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ColourBlindAwareness
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COLOUR BLIND AWARENESS

Images: left, normal colour vision, right, severe green deficiency

Advice Sheet for Early Years & Primary Teachers

Colour blindness is one of the world's most common inherited conditions affecting:

- 3 million people in the UK (320 million people worldwide)
- 1 in 12 males and 1 in 200 females
- At least 1 student in every (co-ed, mainstream) class of 30

What is colour blindness?

We see colour through 3 specific types of cone cells in our eyes; one type absorbs red light, the second green and the third blue. With inherited colour vision deficiency (CVD) one cone type doesn't function normally. Most cases of CVD arise from a defect in the red or green cone types; this is commonly known as 'red/green colour blindness' (see graphic below). However, colour blindness can affect many other colour combinations.

Normal colour vision

Severe green deficiency

Impact of CVD in the school environment

While children with normal colour vision automatically understand information presented in colour, colour blind pupils are often unable to use colour to navigate information. For them, colour merely adds confusion so it can take them longer to make sense of teaching points made using colour. Sometimes they may simply miss the information altogether. Either way, the condition puts them at a distinct disadvantage in the classroom.

By identifying and supporting pupils with CVD in your class, you are giving them the same chance to learn as every other pupil.

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How to spot a child with CVD

Although colour blindness is recognised as a Special Educational Need and a disability, it remains undiagnosed in many cases as school entry eyesight tests no longer include mandatory CVD screening. Also, children with CVD are unlikely to say anything because they are often unaware that they see things differently or are reluctant to admit to any difficulty. So, it is often only a parent or teacher who can pick up on the signs that a child is colour blind.

Certain signs indicate possible colour blindness, for example if a pupil:

- Needs more time, or looks for other clues, to process information that uses colour
- Uses inappropriate colour choices in drawings or artwork e.g. purple sky, red leaves
- Has difficulty with matching or sorting activities
- Often misunderstands instructions (is it because colour is involved?)
- Has difficulty seeing one colour written against another e.g. red against black
- Refuses or hesitates to participate in activities that involve colour processing e.g. sequencing tasks
- Is confused about who is in their team when coloured bibs are used in PE

Effective strategies to ensure your teaching is colour blind friendly

There are several strategies you can use to make sure your classroom and teaching methods are accessible to colour blind pupils.

Environment

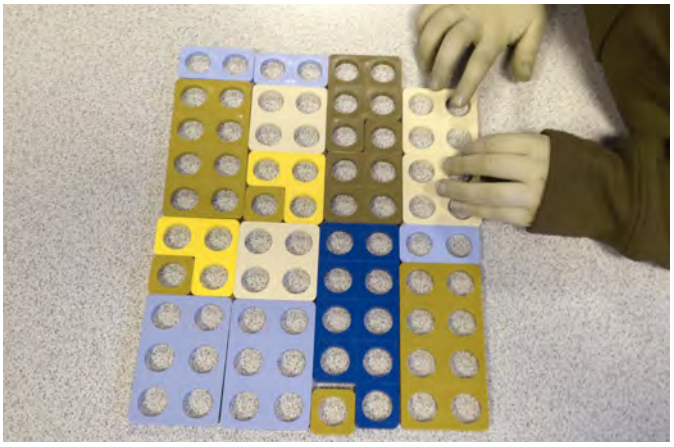
- Label the relevant colour name onto all drawing and writing equipment e.g. pencil crayons
- Audit worksheets, textbooks, websites and other resources/equipment for potential problems. You can photocopy worksheets into black and white to see if the information works without colour. If the photocopy is suitable, give the black and white version to colour blind students
- Be careful in the use of coloured pens on white boards – are they visible to CVD pupils?
- If a pupil is diagnosed with CVD sit them in good natural light to work wherever possible (but avoid bright sunlight or artificial light)

Methods

Avoid relying solely on colour to make teaching points – always use secondary indicators such as patterns, underlining, or shading

- Traffic-light systems aren't suitable for CVD pupils – again, you need to use secondary indicators
- Make sure you don't use colour alone to assess a pupil's understanding
- Regularly ask diagnosed CVD pupils if they are experiencing difficulties at school that may be related to their condition – encourage them to voice any concerns.
- Research and use accessible Apps and software for pupils with CVD e.g. Chrome extension/iOS accessibility settings

Normal colour vision



Severe red deficiency

Further information and resources

For more information and resources see **www.colourblindawareness.org** including downloadable information, classroom resources and links to videos, our online shop **www.colourblindawareness.org/about-us/online-shop/**, plus articles in the Press/Education section. Visit **www.colourblindawareness.org/teachers/resources** for a fully interactive Resource Guide.