

Fulcrum – The **axis** around which the lever **rotates**

Load – The **force** of the thing that you want to **move**

Effort – The **force** that is applied by the user of the **lever system**

1st Class



Fulcrum in the Middle

**1.2.3.
F.L.E**



2nd Class



Load in the Middle

3rd Class



Effort in the Middle

This can be remembered using 'Fly Little Elf'

Nodding your Head

Load - Weight of the head through the chin
Fulcrum - The joint at the top of the neck
Effort - The muscles at the bottom of the neck

First Class Lever Systems:

Rowing

Load - Water
Fulcrum - Top of Oar
Effort - Biceps

Tricep Dip

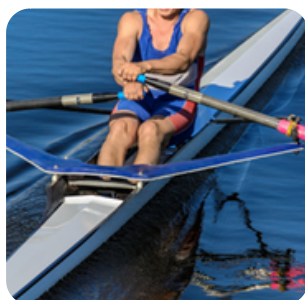
Load - Body weight through the hands
Fulcrum - Elbow
Effort - Triceps



Second Class Lever Systems:

Calf Raise & Long Jump

Fulcrum - Balls of the Feet
Load - Bodyweight through the centre of the foot
Effort - Gastrocnemius



PE COMPONENT 1 - LEVER SYSTEMS

Third Class Lever Systems:

Bicep Curl

Fulcrum - Elbow
Effort - Biceps
Load - Dumbbell/Barbell

Kicking a Ball

Fulcrum - Knee
Effort - Quadriceps
Load - Ball

Mechanical Advantage = Effort Arm ÷ Resistance Arm.



Lever System	Advantage	Disadvantage
1st Class	Mechanical Advantage - A large load can be lifted with relatively little effort	Slower Movement
2nd Class	Mechanical Advantage - A large load can be lifted with relatively little effort	Slower Movement
3rd Class	Fast Movement	Mechanical Disadvantage - large effort is needed to lift a relatively small load

