

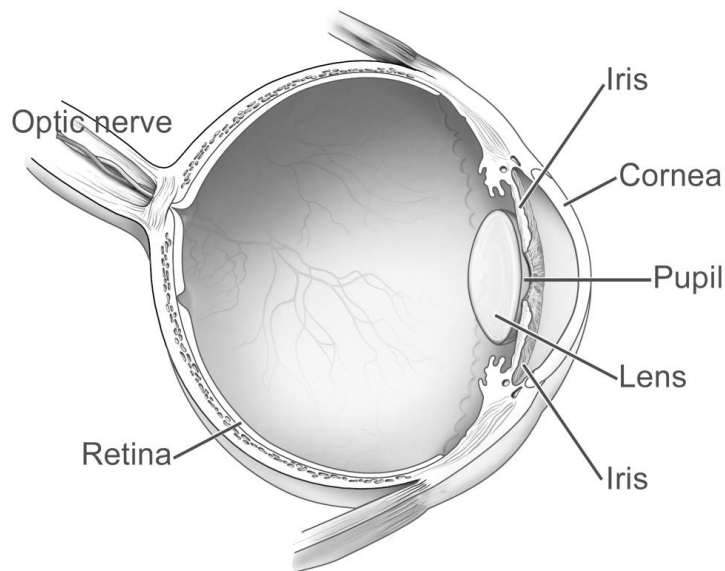
Learning to see

Information for parents from
the 3V2 Eye Clinic



Although a newborn's eyes are fully formed, it takes years to develop all the skills needed for good vision.

What are the parts of the eye?



National Eye Institute, National Institutes of Health.

How does the eye work?

1. Light enters the eye through the pupil. The coloured part of the eye (iris) adjusts the amount of light passing through.
2. The lens focuses the light so it will make a sharp, clear image.
3. The light reaches the retina, the lining on the back of the eye, which acts as the film in a camera. The retina senses light and creates signals that are sent to the optic nerve.
4. The optic nerve carries signals from the retina to the vision centres in the brain.
5. The vision centres in the brain turn the signals into an image which is recognized as vision.

What skills are needed to see?

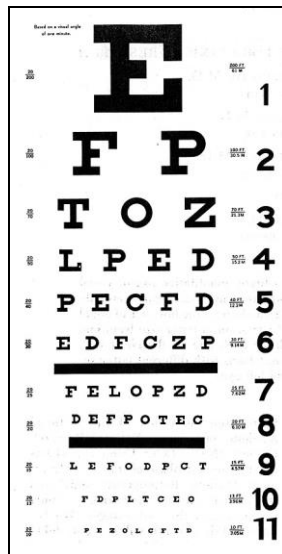
During the first few years of life, children develop basic vision skills.

These skills include the ability to:

- see clearly at different distances
- see things at the side while looking straight ahead
- use both eyes together
- move eyes smoothly and quickly
- focus on something and change focus quickly
- use eyes and hands together
- understand what is seen

What does 20/20 mean?

You may hear normal vision described as “20/20”. This refers to how clearly a child can see at a certain distance. This is measured with an eye chart.



When a child has 20/20 vision, it means that each eye can see what an average person sees at a distance of 20 feet.

A child probably does not have 20/20 vision until around 2 years of age.

How do vision problems develop?

The vision centres in the brain take up to 6 years to mature and “learn to see”.

Normally, half the cells in the vision centres work for the right eye and half for the left eye. If, for any reason, one eye does not send clear, sharp images to the brain - more and more of the cells in the vision centres will work for the other eye. If this goes on for some time, the brain will ignore signals from the weaker eye and “switch it off”.

Unless the problem is fixed in childhood, the weaker eye will have poor vision for the rest of the person’s life.

Some eye conditions prevent clear images from being sent from the eye to the brain and cause the brain to ignore that eye.

Examples include:

- a cloudy lens (cataract) that stops light entering the eye
- a droopy eye lid that covers the pupil so light cannot enter the eye
- a near-sighted or far-sighted eye that sends blurry images to the brain
- an eye that is not pointing at the target (strabismus) that sends blurry images to the brain

How will I know if my child has vision problems?

The eye doctor will examine your child’s eyes, test his or her vision, and discuss the results with you.

If there are concerns, the eye doctor may be able to prevent, correct or treat a vision problem.

**Visiting the eye doctor can help your child
develop the best possible vision.**

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