See the Colour Blind Awareness website and the SEND Gateway for information and a selection of our resources **http://www.colourblindawareness.org/ http://bit.ly/2xO2Cub**

Hidden pitfalls in the colourful classroom

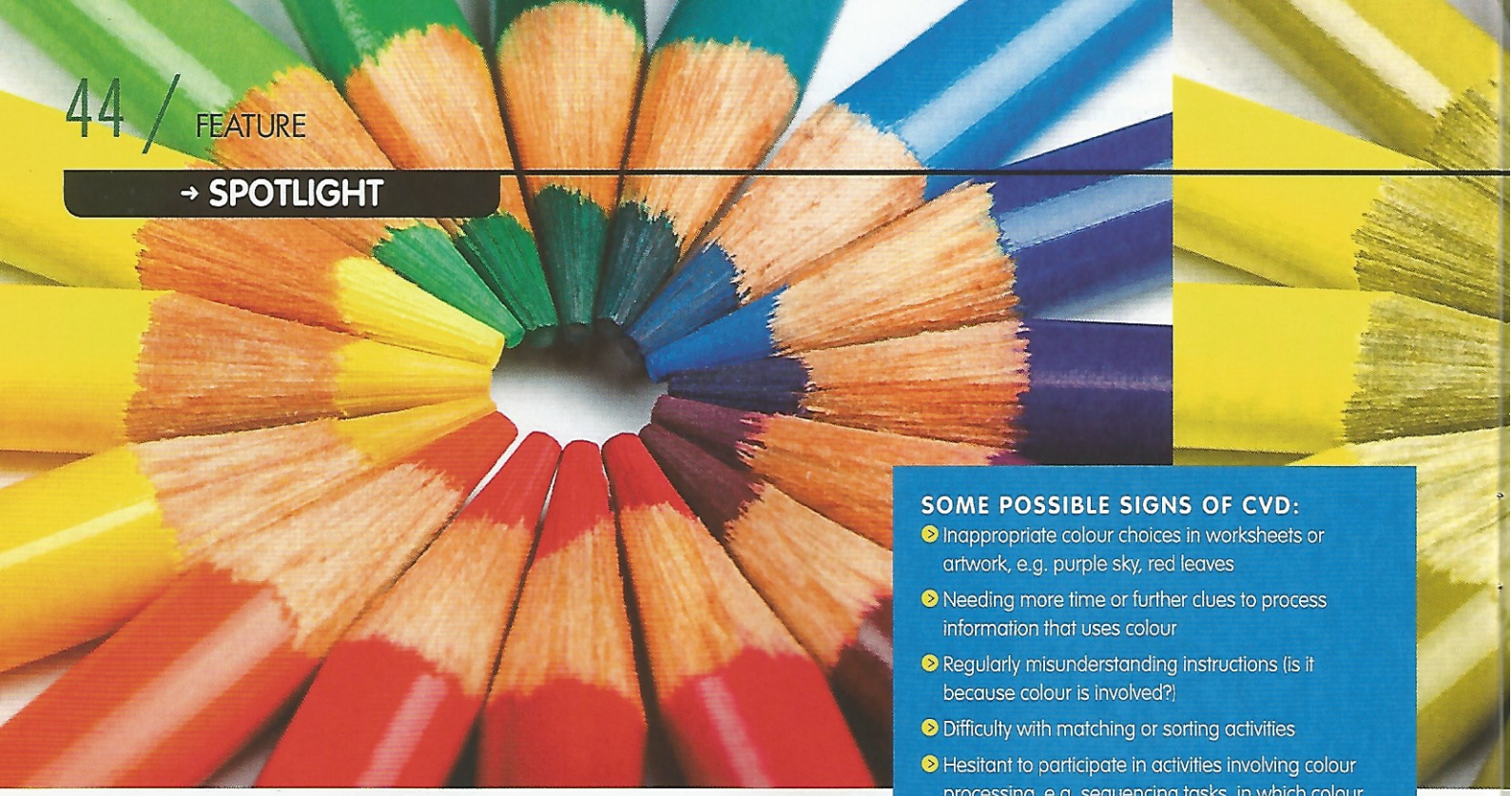
Kathryn Albany-Ward, CEO of Colour Blind Awareness, explores some of the issues faced by pupils with colour blindness and shares some practical steps that can be taken to overcome them.

BIO

KATHRYN ALBANY-WARD

Kathryn founded Colour Blind Awareness in 2009 after discovering there was no practical advice to support her son following his deuteranopia diagnosis. The organisation now provides advice and training to schools and businesses in how to become colour blind friendly.

→ SPOTLIGHT



SOME POSSIBLE SIGNS OF CVD:

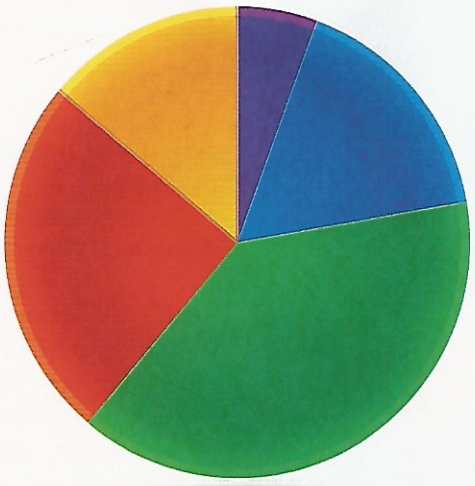
- Inappropriate colour choices in worksheets or artwork, e.g. purple sky, red leaves
- Needing more time or further clues to process information that uses colour
- Regularly misunderstanding instructions (is it because colour is involved?)
- Difficulty with matching or sorting activities
- Hesitant to participate in activities involving colour processing, e.g. sequencing tasks, in which colour plays a key role
- Minimal use of colour and colour formatting in coursework
- Unexpectedly poor marks for homework when required to use software programmes (many website pages use colour text or graphics on a colour background that can be very difficult for CVD students to 'see')
- Appearing confused by maps and flags in history and geography lessons
- Appearing confused by technology designed to assist
- The good news is, a few simple measures can make your classroom and teaching CVD-friendly and, after the initial adjustment, they won't increase preparation time.

Colour vision deficiency (CVD) affects more than three million people in the UK, of which around 450,000 are in school; on average this is one pupil in every classroom.

The majority of these pupils remain undiagnosed and unassisted, putting them at a distinct disadvantage in the classroom with schoolwork that uses colour to give instructions, explanations or information, e.g. traffic-light colour coding, pie charts, sports bibs and kit, to name a few.

Much more prevalent in males (one in 12) than in females (one in 200), CVD is essentially a deficiency in one of the three types of specific cone cells in our eyes that absorb red light, green light and blue light respectively. Most cases of CVD arise from a defect in the red or green cone types — commonly known as red/green colour blindness — but colour blindness can affect many other colour combinations. It is a myth that colour blind people only confuse reds with greens.

It's not surprising that CVD is a hidden disability and even colour blind people themselves often don't realise they have a disability because they think everyone



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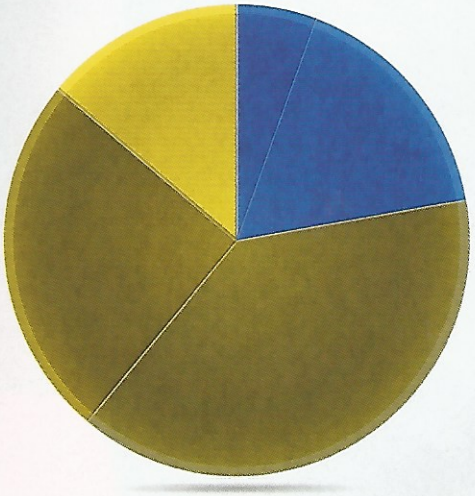

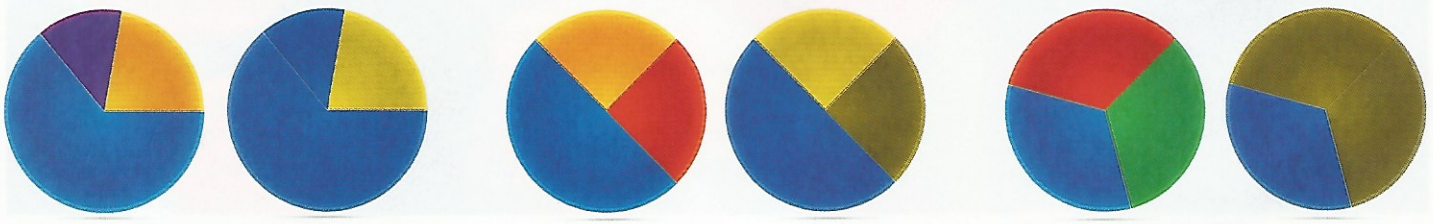

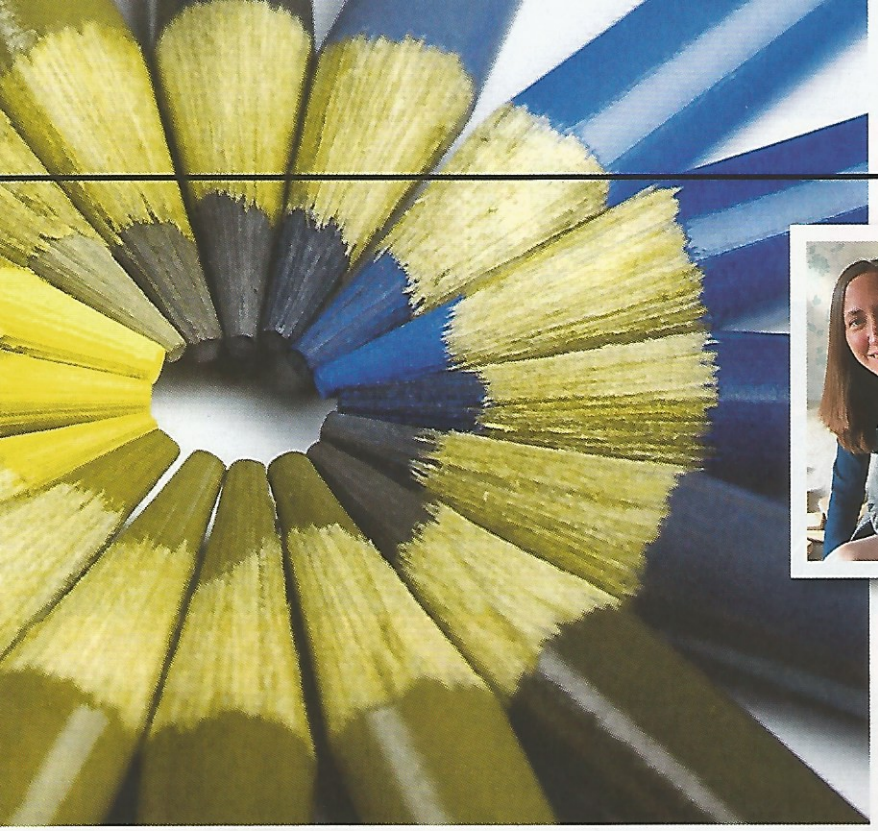

sees colours the way they do. Now that screening for CVD is no longer a mandatory part of school entry eyesight tests, some children can struggle for years at school if parents or teachers don't spot the problem.

If the classroom and teaching methods are not adapted to meet the needs of learners with CVD, all sorts of problems may impact negatively on performance and ultimately opportunities going forward in life.

Colour Blind Awareness has, for several years, worked closely with educational advisors at all levels to promote awareness of CVD issues in school, including developing advice sheets to help professionals spot pupils with CVD and to make their teaching environment and practice colour blind friendly.

CVD AND SEN

Colour blindness is recognised as a Special Education Need and a disability because, if not addressed, it can be a significant issue. Sometime confusion occurs because CVD is not specifically mentioned in the SEND register but it is covered by the Children and Families Act 2014 so schools have an obligation to identify and support their colour blind pupils.

The possibility that a child with other SEN also has CVD is of even greater concern as a SEN diagnostic test that includes colour as a key mechanic may give a false result. There is also a major reliance on colour in the Alternative and Augmentative Communication methods used by some teachers and carers for communication with non-verbal children. Whilst most AAC software allows the colour scheme to be amended, the default setting is not usually colour blind friendly. This could lead to a strong risk of misdiagnosis of needs.

Colour Blind Awareness promotes greater understanding of CVD in all walks of life, and especially in schools. Education professionals are specialists at creating and promoting an inclusive environment and can play a key role in ensuring that a colourful classroom is no obstacle to success.

KEY STRATEGIES INCLUDE:

- labeling colour-orientated equipment (e.g. pens and paints) with the relevant colour name
- auditing text books, websites and other resources for potential problems
- avoid relying solely on colour to make teaching points by using secondary indicators, e.g. shapes, underlining or shading
- avoid using colour alone to assess a pupil's understanding
- considering if coloured pens on white boards are visible to pupils with CVD
- sitting a student with CVD in good natural light and checking with them regularly for any difficulties
- trying to use apps and software that are colour blind friendly, e.g. checking Chrome extension/ iOS accessibility settings

CASE STUDY

OSCAR GALE, AGE 6

Oscar was diagnosed with CVD, aged five years old, when his mother, Caroline, took him for an eye test and specifically requested the optician to check his colour vision as her own father was colour blind. Confirming that Oscar had the condition, the optician said it should not cause him too many difficulties and that was that.

When Caroline asked Oscar about his experience of colour, he said he found it hard to choose which coloured pencil to use because they were all similar – in fact, he was able to identify only three colours in a pack of 24 pencils. Oscar also told Caroline that, at school, he had difficulty choosing paints in artwork, couldn't follow teaching points highlighted in colour and didn't always know when he had made a mistake as he was unable to see the difference in the teacher's RAG marking system.

He also expressed a reluctance to participate in class because he remembered when he had once taken part in a magic trick and was unable to distinguish between a green and a red wand, which left him feeling silly in front of the other children.

Caroline, herself a specialist SEND teacher, spoke to Oscar's teacher about his CVD. The school's SENDCo contacted the county's vision support team but was told they had no information about CVD. At this point, the school invited Caroline to share her knowledge of colour blindness in a staff meeting.

"In 13 years of teaching I had never known a single child with a diagnosis of CVD, yet with it affecting one in 12 boys and 1 in 200 girls, I now know that I must have taught many. Oscar's school was very responsive to training on CVD and was surprised to learn that around 80% of children with CVD leave primary school undiagnosed," says Caroline.

"Since then, Oscar's teachers have asked him about colour choice in lessons to ensure he can access information. They have also labelled the art materials so he no longer has to ask his friends for help identifying colours and they have adapted the marking scheme to contain symbols so it's meaningful to Oscar."

Caroline knows new issues will arise but is confident that as Oscar and his teachers now have a better understanding of his CVD, most problems can be overcome.

"Teachers are keen to make learning accessible to all. With the right knowledge and training, I have no doubt they can easily make their teaching accessible to any pupils with CVD in their classroom," she says.