

The **skeleton** is made up of all the **bones** in the body.

The skeleton has four functions:

- it **protects** vital organs, for example, the skull protects the brain
- it **supports** the body
- it helps the body **move**
- it makes blood cells in the **bone marrow**

A **Joint** is where two bones join.

**Joints** allow for skeletal movement.

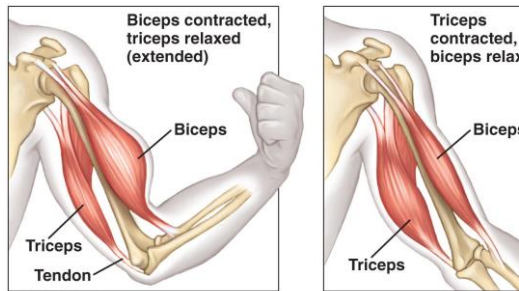
There are four types of joint.

The ends of bones are covered in **cartilage**.

Bones are held together by **ligaments**

Muscles are attached to bones by **tendons**.

### Antagonistic pair of muscles



### Organising a body

Cells work together as tissues.

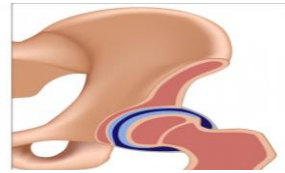
Tissues work together as organs.

Organs work together as organ systems.

# Knowledge Organiser – 7.3 Organisms

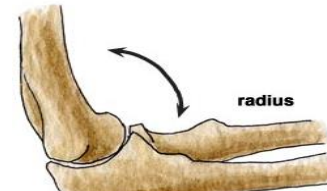
**Ball and socket joint** - The joint can move in all directions and can also rotate.

A ball and socket joint can be found in the hip and the shoulder.



**Hinge joint** - The joint can go backwards and forwards but not side to side.

A hinge joint is found in the elbow and the knee.



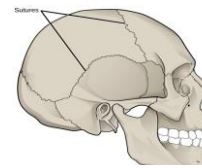
**Pivot joint** - A pivot joint allows you to turn side to side and in a circle.

The neck has a pivot joint.



**Fixed joint** - A fixed joint does not allow movement because they are fused together.

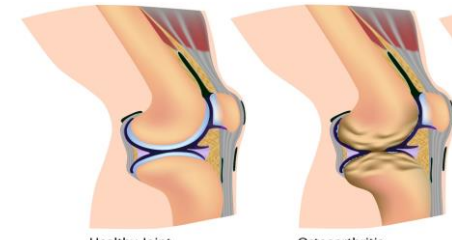
The skull is an example of a fixed joint.



From the age of 35 your bone density gets lower. If it gets too low then it can develop into **osteoporosis**. This means that people are more likely to break their bones. It is also known as brittle bone syndrome.

### Arthritis

Cartilage breaks down which causes the two bones to rub together at a joint.



### Cell Adaptations:

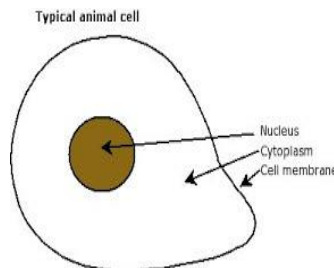
Nerve cell: 

Sperm cell: 

Red blood cell: 

Root hair cell: 

### Animal cell:



### Plant cell:

