Experiment 2: Page 66

Aim: To investigate the influence of intermolecular forces on surface tension.

Hypothesis:
The paper clip lifted out of the nail polish remover and spirits with only a small force, while it needed a greater force to be lifted out of the water and oil, provided the temperature remains the same.

Variables:

Independent variable (Which is changed.)	**Dependent variable** (Which is measured.)	**Controlled variable(s)** (Which remain(s) the same.)
Different liquids	**Number of foil balls** **Force**	**Temperature** **Amount of liquid**

Observations:

	Water	**Oil**	**Nail polish remover**	**Methylated spirits**
Number of small foil balls needed to lift paper clip.				

Results:
Answer the following questions:
1. From which liquid is the paper clip lifted most easily (with the smallest number of foil balls)?
Nail polish remover

2. From which liquid is the paper clip hardest to lift (with most foil balls)?
Water

3. What causes the paper clip to be lifted more difficultly from the liquid?
Surface tension

4. Explain why the force (number of foil balls) differs with which the paper clip is lifted in various liquids.
Liquids' surface tensions differ. The stronger the surface tension, the more difficult it is to lift the paper clip from the liquid.

Conclusions:
The hypothesis is true. The paperclip lifted out of the nail polish remover and spirits with only a small force, while it needed a greater force to be lifted out of the water and oil, provided the temperature remains the same. The greater the surface tension, the stronger the intermolecular forces.