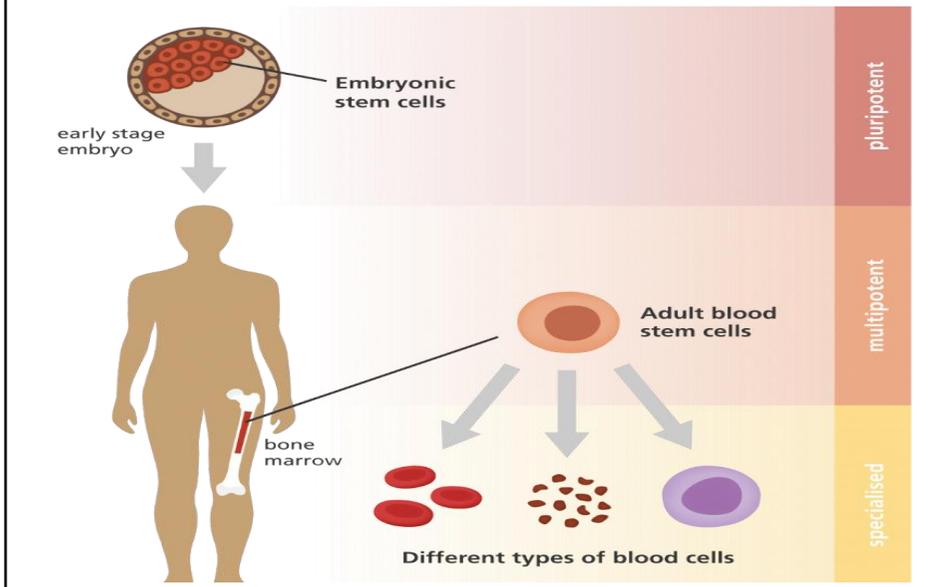


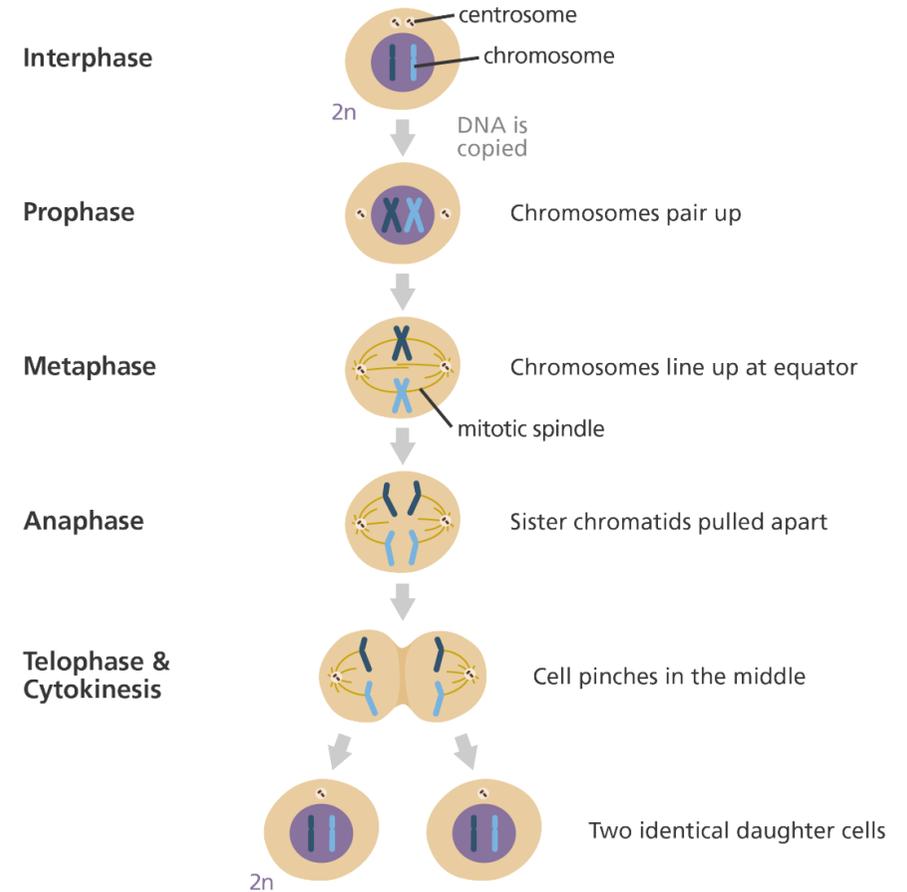
Keyword	Definition
cell cycle	A sequence of growth and division that happens in cells.
daughter cell	New cell produced by cell division.
diploid	A cell with two sets of chromosomes.
haploid	A cell with one set of chromosomes.
mitosis	Cell division to produce two daughter cells that are genetically identical to the parent.
spindle fibre	Filament formed in a cell during mitosis, which helps to separate chromosomes.
differentiate	To change into different types.
stem cell	Unspecialised cell that continues to divide by mitosis to produce more stem cells and cells that differentiate into specialised cells.

Stem Cells: <https://www.bbc.co.uk/bitesize/guides/zpkx8mn/revision/7>



Mitosis: Cell Division for growth and repair

<https://www.bbc.co.uk/bitesize/guides/zpkx8mn/revision/3>

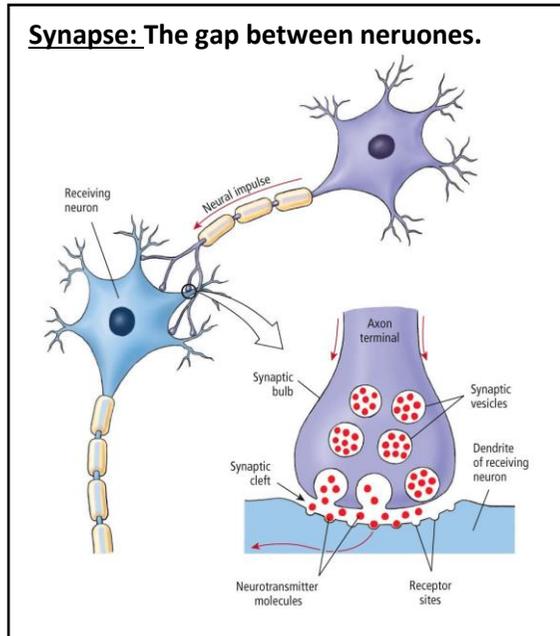


Useful links

Stem cells: <https://www.bbc.co.uk/bitesize/guides/zpkx8mn/revision/8>
 Pros and cons: <https://www.bbc.co.uk/bitesize/guides/zpkx8mn/revision/9>
 nervous system: <https://www.bbc.co.uk/bitesize/guides/zp86dxs/revision/1>

Interesting facts/ links: Real life example of someone having stem cells
<https://www.youtube.com/watch?v=cEB8656TCIE>

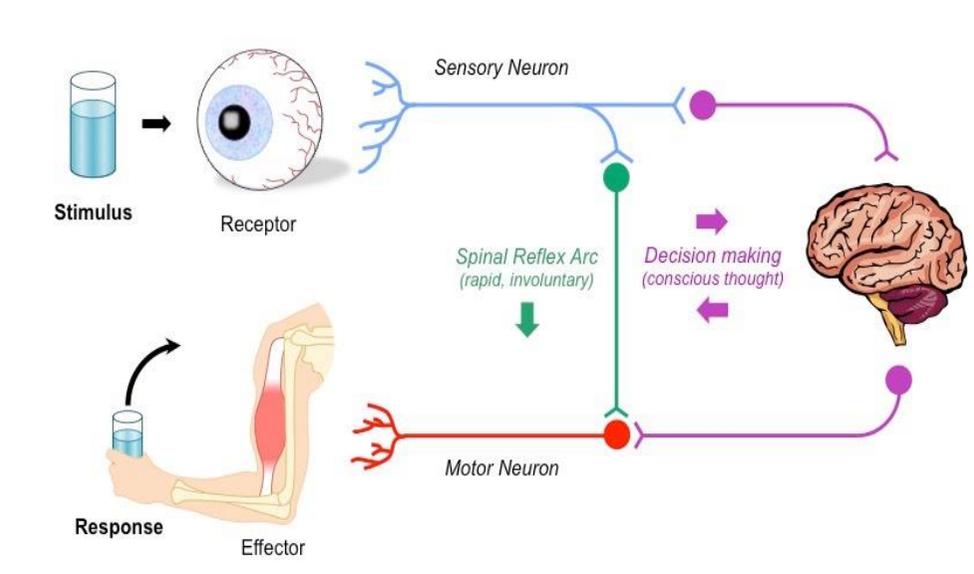
Keyword	Definition
stimulus	Change in a factor (inside or outside the body) that is detected by receptors.
effector	Muscle or gland in the body that performs an action when an impulse from the nervous system is received.
sensory neurone	Neurone that carries impulses from receptor cells, towards the central nervous system.
motor neurone	Neurone that carries impulses to effectors.
relay neurone	A short type of neurone found in CNS that links sensory, motor and other relay neurones.
myelin sheath	Fatty covering around the axons of many neurones.
axon	The long extension of a neurone that carries an impulse away from the dendron or dendrites towards other
synapse	Point at which two neurones meet. https://www.bbc.co.uk/bitesize/guides/zp86dxs/revision/1



When an impulse reaches an axon terminal, a neurotransmitter is released into the gap. This is detected by the next neurone, which generates a new impulse. Synapses slow down neurotransmission. Neurotransmitters are **ONLY** released at axon terminals so the impulse can only flow in one direction. Synapses can also build impulses from several neurones into one neurone,

The reflex arc <https://www.bbc.co.uk/bitesize/guides/zp86dxs/revision/2>

Rapid, automatic responses to protect the body. Remember to learn the sequence: Stimulus → receptor → sensory neuron → relay neuron → motor neuron → effector → response.



Key Facts

- Every living thing needs to be able to grow and repair itself. The process of growth and repair requires new cells, these are produced in the **cell cycle**.
- Growth** of an organism is an increase in size as a result of an increase in the number or size of cells; it is recorded using measurements eg mass or length.
- Cell differentiation** (specialisation) only occurs in the embryo in animals but occurs in adult plants throughout life in the **meristem** and root tip.
- Changes in cells can lead to uncontrollable cell division, or **cancer**. This rapid cell division produces lumps of cells called tumours.
- The **CNS** (Central Nervous System) is just the brain and the spinal cord. Nerves make up the rest of the nervous system. This system allows all parts of the body to communicate using electrical signals called **impulses**.
- Receptor cells** create impulses which usually travel to the brain to tell us everything that is happening around us, for example this way we know if it is hot or cold. The brain processes this information, and can cause a response.