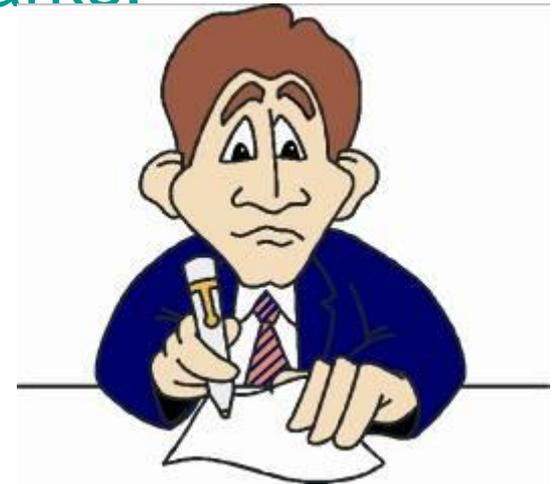


Standard components

Exam expectations

This topic is usually covered in the materials and components question and appears regularly. Few candidates are able to give a clear answer explaining what these are and why they are used to gain the full marks.

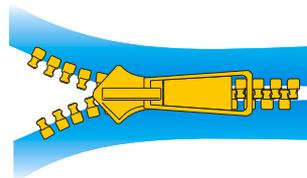


What are standard components?

- These are pre-manufactured parts which are bought in to aid the production of the product
- Nuts, bolts, screws, buttons, zips etc. are all standard components



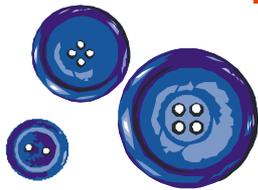
Nut & Bolt



Zip Fastener



Spark Plug



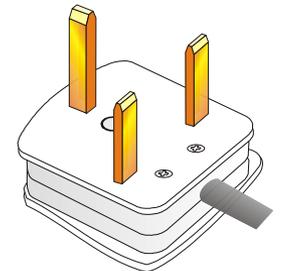
Buttons



Screws



Resistors



Electrical Plug

What do we mean by standard?

- Not too many years ago it was common that cars made in Britain used a different type of nut and bolt to those made in other countries.
- This made simple repairs far more complicated



Sub assemblies

- Some standardised components are really standardised sub-assemblies. A starter motor for a car is one example.

These are usually changed as a complete unit



Car industry

- Standardisation is very common, often across different brands
- Spark plugs, starter motors, brake pads and alternators are just a few of the thousands of standardised components used.



Global markets

- Nowadays it is important to be able to sell products throughout the world
- This has meant the need to standardise a lot of the components used in products to make them both cheaper and easier to repair



Economies of scale

- It makes far more sense to for manufacturers to specialise in making standard components as they can set up their production to produce large quantities and sell these components on to many other companies.

Quality is likely to be better from a specialist manufacturer



Economies of scale

- Take buttons for example, it makes sense for a clothing company to purchase these from a specialist button maker rather than trying to injection mould buttons themselves



Textile products

- As well as buttons, many textile products use zips, buckles, eyelets, press-studs, Velcro etc.

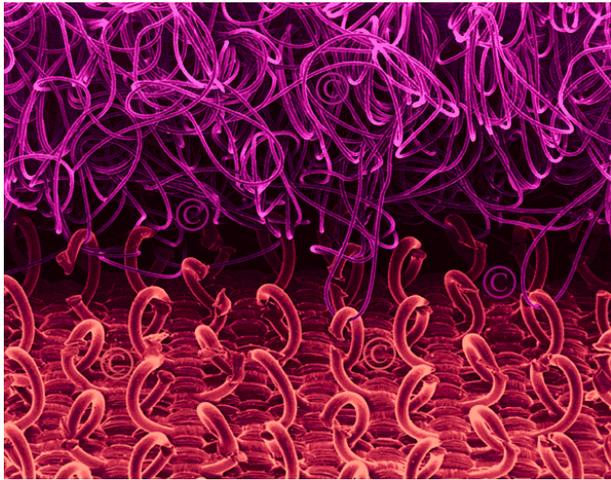


Image life without USBs

- Lots of products need to work with other products, such digital cameras and computers.
- Imagine how difficult that would be if manufacturers did not all use USB connections



Not everyone standardises

- Standardisation is sometimes restricted to a small range of products.
- Mobile phone chargers are one type of product which perhaps needs to be standardised more.

Why would a phone manufacturer not want to use a standard charger?



Electronic components

- Electronic components are standardised but this has led to world wide shortages of microchips, for example.



Food components

- In the food industry, components would include stock cubes, sauces, pastry cases, pizza bases, chocolate flakes etc.
- Many food items are pre-prepared such as frozen garden peas and pre-cooked prawns



Benefits to manufacturers and users

These might include:

- Lower costs due to economies of scale
- Consistent quality
- Easier to maintain
- Better for re-using spare parts
- Standardisation of sizing
- Ease of production
- Reduced need to carry stock