Name: **Grade:**

Experiment 2 – Rusting of Iron nail

What causes iron to rust?

Apparatus

- Eye protection
- Test tubes, x4
- Test tube rack
- Rubber bung to fit test tube
- Cotton wool
- Forceps
- Pen or other means of labelling test tubes

Chemicals

- Iron nails, x4
- Anhydrous calcium chloride granules (IRRITANT) (see note 3)
- Cooking oil
- Deionised water
- Boiled deionised water (boiled for 15 minutes – see note 5)
- Sodium chloride (table salt)

Procedure:

- Tube 1 – water and air
- Tube 2 – water, air and salt
- Tube 3 - water but no air (it is removed during boiling and the oil prevents any extra from dissolving in the water and reaching the nail)
- Tube 4 – air, no water (the calcium chloride removes the water from the air and the bung prevents any extra from entering)

Observe and analyze: Put a tick on what you observe while examining the nails.

tube 1 (with deionised water and a nail)	tube 2 (with this mixture and a nail)	tube 3 (with boiled deionised water and a nail)	tube 4 (water and anhydrous calcium chloride powder)
No rusting	No rusting	No rusting	No rusting
Little rusting (one fourth)	Little rusting (one fourth)	Little rusting (one fourth)	Little rusting (one fourth)
Rusting (half)	Rusting (half)	Rusting (half)	Rusting (half)
Completely rusted	Completely rusted	Completely rusted	Completely rusted

LIVEWORKSHEETS