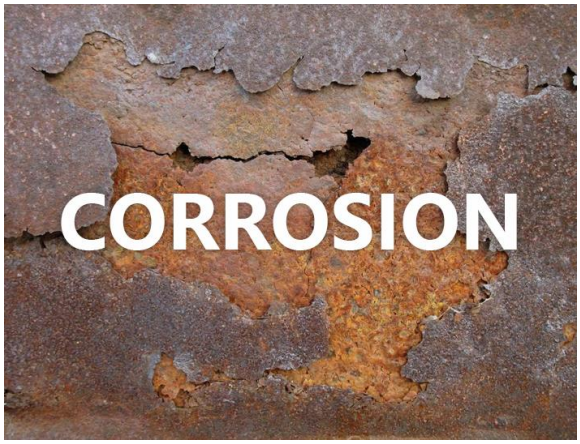
Year 8 Science 2016



Term 3 Corrosion Extended Lab Test (v4)

The aim of this practical is to conduct a long term fresh water corrosion test on steel comparing various methods of corrosion protection. You are to produce a report covering all the usual aspects of a lab report, but in the format of a Google Slides presentation, an edited video, a web page or similar. Photographic evidence of your work and results will be required.

The usual marking key and allocation of marks will be used, as per the lab report pro-forma on my website (See over the page for detail). It is expected that in your discussion you will discuss the properties of the various materials used, i.e. the steel used in nails, WD40, enamel paint, epoxy paint, grease, galvanizing, stainless steel, water, what rust is, how it forms etc.

You are to conduct the test as follows:

1. Clean 5 "bright" (uncoated) steel nails, one galvanised and/or one stainless steel nail using paper towel and methylated spirits.
2. Leave one nail uncoated as a control.
3. Spray one nail with WD40 and leave for 24 hours to dry. Repeat.
4. Spray one nail with two light coats of cheap enamel paint and leave for 24 hours to dry. Repeat.
5. Spray one nail with two light coats of epoxy paint and leave for 24 hours to dry. Repeat.
6. Coat one nail with general purpose grease.
7. Leave one galvanised nail as is.
8. If you have a 7 tube test-tube rack, leave one stainless steel nail as is.
9. Fill each test tube so that 60mm of each nail is covered with deionised water.
10. Mark the tubes with and top up the water if required to make up evaporation.
11. Over the next 9 weeks, observe the nails, develop some sort of rating system for the corrosion, photograph carefully and regularly, keeping dates of all records.
12. Remember to save your work in more than one location and with more than one person. Save all images and videos to Google Drive.
13. Due dates:
    a. Each person must submit their own individual report
    b. Draft report due by Wednesday 17/8/16 including:
        i. Name / Date / Title
        ii. Aim
        iii. Hypothesis
        iv. Apparatus & Materials
        v. Diagram of apparatus/initial setup photo
        vi. Method
        vii. Initial results/setup
    c. Final report due on the last Friday of Week 10 23/9/2016.

14. Please be aware that the resulting media reports will be published via my website, so be careful about photographing people and your presentation.
15. Marks allocation:

Section	Marks Available	Mark Obtained
Name / Date / Title	5	
Aim	5	
Hypothesis	5	
Apparatus & Materials	10	
Diagram of apparatus	10	
Method	10	
Results – written description and/or table	10	
Results – photos, videos, diagrams and/or graphs	10	
Discussion (see above)	15	
Conclusion	5	
Neatness / Presentation	5	
Additional marks at teacher's discretion for excellent work.	10	
Total	100	