

Topic 13: Extraction of metals [Exercise 3]

1. Fig. 1 shows an experiment about the rusting of iron fillings. As the iron rusts, the level of the water rises in the inverted test-tube.

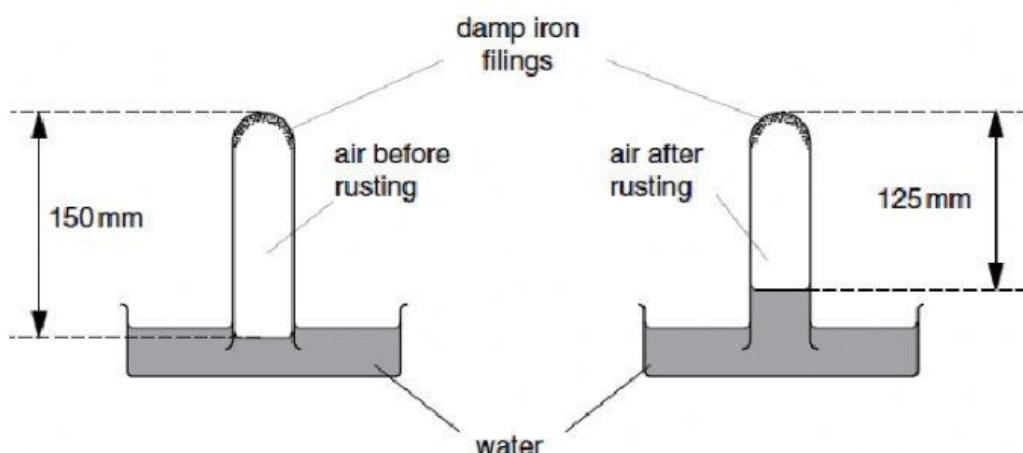


Fig. 1

(a) Use Fig. 1 to calculate how far up the test-tube the water rises.

..... [1]

(b) Which gas in the air is used up during rusting?

..... [1]

(c) In addition to this gas, what other substance is required for iron to rust?

..... [1]

(d) Iron may be prevented from rusting by galvanizing.

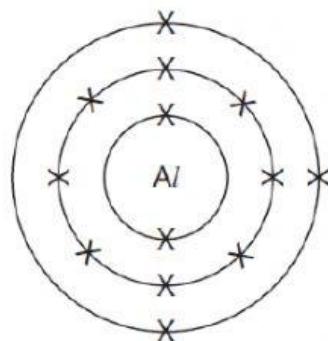
(i) Explain the meaning of *galvanizing*.

..... [2]

(ii) State **one** other way by which iron may be prevented from rusting.

..... [1]

2. The electronic structure of aluminium is shown in the figure below:



(i) State the charge on the aluminium ion. [1]

(ii) Using the electronic structure & the Periodic Table, explain why Al is a metal.

.....
.....
..... [2]

(iii) Aluminium is used to make food containers because it is resistant to corrosion.

Explain why aluminium is resistant to corrosion.

.....
..... [2]