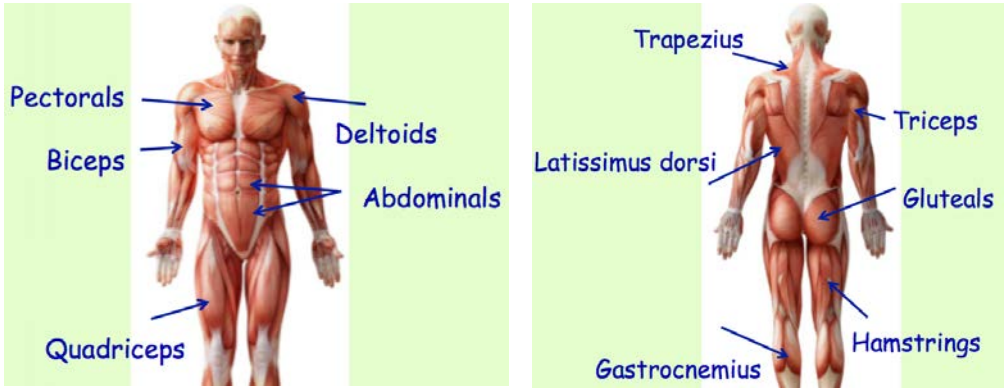
Muscular System / Moement Analysis (1.1b+c)

Muscular System: (1.1b): Muscles of the body

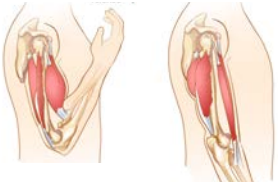


Synergist: a muscle that stabilises the joint. E.g. the trapezius contracts to stabilise the origin of the biceps.

Muscular System: (1.1b): Antagonistic muscle pairs

- **Antagonistic muscle pair:** muscles work in pairs as one muscle contracts the other relaxes.
- **Agonist:** The working muscle that causes movement. It is also known as the prime mover. E.g. the bicep is the muscle that produces flexion at the elbow.
- **Antagonist:** The muscle that relaxes in the movement. E.g. the tricep is the antagonist when the arm flexes.
- **Examples of antagonistic pairs:**

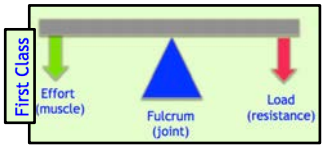
- Biceps and triceps
- Quadriceps and hamstrings



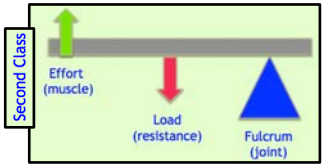
Movement Analysis: (1.1c)

- **Fulcrum:** a joint
- **Effort:** a muscle
- **Load:** the resistance

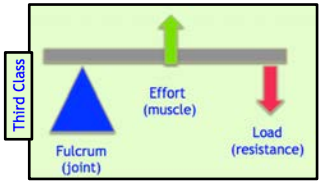
Remember: 'EFL the ELF, FEL'



Movement: elbow and neck extension.
Examples: heading a football, throwing a dart.
Description: *fulcrum is between effort and load.*



Movement: plantar and dorsi flexion.
Examples: on tiptoes when smashing in badminton.
Description: *load is between effort and fulcrum.*

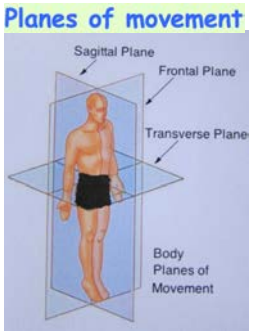


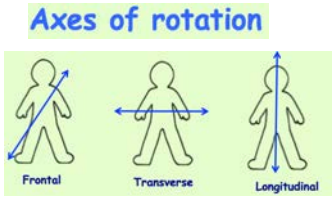
Movement: all movements except elbow extension.
Examples: a bicep curl.
Description: *effort is between fulcrum and load*

Movement Analysis: (1.1c): Planes and Axis

FAT Teachers Really Like Sausages Especially Frankfurters

Plane of movement	Tyoe of movement	Axis of rotation
Frontal	Abduction/Adduction	Transverse
Transverse	Rotation	Longitudional
Sagittal	Extension/Flexion	Frontal





Frontal plane – divides the body front and back.

Transverse plane – divides the body top and bottom.

Sagittal plane - divides the body into left and right sides.