

GCSE Chemistry A (Gateway Science)
J248/02 C4-C6 and C7 Foundation (Foundation Tier)

Question Set 23

1 This question is about the corrosion of metals.

(a) A student investigates the rusting of iron.

Fig. 1.1 shows the experiments she sets up.

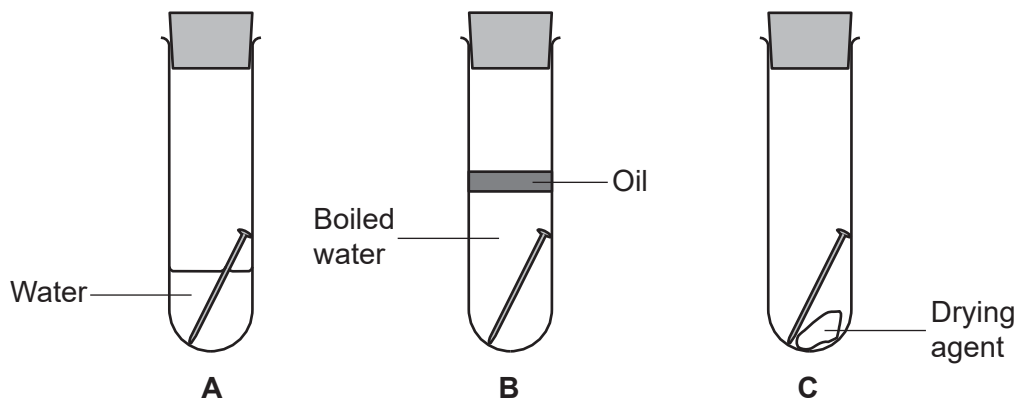


Fig. 1.1

Write about what the student would observe in each tube after one week.

Explain the observations.

Tube A The iron rust because both air and water are present

Tube B No rust because water is present without air

Tube C No rust because oxygen is present without water

[3]

(b) Another student buys a new bicycle. The bicycle chain is made of iron.

The student decides to oil the chain to prevent it from rusting, as shown in Fig. 1.2.

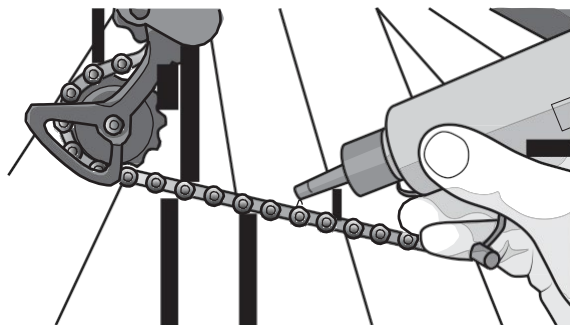


Fig. 1.2

Explain why oiling the chain will prevent the iron from rusting.

It forms a protective barrier around iron against moisture/water [2]

(c) A galvanised iron bucket is made of iron coated with a layer of zinc.

After years of use, the zinc coating has become scratched.

The iron below the zinc has been exposed but the iron has not rusted.

Explain why the iron has not rusted.

Because zinc is still contacting the iron ^{and} acting as an anode. Since it is more reactive than iron. Hence zinc reacts with moisture and oxygen instead of iron. [2]

Total Marks for Question Set 23: 7

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