

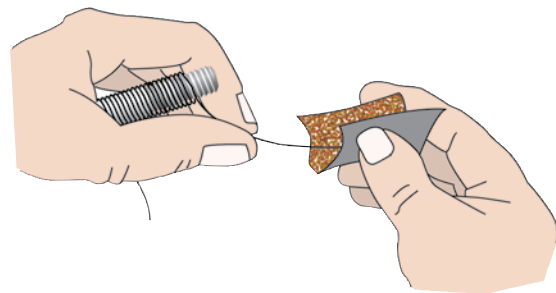
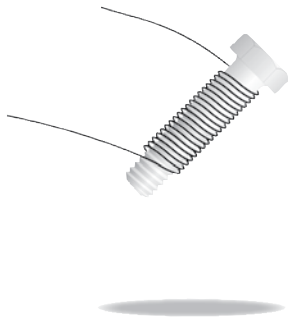
# Electromagnetism

## What you need:

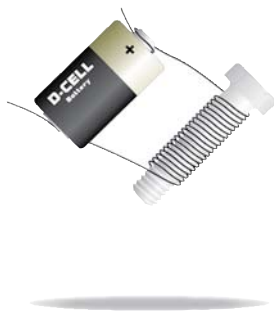
- A steel bolt or large iron nail
- 1 metre of resin copper wire (light duty wire 0.5mm diameter)
- 1 D-cell battery
- Iron filings or paper clips
- Masking tape to hold coil in place
- Fine sandpaper only if wire is enamelled

## What you need to do:

1. Wrap the wire around the bolt.  
You have made a wire coil. Allow 10cm at each end for connections
2. Sandpaper 1.5cm at ends of the wire if necessary



3. Connect the ends to the battery



4. Test your electromagnet using paper clips



Diagrams created by GreenpondTSG

## Observations

**1. What effect does the electric current in the coil have on the bolt?**

**2. Does the bolt remain magnetised once it is taken out of the coil?**

## Conclusion

**3. Write a statement about electricity and magnetism that agrees with your observations.**