

## C4.1 Perception of colors



You are shopping for eyeglasses because you need new sunglasses for the summer. You try on a wide variety of models. One pair has rose-colored lenses. "Oh," you say happily, "now everything looks really pleasant."



**How do the colors around you change when you see them through colored glasses?**



**Write down your ideas and guesses:**

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**You need the following for the experiment:**

- Adhesive tape
- Black construction paper
- Color pictures of various objects and symbols
- Scissors
- Template for eyeglasses
- Transparent films of various colors (blue, yellow, green, red)

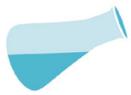


Required materials.



**How to set up the experiment:**

Lay out all the materials as shown in the photo.



### How to conduct the experiment:

1. First, look at the pictured objects and their colors. Consider the important information or meaning that the colors have.
2. Write your thoughts in the table.
3. Now cut out the template for the eyeglasses.
4. Use the template to make four pairs of eyeglasses from construction paper or use existing eyeglasses and skip to step 7).
5. Cut “lenses” from the transparent films.
6. Tape the same color of “lenses” in the frames.
7. Now discover the difference through the colored lenses. Look at the pictures of objects again. What do you notice? Write down your observations.



### Write down your observations:

In the table, write down your thoughts about the colors as you see them with the naked eye, that is, without the glasses with colored film.

Pictured object	Color(s)	Meaning of the color(s)
Stop sign	Red	
Red traffic light	Red	
Green traffic light	Green	
Tomato	Red	
Doctor's coat	White	
Baby shampoo	Pink	
Sun	Yellow	
Wasp	Black and yellow	
Mushroom	Red and white	
Blue sign	Blue	

Look closely and observe how the colors look through the different colored films.

Color without glasses	Color with ...			
	Yellow glasses	Red glasses	Green glasses	Blue glasses
Yellow				
Red				
Green				
Blue				
White				
Black				
Pink				

Do you have a favorite pair of glasses? Which one is it, and why? Look around the classroom and observe the environment out the window.

My favorite pair of glasses is the one with the \_\_\_\_\_ film, because

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**Evaluate your observations:**

Summarize:

1. What changes when you look through the glasses, and what remains the same?

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2. What effect do the different colors have on you? For example, what does the stop sign look like when you look at it through a blue film? And what does the sun look like through the blue film?

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3. So is there some truth to the expression about rose-colored glasses?

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**Doing further research:**

Some people are born unable to distinguish particularly well between red and green. The degree of this color blindness can vary in intensity. People with red-green color blindness cannot pursue certain careers. For instance, whoever wants to become a pilot must first pass a vision test.

1. Together with your team partner, consider the problems that people with red-green color blindness might have in everyday life.
2. Find solutions to these problems together with your team partner.