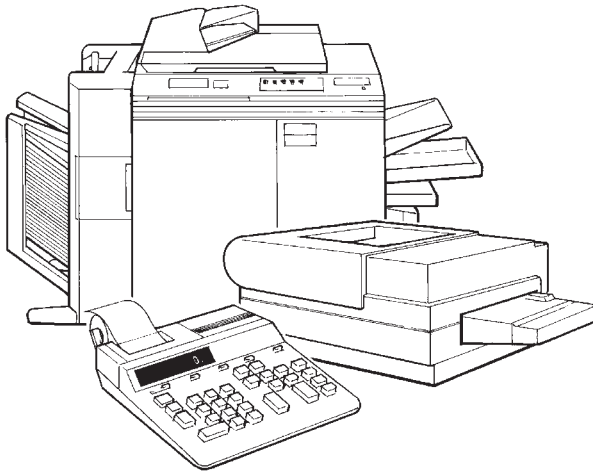


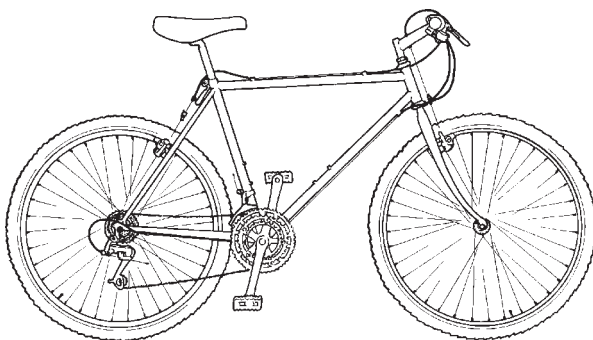
# INTRODUCTION

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It is almost impossible to spend a single day without coming into contact with something that uses a mechanism. You may use a can opener at home, turn on a video machine, ride a cycle to school, use a stapler - and many more things such as those shown below.



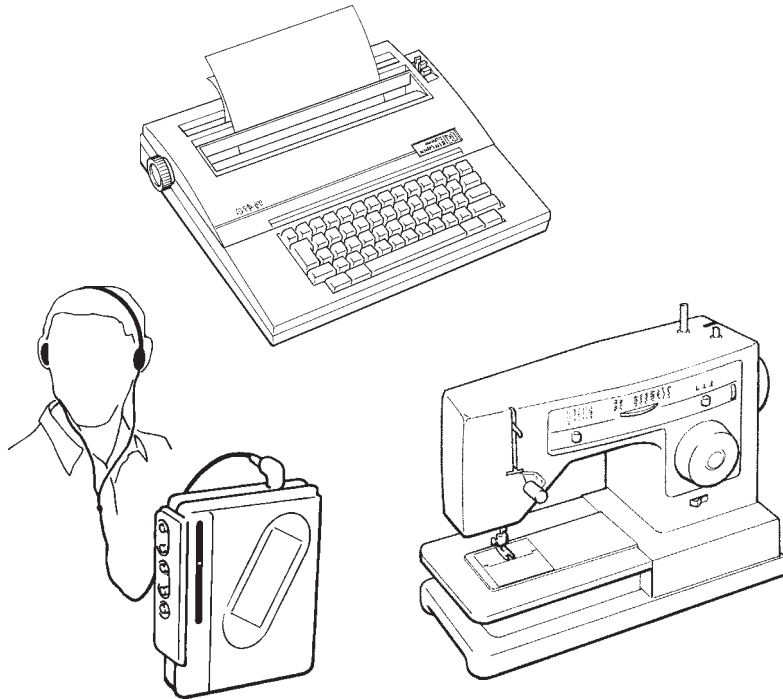
Mechanisms use moving parts such as levers, gears and linkages. An input movement causes an output movement that might be very different. The input to a bicycle is the up and down movement of a cyclist's legs. The output movement is the rotation of the cycle wheels.



If you press the 'eject' button on a personal cassette player, other parts are caused to move so that the lid opens and the cassette is pushed outwards.

## MECHANISMS

Up until the 1960s many products were entirely mechanical. Typewriters, sewing machines and cameras are good examples. They used a very large number of moving mechanical parts. The modern equivalents of these now have very few moving parts because it is cheaper and better to use electronic control circuits instead.



However, these products still depend on some basic mechanisms. Sewing machines, for example, have to push a needle up and down through material and most cameras need to wind on the film.

If you think about the number of things that use the word 'machine' in their name, you will start to get an idea about the importance of mechanisms and mechanical systems.

This book introduces the subject of mechanisms by asking you to design and make things that use them. What you make will help you to understand how things work and why many products are designed as they are.

### ◀ NOTE

To find out about mechanical systems see Study File 3 (Mechanical Systems)