

"What Teachers, School Nurses, and Parents, Should Know About Being Colorblind" by Dr. Terrace L. Waggoner¹

Today, having normal color vision or being colorblind, plays a big part in our educational system. We not only have to learn our colors but color-enhanced instructional materials have become common place throughout the classroom. To see a sample of color-enhanced instructional material, see below. It is important that the educational system and parents understand the special needs of color deficient children and what can be done to help them in their quest to learn.

For some color deficient individuals, the names red, orange, yellow, and green are simply different names for the same color. The same is true for violet, lavender, purple, and blue. Among the colors most often confused are pink/gray, orange/red, white/green, green/brown, blue green/gray, green/yellow, brown/maroon, and beige/green. Pastels and muted tones are difficult to distinguish. The color vision defect may be so bad that the affected person cannot distinguish brown socks from green socks, a red traffic light from an amber one, or green grass from brown soil by color alone.

Examples of how the condition can cause problems at school.

1. John is working in his reading workbook. The directions to one item say to draw a line to the red ball. The other ball is brown. Both colors look alike to John, so he guesses. The teacher reminds him not to be careless.
2. A teacher is writing vocabulary words on a green chalk board with yellow chalk in mid-afternoon. There is a glare on the board from unshaded windows. Peter is sitting so that the glare diminishes the figure-ground contrast. The teacher wonders why he is copying from a neighbor's paper.
3. Tommy ordinarily seems to enjoy reading aloud. Today, however, he doesn't volunteer and balks when the teacher calls on him to read. The poem in the reader is printed in blue on a purple background.
4. Susan, a bright and articulate youngster, was asked to go to the front of the class and read from the blue green book on the teacher's desk. She went to the front of the class and just stood there looking at the pile of different colored books. Not knowing which one to pickup, she started to cry.
5. T.J. was very out going in pre-school & kindergarten. He loved to wave his arms and volunteer to answer questions the teacher asked. The only time he did not volunteer answers was when it came to learning or identifying his colors. A lot of the colors looked the same to him. They just had different names.
6. The kindergarten teacher notices the kids during art class teasing Jimmy. The other kids think it is funny that Jimmy's stick people have green faces.

¹ Downloaded 4/2013 from: <http://colorvisiontesting.com/color4.htm>

Color Normal



Color Deficient



(source: critiquewall.com by Paul Martin)

7. The kids at school told the teacher Jeff was cheating during kick ball. They said he would break the rules by kicking the ball when it was out of bounds. They accusingly stated the boundary lines on the green grass were clearly marked with orange chalk. Jeff, rather than admitting he could not see the boundary line, simply quit playing with the other kids during recess.

"Example of Color-enhanced instructional materials"

Which is the biggest? ___ the tan ball, ___ the red ball ___, the pink ball.

The tan ball is bigger than the (circle one pink or red) ball.

The tan ball is next to the _____ ball.



How can teachers help if a child has a color deficiency?

- a.** Label a picture with words or symbols when the response requires color recognition.
- b.** Label coloring utensils (crayons, colored pencils, and pens) with the name of the color.
- c.** Use white chalk, not colored chalk, on the board to maximize contrast. Avoid yellow, orange, or light tan chalk on green chalkboards.
- d.** Xerox parts of textbooks or any instructional materials printed with colored ink. Black print on red or green paper is not safe. It may appear as black on black to some color deficient students.
- e.** Assign a classmate to help color deficient students when assignments require color recognition. Example - color coding different countries on a world map.
- f.** Teach color deficient students the color of common objects. Knowing what color things are can help them in their daily tasks. Example: when asked to color a picture, they will know to use the crayon "labeled" green for the grass, blue for the sky, and light tan for Lincoln's face.
- g.** Try teaching children "all" the colors. Remember, most color deficient children can identify pure primary colors. It is normally just different shades or tints that give them problems. If they can not learn certain colors, let them know you understand some colors look the same to them and it is "OK".
- h.** Make sure a child's color vision has been tested before they have to learn their colors or color-enhanced instructional materials are used.

How to Help a Colorblind Child in the Classroom

Step 1

Use white chalk on the chalkboard. Although some teachers prefer yellow or pink chalk, against a green chalkboard, these colors are sometimes hard for a colorblind child to see, especially if there is a glare. Always use white chalk.

Step 2

Xerox all textbook and educational items that are colored in black and white. Although a child cannot separate the items on paper, by copying them in black and white they will be able to see all the different sections properly. Always Xerox on white paper.

Step 3

Teach colorblind students the colors of common items. Oranges are orange. The sun is yellow. Although the student will not be able to see the differences, they will have a frame of reference when people are discussing colors.

Step 4

Be patient with colorblind students on classroom activities. It's easy to get frustrated or think a child is not trying when they guess on certain activities. If a child has not been diagnosed, yet you see them panicking when asked to work with pie charts or color coded maps, insist that child be tested for color blindness.

Step 5

Stop color-coding items, or write the color below it. Do not use color-coding for paperwork, classroom items, or on homework or testing. If you do, write the color below.

Step 6

Help a child with standardized tests. Standardized tests are not colorblind friendly. If there are charts or color-coded items, write out the colors below the appropriate colors so the child will not be at a disadvantage.

Step 7

Label all craft items that have color like markers, crayons and paper. So the child will not fall behind in art, or struggle, make sure everything is appropriately marked.

Step 8

Teach what colorblindness is. Children who do not suffer from colorblindness will have a hard time understanding what it is. There are tests you can use to show a child how things look to a child that sees normally versus a child that cannot see all colors properly.