RUST

Students ……

……

Class …… Date …… Group number ……

MATERIALS

A piece of iron wool pad, water, a test tube, a plate, food colour.

PROCEDURE

Moisten the iron wool pad with tap water and shake off any excess water.

Gently push the pad to the bottom of the test tube.

Fill the plate with water and add a few drop of food colour.

Invert the glass. The pad should remain at the bottom (now the top) of the test tube.

Place the inverted test tube on the plate.

Wait a couple of days.

Draw a picture about this first step.

OBSERVATIONS (after a couple of days)

The iron wool pad has become a little bit ……

We observe the presence of ……

The water level in the test tube:

☐ increases

☐ decreases

☐ is the same.

CONCLUSIONS

Water rises up in the test tube because the oxygen of the air inside the glass combines with the iron of the iron wool pad, leaving an empty space.

Air pressure outside the test tube pushes water up into the test tube.

Rust is formed when iron reacts with oxygen in moist air.

$$4Fe + 3O_2 + 6H_2O \longrightarrow 4Fe(OH)_3 \text{ (ruggine)}$$

Iron + oxygen + water ⟶ Iron oxide (rust)

Draw a picture about this final step.