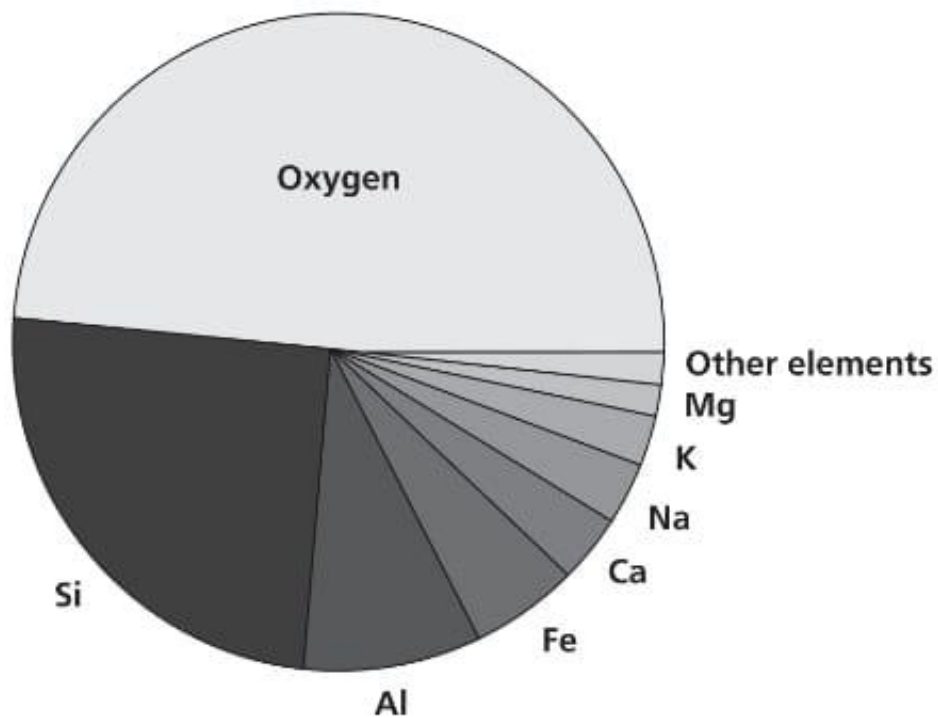




1. The pie chart below shows the quantities of different elements in the Earth's crust. Answer the following questions. (3)



a. Which is the most abundant (common) element in the Earth's crust?

b. Approximately what percentage of the Earth's crust is made up of this element?

c. Which is the most abundant metal in the Earth's crust?

6. Circle the word that you think is the odd one out.

(2)

explain your answer.

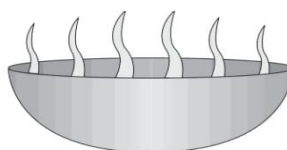
melting boiling burning condensing

Explanation: _____

7. The diagrams below show how different mixtures are separated. Write the name of the process. (2)



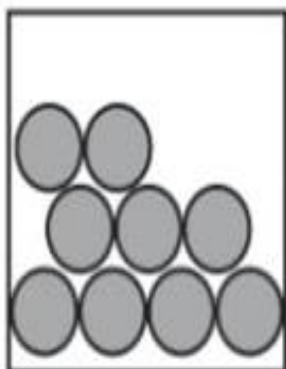
A



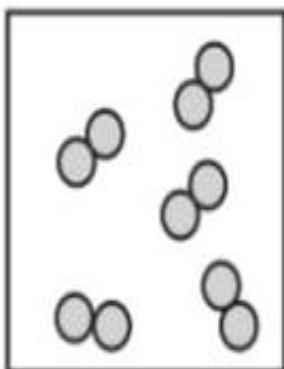
B

8. Write the letter of a diagram that represents the following terms.

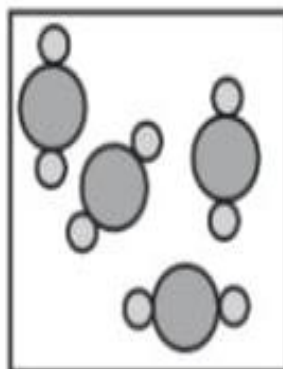
(4)



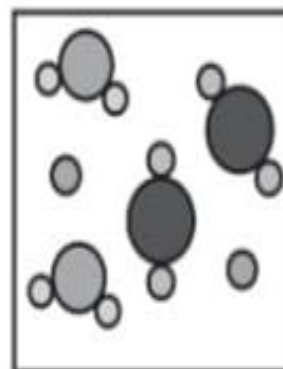
A



B



C



D

a. An element - _____

b. A mixture - _____

c. A compound - _____

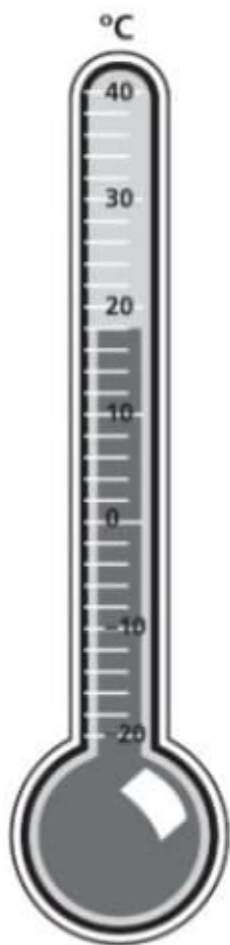
9. Arun is conducting an experiment wherein he has to measure the volume and temperature accurately. Help him in doing the same. (4)

a) cm^3



Volume: _____

b)



Temperature: _____

10. The following statements concern the role of friction. Circle the option that gives each statement its correct meaning. (3)

- a. Frictional forces only act when two objects are far apart from /in contact with / nearly touching each other.
- b. Frictional forces always stop / oppose / quicken the movement of an object.
- c. One method used by engineers to reduce friction is to separate / glue / lubricate the parts.

11. Ershad and Pramod were heating copper metal using a Bunsen burner. At the end of the experiment, they notice that the copper had gone black. Ershad thinks that the metal is covered in soot but Pramod disagrees. Explain why Ershad is wrong. (2)

12. Two girls were investigating mixtures. They decided to test the following hypothesis. As the temperature of the water increases, the amount of substance dissolved in the mixture also increases.

Here is their method:

- * Measure out 25 cm³ water into an insulated beaker
- * Measure the temperature

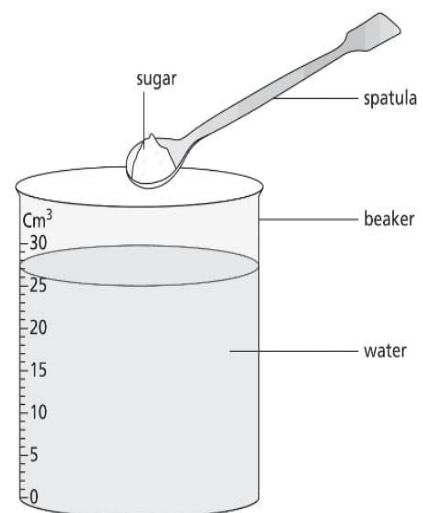
Weigh out 150 g of sugar

- * Add a spatula of sugar to the water in the beaker
- * Stir until all the sugar has dissolved
- * Add another spatula of sugar and stir

Repeat adding sugar and stirring until no more sugar will dissolve

- * Weigh the remaining sugar and work out how much has been added.

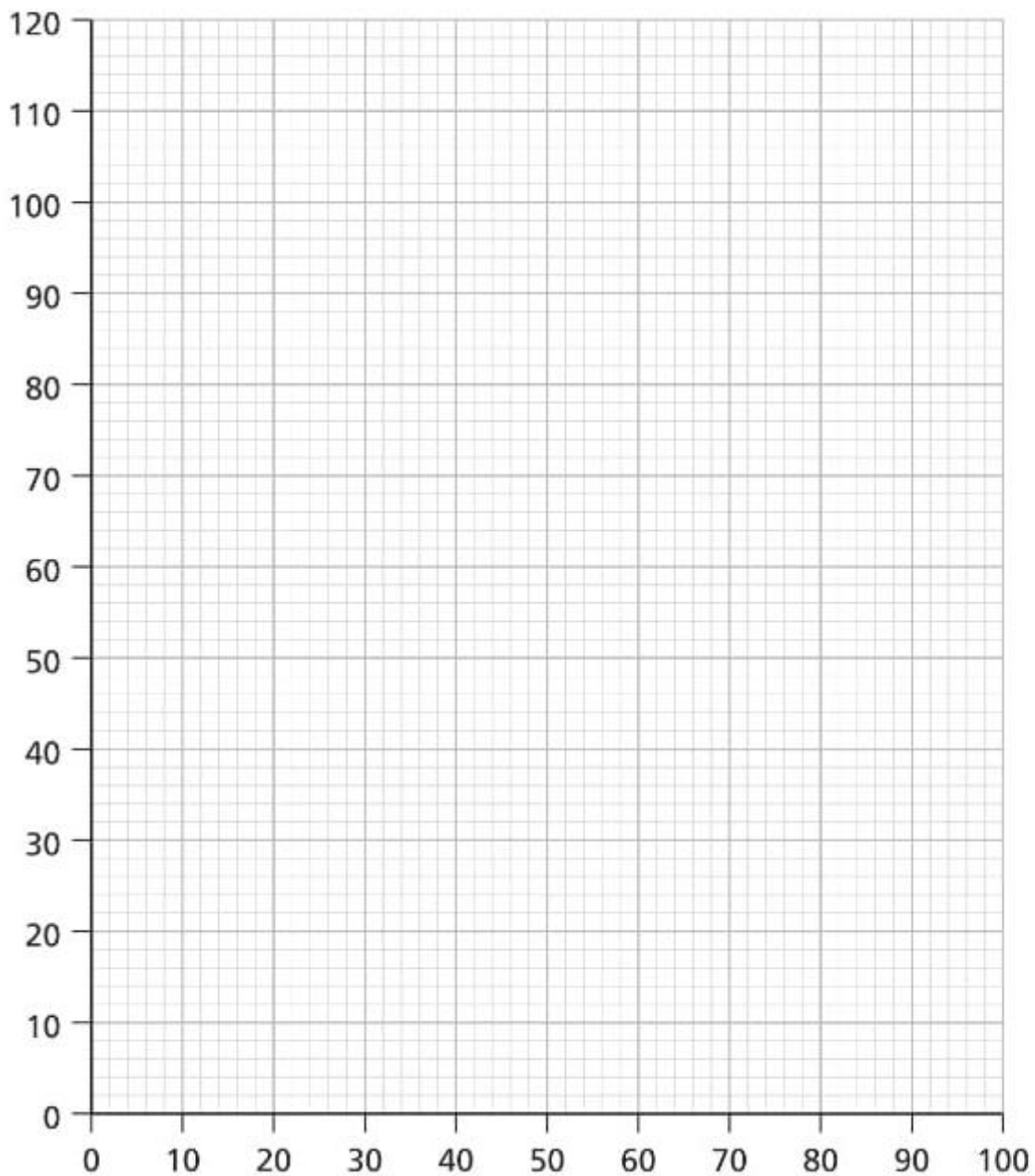
Repeat at four more temperatures



| Temperature (°C) | Mass of sugar added (g) |
|------------------|-------------------------|
| 20 | 50 |
| 40 | 60 |
| 60 | 73 |
| 80 | 88 |
| 100 | 120 |

a. Use the graph paper given below to plot a graph.

(3)



b. Explain if their hypothesis is correct. Your answer must be supported by evidence.

(2)

13. Josh and Adam were discussing sea water. Adam said that sea water is a compound but Josh disagrees. He thinks that it is a mixture. Explain why Josh is correct.

(2)

14. The strength of gravity on a planet is 5 N/kg. Calculate the weight of a 900 kg spacecraft on that planet. Show your working.

(2)

15. a. At what position of the moon will the lowest tidal range occur on Earth?

(1)

b. The average depth of water in a place near the coast of Indian ocean is 4.0 m. the largest tidal range in that place is 3.0 m. Calculate the minimum depth of water in that place.

(2)
