oxygen.

.....

1 mark

(b) Ellen added the black substance to some dilute sulphuric acid. The black substance reacted with sulphuric acid forming a blue solution of copper sulphate.

What type of substance is copper sulphate?
Tick the correct box.

an acid

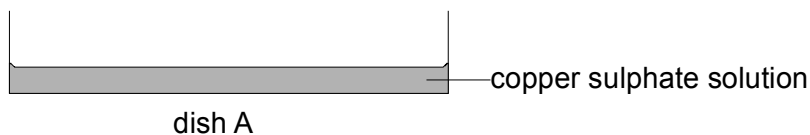
a compound

an element

a mixture

1 mark

(c) (i) Ellen poured 20 cm³ of the blue copper sulphate solution into a dish, A, as shown below.

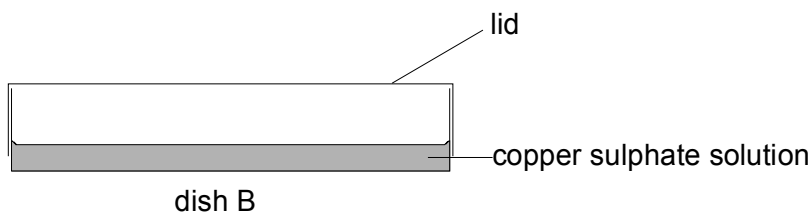


She left the dish in a room at 21°C for two days.
What **two** changes would Ellen observe in dish A two days later?

1.
2.

2 marks

(ii) Ellen poured 20 cm³ of the same blue copper sulphate solution into another dish, B. She put a lid on dish B and left it in the room at 21°C for two days.



After two days the contents of dish B looked different from the contents of dish A.

Give **one** difference Ellen would observe and explain how the lid caused this difference.

.....
.....
.....

2 marks

Maximum 6 marks