

**Fulcrum**

Even hammers & scissors are both types of levers.





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



**Fulcrum**



This point remains **stationary** (still) as the lever moves.

**Fulcrum**(pivot point)



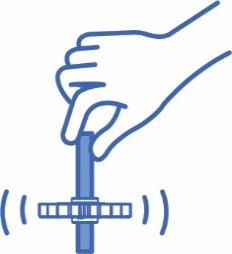
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**Input   
Force**  
(effort)

**Output   
Force**  
(load)



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



|  |  |  |
| --- | --- | --- |
|  | **The Three Classes of Levers** | |
| **Class 1 Lever** | **Fulcrum** is between **load** and **effort**.  ► seesaw, bat, gear |  |
| **Class 2**  **Lever** | **Load** is between **effort** and **fulcrum**.  ► wheelbarrow, stapler |  |
| **Class 3 Lever** | **Effort** is between  **load** and **fulcrum**.  ► fishing rod, pulley |  |



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



**►**

Name two examples of Class 1 Levers?

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Name two examples of Class 2 Levers?

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**►**

Name two examples of Class 3 Levers?

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**►**





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



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



**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.

**►**



Small   
Handle



**►**

**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.



Medium  
Handle





**►**

**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.

Long   
Handle