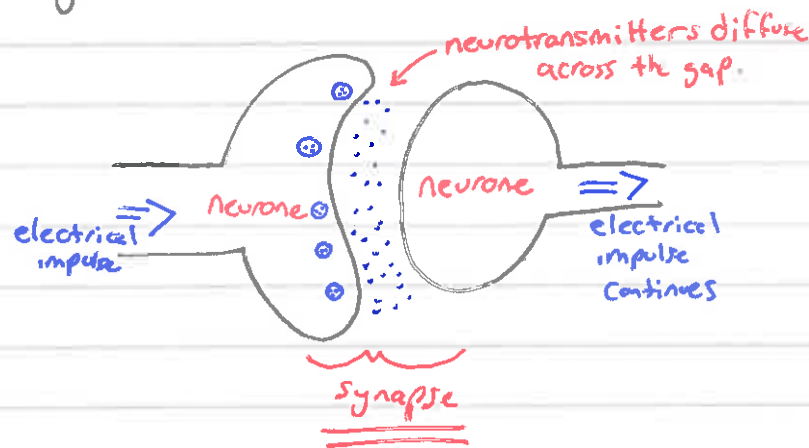


# Synapses and the Reflex Arc

## Synapses

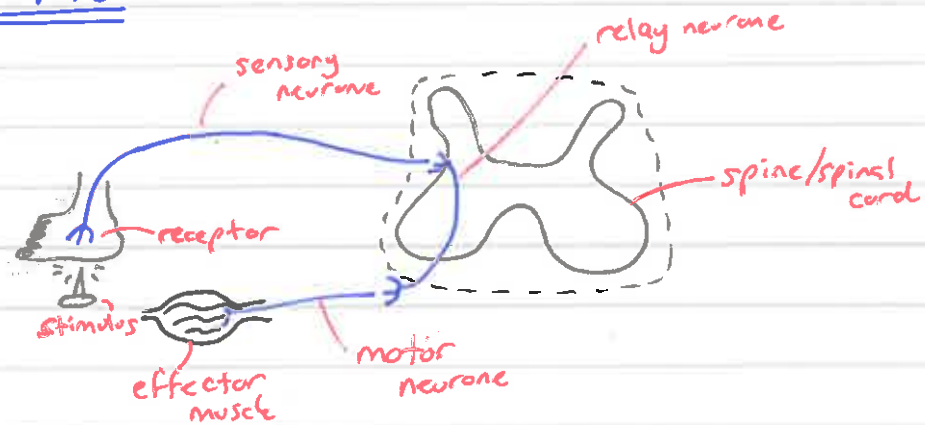
- Synapses connect neurones and allow a pathway for the electrical signal to continue.
- The electrical signal reaches the end of the neurone and the synapse releases a chemical (neurotransmitter) which diffuses across the gap and sets off a new electrical signal.



## Reflexes

- Reflexes are automatic responses to stimuli, usually to minimise danger or prevent injury.
- Examples include blinking if an object is heading towards the face or pupils getting smaller in bright light.
- Your body can also release slow moving hormones in specific situations such as adrenaline for shock.

## Reflex Arc



- A stimulus is felt by the foot (in this case a sharp pin - ouch!).
- The receptor picks this up and sends an electrical impulse down the sensory neurone towards the spinal cord. This would normally travel up to the CNS (central nervous system) where your brain would normally process the information.
- However, for a reflex action the electrical impulse bypasses the CNS and, via a relay neurone, travels straight to the motor neurone.
- This then goes to the effector muscle, in this example the leg muscles which would pull up and away from the sharp pin, in an attempt to minimise the damage.



\* A flow chart of the information above