



Vision Support Team

Team for Children with Vision Loss

Colour Vision Deficiency or Colour Blindness

The information in this document is to support the understanding of the condition colour vision deficiency- most commonly known as colour blindness.

What is the condition?

Colour vision deficiency (most commonly known as colour blindness) is a condition where the eyes do not see colour in the way normally developed eyes do. The back of the eye, known as the retina, is made up of millions of rods and cones. When a person has colour blindness their eyes do not have cones that work in the right way or they have less cones than a normally developed eye would. It is these cones that enable the eyes to process colour.

Most commonly this is a genetic condition. 1 in 12 boys (8%) and 1 in 200 girls (0.5%) of girls experience colour blindness. Colour blindness can also be a symptom of another visual condition, which would be diagnosed by an Ophthalmologist.

There are many degrees of colour vision deficiency, with very few people not being able to see colours totally ie they would only have black/grey/white vision.

How does this affect the way the child sees?

There are 3 forms of colour vision deficiency:

Protanomaly- reduced sensitivity to red light

deuteranomaly reduced sensitivity to green light (the most common form of colour blindness)

tritanomaly- reduced sensitivity to blue light (extremely rare).

Protanopes (reduced sensitivity to red light) are more likely to confuse:-

1. Black with many shades of red
2. Dark brown with dark green, dark orange, dark red, dark blue/purple and black
3. Some blues with some reds, purples and dark pinks
4. Mid-greens with some oranges

Deuteranopes (reduced sensitivity to green light) are more likely to confuse:-

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|--|-------------------------------------|
| 1. Mid-reds with mid-greens | 4. Pale pinks with light grey/white |
| 2. Blue-greens with grey and mid-pinks | 5. Mid-reds with mid-brown |
| 3. Bright greens with yellows | 6. Light blues with lilac |

Tritanopes (reduced sensitivity to blue light) are more likely to confuse:-

- | | |
|----------------------------|--------------------------|
| 1. light blues with greys | 3. mid-greens with blues |
| 2. dark purples with black | 4. oranges with reds. |



Who diagnoses the condition?

In the most part community opticians will diagnose colour vision deficiency- they may call it colour blindness. However, a hospital Ophthalmologist may also diagnose colour blindness if the child has been referred for other ocular assessments.

How can parents, family, friends and teachers make a difference?

Please visit the Colour Blindness awareness website links below to explore what can help the child/young person within the classroom and everyday life - depending on their age and the impact of the colour vision deficiency on the subjects they are learning.

[Advice Sheet EY-KS1-Teachers \(colourblindawareness.org\)](https://colourblindawareness.org/)

[Advice Sheet KS2-3-5 \(colourblindawareness.org\)](https://colourblindawareness.org/)

[Advice Sheet Secondary FE-Colleges \(colourblindawareness.org\)](https://colourblindawareness.org/)

Will the child/young person have support from a Qualified Teacher of Vision Impairment?

The Vision Support Team (Qualified Teachers of Vision Impairment) only support children/young people that have a visual diagnosis that causes a vision impairment that has been diagnosed by an Ophthalmologist. A vision impairment is one where the child/young persons near or distance vision is reduced even when glasses/contact lenses are prescribed. Most children/young people with colour vision deficiency have normal levels of near/distance vision when glasses are worn and would not meet criteria for support.

For further, more detailed information on colour vision deficiency/blindness please visit the following website dedicated to this condition: **[Home - Colour Blind Awareness](https://colourblindawareness.org/)**

Please note the font used in this information leaflet is called Verdana and is used because it is one of the most visually friendly fonts for people with vision difficulties and is also Dyslexia friendly too.

Further information for support for children and young people with vision loss can be found on the Birmingham Local Offer website:

[Sensory Support Vision - Local Offer Birmingham](https://www.birmingham.gov.uk/local-offer)