

What you need to do:

Procedure:

Each bench will work as a team to conserve supplies.

1. The group from each bench should collect the following metals from the front counter: 2 straight nails, a bent nail, a zinc-coated roofing nail, a stainless steel bolt, a brass strip, and a copper strip. Write down careful observations regarding the color and condition of each of the metals in your lab notebook.
2. Collect some thread from the front counter and attach a ~ 3" piece to each of the metals.
3. Create a beaker of bleach solution (100:1 water:bleach) and submerge one each of the straight and the bent nail in the solution making sure they don't touch each other. Tape the other end of the string supporting the nails to a watch glass to suspend the nails so they don't rest on the bottom of the beaker. Note the time they became submerged in your lab notebook.
4. Take the other straight nail and coat it with clear fingernail polish. Once it is dry, create a beaker of calcium chloride solution and submerge it along with the zinc coated roofing nail in the solution. Again, tape the other end of the string supporting the nails to a watch glass to suspend the nails so they don't rest on the bottom of the beaker. Note the time they became submerged in your lab notebook.
5. Create a beaker of water and submerge the stainless steel bolt in it. Use the same procedure as above to suspend the bolt in the corrodent.
6. For the Aluminum strips create a beaker containing ammonia and submerge as described above.
7. For the copper and brass strips create another beaker of bleach and submerge it as described previously.
8. For each of the above metals, wait one hour from the time you submerged them and make observations regarding any changes in their condition due to their exposure to the corrodents.
9. While you wait for the hour to go by, make experimental observations of the pre-prepared examples provided of longer-term corrosions of the same metals.