

## C4.3 You need light to see



You're playing hide and seek in the dark. You think it's very exciting but also scary because you see so little.

Your brother reassures you, saying, "When your eyes have gotten used to the dark, you will see better. Then it's not so spooky anymore."



**Why do you see better in the dark when your eyes have gotten used to the dark?**



**Write down your ideas and guesses:**

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

- ☐ "Cave" made out of a table and a thick blanket
- ☐ Several different plastic or wooden building blocks in different colors (yellow, red, green, and blue)



Required materials.



**How to set up the experiment:**

Lay out all the materials as shown in the photo.

**How to conduct the experiment:**

1. Look closely at the building blocks and their shapes.
2. Crawl into the cave and have your team partner hand building blocks to you in the cave one by one. Make sure that no light is coming into the cave.
3. Look at the building blocks and try to identify the shapes. Can you do it? Write down your observations when you are outside of the cave again and somebody else is doing the experiment.
4. Now crawl into the cave with all of your team partners. Take all of the building blocks in with you.
5. Your eyes slowly get used to the dark.  
Sort the blocks according to shape, one shape at each of the four table legs. As a team, decide what shape each building block is and then place the block at the corresponding table leg.
6. Open the cave and check the results in the light. How successful were you in sorting the building blocks?
7. Darken the cave again and look at everything in the cave:  
the floor, your clothing, etc.  
What was the effect of letting your eyes get used to the dark?
8. Then take another look at the blocks and sort them again by color at each of the table legs. Did you succeed?

**Write down your observations:**

I notice the following when I look at the shapes in the dark:

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I notice the following when I let my eyes get used to the dark and then look at my surroundings:

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I notice the following when I let my eyes get used to the dark and then look at the different colors:

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**Evaluate your observations:**

1. Fill in the missing words using the appropriate terms in the parentheses.

If you let your eyes get used to the dark, overall you can see \_\_\_\_\_  
(better/worse/equally well) in the dark. After letting my eyes get used to the dark, I  
can identify the colors \_\_\_\_\_ (much better/slightly  
better/worse/just as poorly). It is particularly difficult to distinguish  
\_\_\_\_\_ (yellow/blue) and \_\_\_\_\_ (red/green) from  
each other.

2. Remember your brother, who said that your eyes get used to the dark. Was his statement correct? Write down your guess.

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**Doing further research:**

1. Turn off the light in your room and shade the windows if light is shining in from outside.
2. Explore your own room in the dark. Can you find your favorite book, your favorite toy, or a particular pen in your room?  
Also search through your schoolbag and check whether you have packed everything for the next school day.
3. Tell your parents about your exploration in the dark. What method did you use to find the objects?