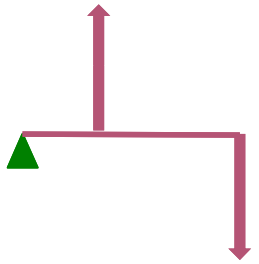
Levers: Components of a lever system

- ❑ A lever is a ...
- ❑ To move the weight of the lever ...
- ❑ Examples of levers are ...

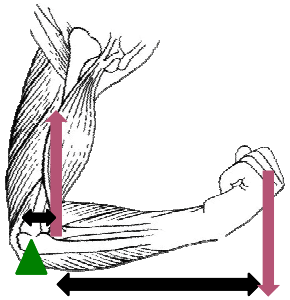
Label the diagrams with the components of a lever system

Component	**Description**
	The weight or resistance of the lever arm and anything that is attached to it
	The force of muscle contraction applied to move the lever
	The pivot or fixed point about which the lever moves
	The (perpendicular or right angle) distance between the effort and the fulcrum
	The (perpendicular or right angle) distance between the load and the fulcrum

Lever diagram



Example of a lever in the body



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***** The effort force acts where the muscle **inserts** onto the lever/bone

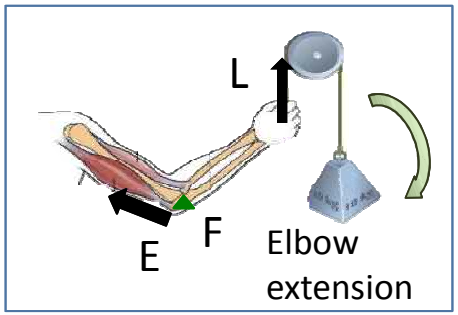
2.2

Levers: Classes of lever and mechanical advantage

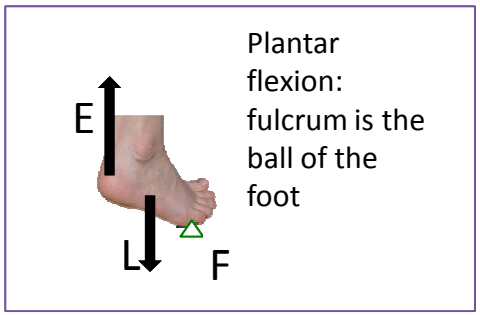
Levers are classified depending on the order of placement of the _____ _____ and _____ in the lever

To identify the class of lever, look at which feature is **between** the other two…***FLE 123***

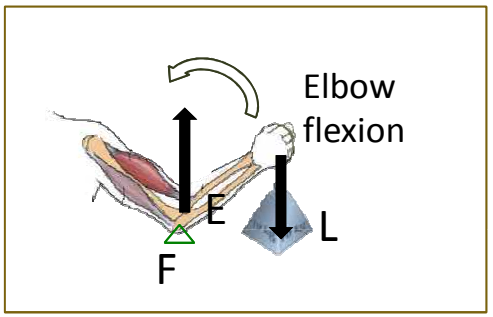
Middle feature:
Fulcrum = _____



Middle feature:
Load =_____ class



Middle feature:
Effort =_____class



Almost all levers in the human body are _____

Mechanical advantage of second class levers

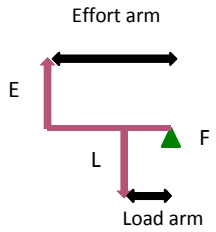
The effect of a force within a lever system depends on two factors:

1.

2.

If the effort is further from the fulcrum than the load …

Effort arm > load arm =



Mechanical advantage of a second class lever explains why the entire body weight can be moved easily by contraction of the gastrocnemius during plantar flexion