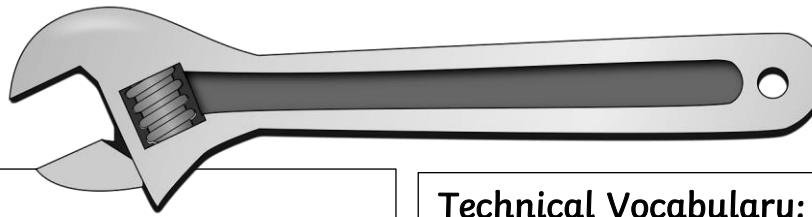


# Simple Machines



## Scientific View of simple machines:

The word machine comes from both the Greek and Roman languages. The Greek word 'machos' means something that 'makes work easy'. The Romans have a similar word 'machina' which means 'trick' or 'device' for making work less demanding.

The basic purpose for which most simple machines are designed is to reduce the effort required to perform a simple task.

The term 'simple machine' is commonly used by scientists to refer to one of six different types of devices which are often combined to form more complex machines.

## Technical Vocabulary:

**Beam:** a length of material that doesn't bend.

**Wedge:** a block of material that is shaped like a triangular prism.



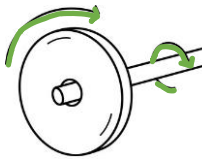
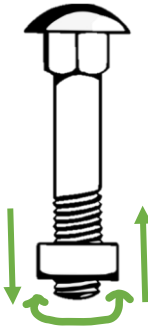
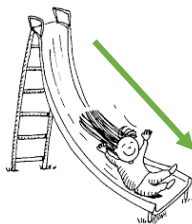
**Axle:** a rod of material that joins two wheels together.

**Screw thread:** a ridge wrapped around a rod.

**Plane:** a flat surface.

**Effort:** the energy required to carry out work.

**Force:** a push or pull action on an object.

The Lever	The Wedge	The Wheel and Axle	The Screw	The Inclined Plane	The Pulley
<p>The lever consists of a stiff beam that rotates around a fixed point located somewhere along the beam. Motion at one end of the beam causes motion at the other end of the beam.</p> 	<p>The wedge is used to convert a force applied in the direction of the wedge's movement to a splitting action that acts at right angles to the blade.</p> 	<p>This simple machine combines a wheel with a central fixed axle which ensures that both must rotate together. A small force applied at the edge of the wheel is converted by rotation to a more powerful force at the smaller axle.</p> 	<p>The rotation of a threaded shaft (screw) can be converted into movement in either direction along the length of the threaded shaft.</p> 	<p>The inclined plane is commonly used to raise or lower heavy objects. Given the friction on a ramp is small, a small amount of effort is needed to move an object down an inclined plane.</p> 	<p>The use of a single fixed pulley and cord allows for a change in direction of the force applied to an object.</p> 