

The nervous system and the eye

What is the central nervous system (CNS)?

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How are the sense organs linked to the CNS?

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What happens when a receptor is stimulated?

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What is a synapse?

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How does a signal cross a synapse?

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Put the reflex arc in order.

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Why is a reflex fast?

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What does the cornea do?

By nerves.

The brain and spinal cord.

A gap between two neurones.

Electrical impulses are sent along nerves into the CNS, giving a rapid response.

Stimulus, receptor, sensory neurone, relay neurone, motor neurone, effector, response.

A neurotransmitter is released, diffuses across the gap and binds to receptors on the next neurone, starting a new impulse.

Refracts (bends) light as it enters the eye.

It is automatic and impulses do not have to reach the conscious part of the brain first.

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What does the retina contain?

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What does the optic nerve do?

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**Near object: ciliary muscles,
ligaments, lens?**

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**Distant object: ciliary muscles,
ligaments, lens?**

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**Bright light: what do the iris muscles
do?**

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Dim light: what do the iris muscles do?

Carries impulses from the retina to the brain.

Light receptor cells: rods (dim light) and cones (colour, bright light).

Ciliary muscles relax, suspensory ligaments are pulled tight, lens is pulled thin.

Ciliary muscles contract, suspensory ligaments loosen, lens becomes thicker.

Radial muscles contract and circular muscles relax, so the pupil gets larger.

Circular muscles contract and radial muscles relax, so the pupil gets smaller.