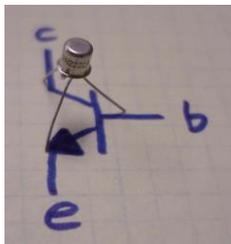
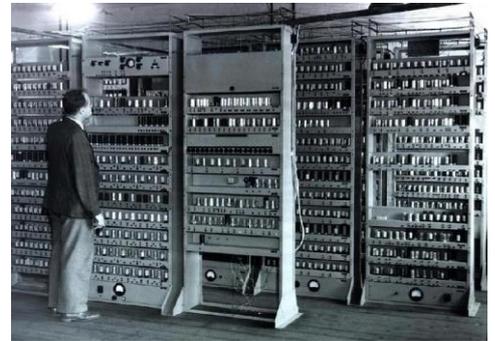


What is Electronics?

Electronics has been largely responsible for the very rapid progress that has been made in technological design. Space travel, for example, would not have been possible without electronics to control and measure things. Developments in television and video couldn't have taken place without electronics.

To understand how microelectronics have developed, we need only to look at the development of the computer. Computers made during the 1940's used components called valves. They were very large and unreliable, and got very hot. This type of computer would have been very difficult even to fit into your classroom. Also, it would have had a smaller memory than your mobile phone.



The invention of the transistor, a small switch made of silicon, made it possible to produce smaller and more reliable machines. The introduction of microelectronics meant that the machines themselves could be miniaturised. Today, computers are found in many different places and are smaller than the key boards which operate them or screens which display the information.

With new developments, it has been possible to make electronic circuits smaller and smaller. Electronic watches, hearing aids and microcomputers couldn't have been designed without the integrated circuit or 'chip' as we have come to know it. A chip is made from a small piece of silicon mounted in a plastic case. The case has metal 'legs' to connect it into a larger circuit. Integrated circuits or silicon 'chips' are the heart of your watch, calculator, mobile phone and computer. We call the development and use of this type of miniature circuit 'microelectronics'.

Electronics can also be made to control many things. You should be able to build some simple control circuits in school. You could, for example, design and build a simple device which would turn the lights on when it gets dark, or would close the curtains for you. This type of control system might seem unnecessary to you, but to an old person or a disabled person it would be very helpful indeed.

We have looked at some of the ways in which electronics have changed our lives. We have seen how electronics can care for us, make our lives easier, help us to communicate and control things. The use of electronics at work may well give us more leisure time, many of our hobbies and interests also rely on electronics. Cameras, mp3 players, DVD's and computer games are all good examples of this. Electronics affect all of us both in our working lives and in our spare time. This is the electronic age.



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