

Section 6 Summary

6.1 Keeping Clean

- a) When **washing and cleaning** hair, skin and clothes the main problem is the removal of oil and grease.
- Oil and grease are **insoluble** in water.
 - grease cannot be removed from the hair, skin and clothes as it won't mix with water.
- b) Cleaning chemicals are required to **break up the oil** and grease into **tiny droplets**.
- The oil droplet is surrounded by soap molecules
 - The oil/soap droplet can then mix with water as the outside is covered in soluble soap molecules.
- c) Cleaning chemicals like soaps and detergents are soluble in **both water and oil & grease**.
- d) Manufactured **cleaning chemicals** products include:



soaps

detergents

shampoos

washing- up liquids

washing-up powders

- e) Some soaps form a **scum** with hard water.
Hard water *does not* form a lather with soap.
- f) **Soapless detergents** are used to form a lather with hard water.
- g) **Dry-cleaning** uses special **solvents** which are particularly good at dissolving oil and grease stains.

Section 6 Summary

6.2 Clothing

a) Clothing fabrics are made from thin strands called **fibres**.

b) **Natural** fibres come from plants and animals.

- Cotton comes from plants
- Silk and wool comes from animals

c) **Synthetic** fibres are made by the chemical industry.

Synthetic is sometimes called **man-made**.

d)

Natural Fibres	Synthetic Fibres
silk	nylon
wool	polyesters
cotton	terylene (a type of polyester)
	Kevlar

e) **Synthetic fibres** are used instead of natural fibres to make fabrics with specific properties.

- Nylon and polyester shirts are harder-wearing and longer lasting than cotton shirts

f) Fibres are made up of long chain molecules called **polymers**.

g) **Dyes** are coloured compounds which are used to give bright colours to clothing.

h) Chemists have developed ways of treating fabrics to improve their properties.

- Children's clothing and curtains are treated with **flame-proofing** chemicals to help stop them catching fire.

i) Some fibres form **strong bonds** with water molecules

eg cotton. The strong bonds hold onto the water in the fabric.

- wet cotton is hard to drip-dry
- cotton does not feel 'sweaty' to wear because cotton soaks-up perspiration/sweat.

