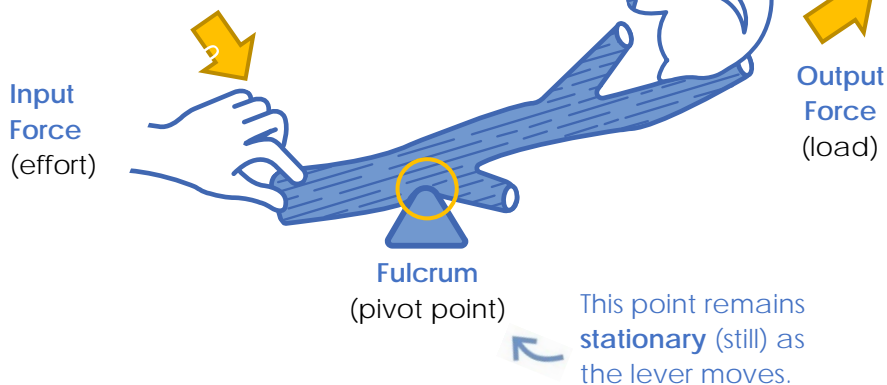


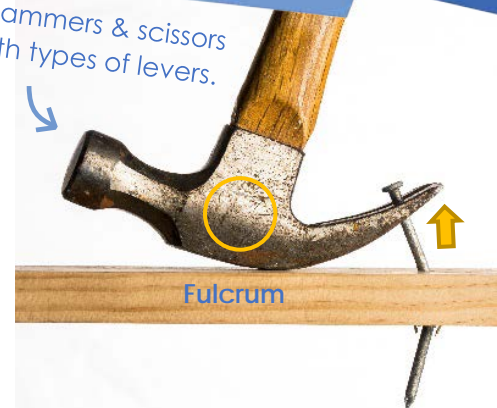
TIPS & TRICKS FOR LEVERS AND FULCRUMS

WHAT ARE LEVERS?

A **lever** is a rigid bar with a **fulcrum** (pivot point).



Even hammers & scissors are both types of levers.



A connector strip is a type of **lever**.

CLASSES OF LEVERS

A lever's class depends on where the **input force** (the effort) & **output force** (the load) are in relation to the **fulcrum** (pivot point).

The Three Classes of Levers		
Class 1 Lever	<p>Fulcrum is between load and effort.</p> <p>▶ seesaw, bat, gear</p>	
Class 2 Lever	<p>Load is between effort and fulcrum.</p> <p>▶ wheelbarrow, stapler</p>	
Class 3 Lever	<p>Effort is between load and fulcrum.</p> <p>▶ fishing rod, pulley</p>	

- 1 ▶ Name two examples of Class 1 Levers?

- 2 ▶ Name two examples of Class 2 Levers?

- 3 ▶ Name two examples of Class 3 Levers?

WHAT IS MECHANICAL ADVANTAGE?

You gain a mechanical advantage when you trade **force** for **distance** or trade **distance** for **force**.



A **force** is a push or a pull that changes the motion of an object.


TRY IT OUT!

Grab two connector strips and one 25mm screw.
Place the screw in various holes as the fulcrum.

4

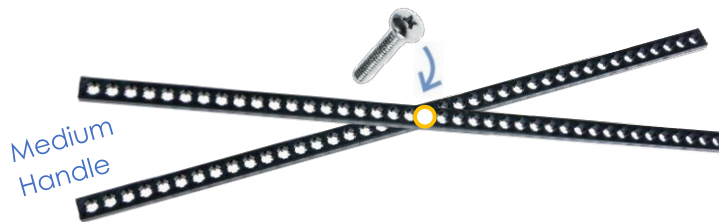
- ▶ Attach your two connector strips together with the screw 5 holes in.
Open & close this small handle. Label the size (**big** or tiny or none) and direction (arrow) of the **input force** (effort) and **output force** (load) below.





5

- ▶ Attach your two connector strips together with the screw halfway.
Open & close this gripper. Label the size (**big** or tiny or none) & direction (use an arrow) of the **input force** (effort) and **output force** (load) below.



6

- ▶ Attach your two connector strips together with the screw 5 holes in.
Open & close the longer part as the handle. Label the size (**big** or tiny or none) & direction (use an arrow) of the **input force** (effort) and **output force** (load) below.

