



colour blindness

Children who are colour blind can see as clearly as other people, but can't tell the difference between some colours or see colours differently from other people.

Very few people who are colour blind are 'blind' to all colours – most often they see red and green as very similar.

It's good to know if a child is colour blind because he may have difficulty at school with activities that use colours, such as drawing and sorting blocks, and with computers.

When do children know colours?

- Very young children can see the difference between colours if they are not colour blind. They do not see colours very well at first but soon begin to like colours, especially bright colours.
- However, children under about 4 years may not understand that a green ball is the same colour as green grass. They can be confused when we use the same describing word for 2 very different things.
- Children need more understanding of things like colours, shapes and sizes to 'see' that different things can be the same colour.
- Many children are able to recognise and name colours by the time they are 4 years old.



What is colour blindness?

In the retina at the back of the eye – the part of the eye that picks up light coming in – there are 2 types of cell, 'rod cells' and 'cone cells'.

- Rod cells work in low light but they do not 'see' colours. At night, our rod cells allow us to see things around us, but only in shades of grey and white.
- Cone cells react to daylight and they help us to see the detail in objects. They also pick up colours.

There are 3 types of cone cells: ones that pick up red light, others green and others blue.

- ✗ By combining the messages from each set of cone cells, we get the wide range of colours that we can normally see.
- ✗ If one or more of these types of cone cells is faulty, a person can be colour blind.

How do I know if my child is colour blind?

It can be hard to tell if children are colour blind as they won't know that they have problems with their colour vision. Some children will seem to know their colours because they've been taught that a strawberry is red and that grass is green.

If your child seems to have trouble identifying colours after the age of four, such as sorting objects by colour or colouring in, talk to your doctor or community health nurse.

Who is colour blind?

Colour blindness is usually inherited. If you have inherited colour blindness, it won't get any better or worse.

Most people inherit colour blindness from their mother, who is a carrier but is probably not colour blind.

Around 8 in every 100 boys, but only 4 in every 1,000 girls, have some level of colour blindness.

Why is it a problem?

- Many daily activities, such as choosing food or reading involve colour. People who can't see the difference in colour have to rely on other differences, which may be harder to pick.
- ✗ In the classroom, teachers use colour for contrast, sorting, marking, and even to provide an attractive environment. A young child with colour vision problems might have to sort coloured coded blocks by size differences alone.
- ✗ Colours are often used in print and on computer screens to highlight important words. The only way some children may know that the words are important is if the shade is slightly lighter or darker.
- ✗ It can be hard to tell if fruit is ripe, meat is properly cooked, or if the sauce is tomato or chocolate. Some foods, particularly green vegetables, can look repulsive to colour blind children.
- ✗ Pedestrians and drivers may only be able to tell red and green traffic lights apart by their position (red above green). In normal daylight this may be easy, but can be very difficult on a dark, wet night.
- ✗ There are some jobs that are hard or unsafe for people with colour blindness, such as where wiring or warning lights are colour coded.

What you can do

- Test all the boys in your family if there is a history of colour blindness. This testing is easier to do once your child starts to know numbers (around the time that he starts school).
- If people on both sides of the family have colour vision problems, also test all the girls.
- Ophthalmologists (eye specialists) and optometrists (opticians) can test for colour vision. Some school health services and some doctors can also test children's colour vision.
- After a colour vision problem is found, your child may need more tests to tell exactly what the problem is.
- There are online sites where you can check for colour blindness, but it is best to get your child checked by a health professional.

Helping children who are colour blind

- It usually helps children to know why they are having problems when others are able to do something easily. They may believe that they are 'stupid', when their eyes just work differently to others. Talk to your child about being colour blind, how to explain it to others, and keep supporting him at school and at home.
- Tell the school – if teachers know your child is colour blind, they can choose ways of teaching and learning that do not need him to pick colour differences.
- When your child is old enough to read, label coloured pencils and other objects so that he can choose the 'right' one. Ask his teacher to do this in the classroom too. This can help your child avoid being embarrassed or teased.
- Check out support groups and websites for colour-blind children and their families – see below.

For more information contact

- **Local school health nurse**
- **Local family doctor or optometrist**
- **Colour Blind Awareness and Support Group**
members.optusnet.com.au/~doverton
- **Raising Children Network**
www.raisingchildren.net.au
- **HealthyWA**
www.healthywa.wa.gov.au

This document can be made available in alternative formats on request for a person with a disability.

This publication is provided for general education and information purposes. Contact a qualified healthcare professional for any medical advice needed.

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