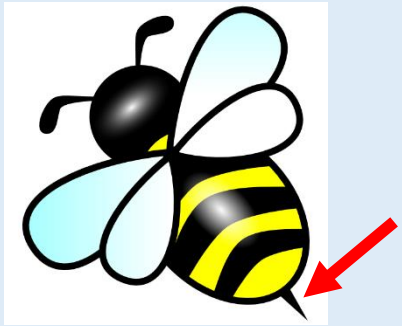

2


worm
wee

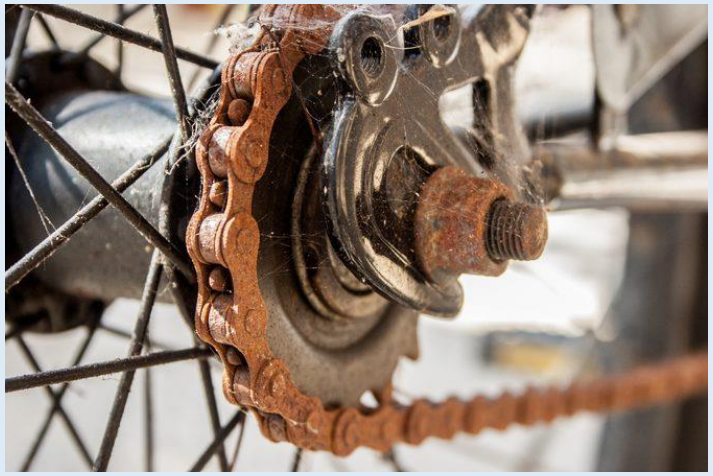

ARRRR...


© Can Stock Photo

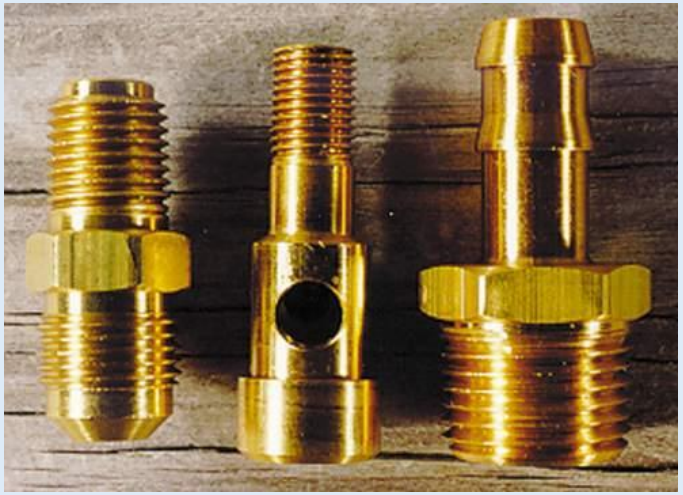



Rusting &
Corrosion

Rusting is the **corrosion** of **iron (& steel)**.



Other metals can **corrode** but **not rust**



Corrosion

Corrosion is also the reaction of a metal with **oxygen**.

It is sometimes called **oxidation**, and can happen to most **metallic** elements.

Metal + Oxygen → Metal oxide

Rusting

Rusting is corrosion of a metal containing **iron**. It is also sometimes called an **oxidation**.

BUT…both **water** and **oxygen** (from the air) are required for rusting

Iron + Oxygen + Water → Hydrated Iron Oxide **(Rust)**

Rusting

Salt and other electrolytes (e.g. **acid**) can speed up rusting/corrosion

Rusting & Corrosion

Corrosion is when a _____ element reacts with **oxygen** to form a metal _____. **Rusting** is a special form of _____ that happens when **iron** (or **alloys** that contain **iron**) react with _____ and _____. Both **rusting** and **corrosion** can be described as _____.

Salt and other electrolytes (for example, **acids**) do not cause **rusting/corrosion** on their own, but they can cause it to _____ __ if **oxygen** and **water** are present.

Metallic oxide corrosion oxygen water oxidations speed up

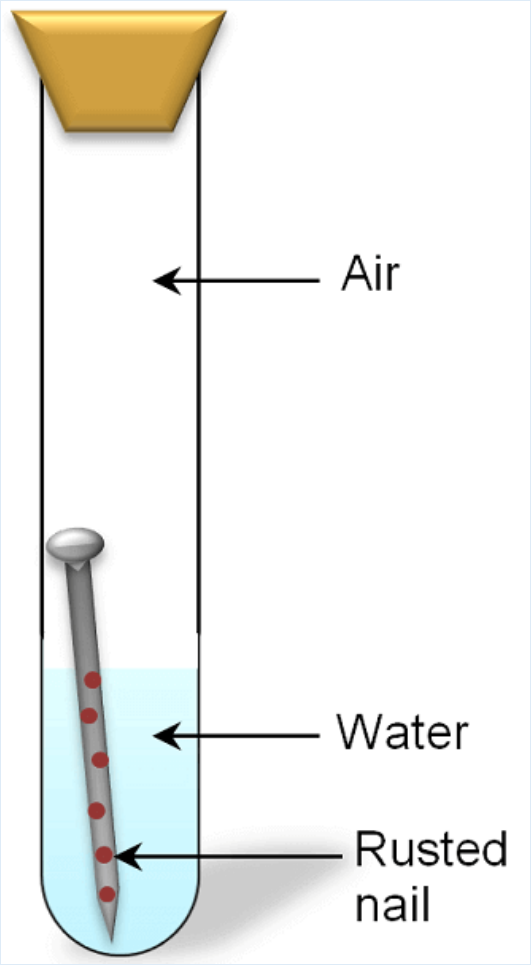
Group practical:

Design an experiment to prove that **oxygen** and **water** are needed for **rusting** to occur and that **salt** increases the rate of **rusting**

Work in groups of **3-4 (on your double tables)**

Group practical:

A basic equipment set up…



Group practical:

How could we test if rusting happens **without oxygen**?

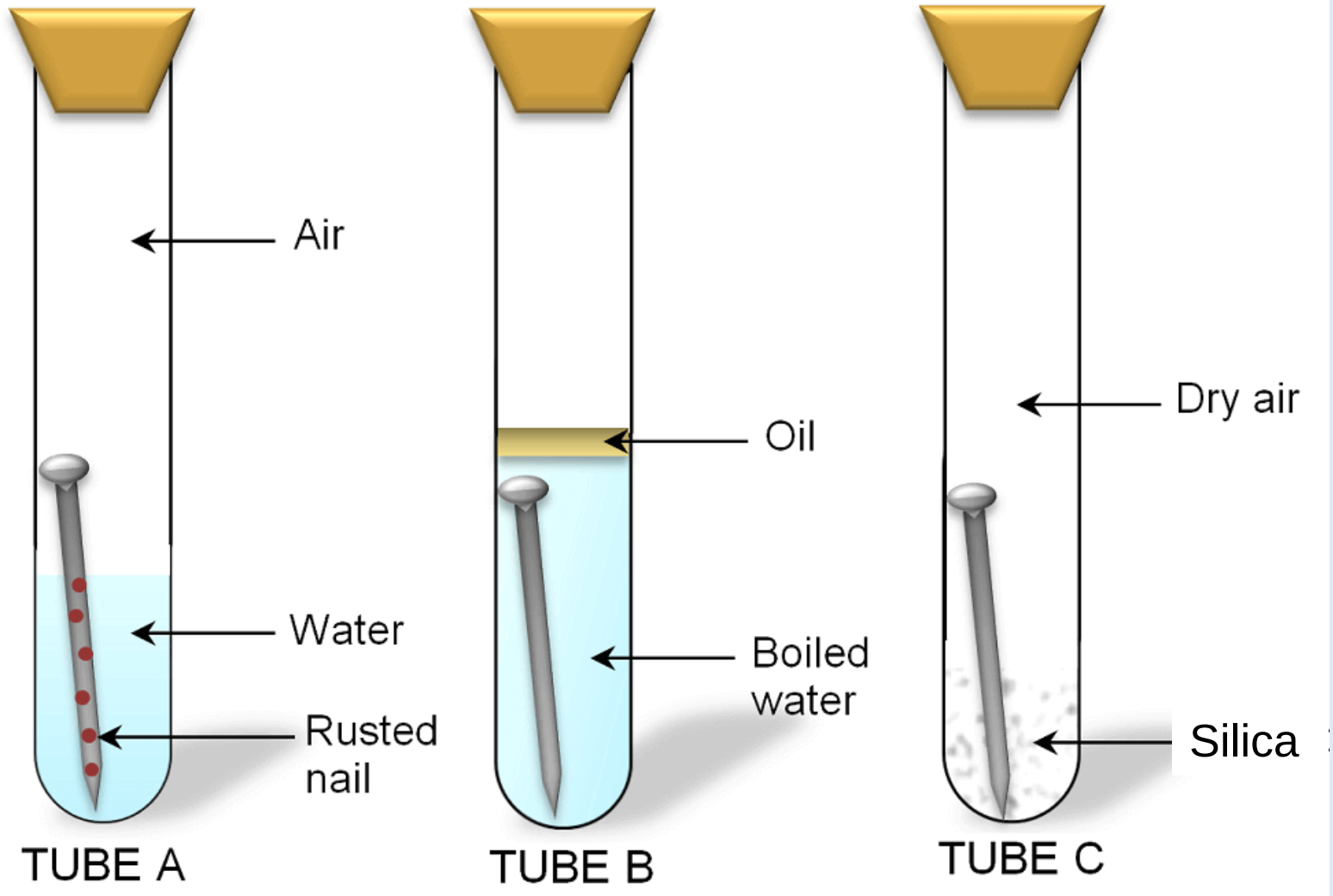
How could we test if rusting happens **without water**?

HINTS:

Boiled water doesn't have any **oxygen** in it…

Oil floats on water and **doesn't let air through it**…

We have **silica**, which can **remove water** from the **air**…


Air
Water
Rusted nail
TUBE A
Oil
Boiled water
TUBE B
Dry air
Silica
TUBE C