

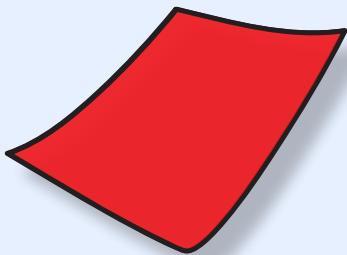
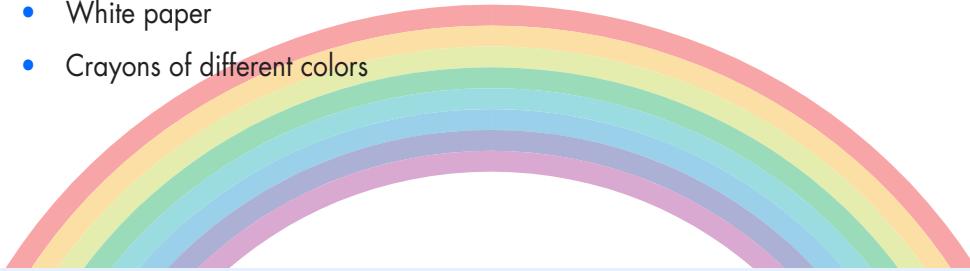


Send A Top Secret Message

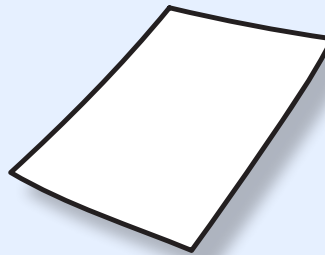
[Check out the video for this activity on the Latest Updates page](#)

Find What You Need..

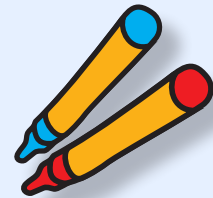
- See-through, colored plastic (such as the front of a report cover)
- White paper
- Crayons of different colors



See-through, Colored plastic



White Paper



Crayons

How could you use color to both hide, and find, a secret message?

It's easy, if you know a little about the science of color. Sunlight is made of many colors – all the colors of a rainbow – that blend to form “white light”. Clear glass lets all colors of light pass through. Colored plastic acts as a filter, letting some colors through and blocking others. A red filter will let red light through, and block all the other colors, for example. So if you look through a red filter, everything looks a little bit red. Other colors look dark. You can use this knowledge to send some super-secret words.

Fact:

You see a red apple when white light hits it and mostly-red light bounces back to your eyes.

Activity Instructions

1. Draw lines of different colors and look at them through your colored plastic. Which line seems darkest and easiest to see? Choose that color to write your message.
2. Write a message on your paper, using the color you chose. Then use other, contrasting colors to scribble over or draw all over and around your message so can't be read. (Make it a work of art if you're inspired!)
3. Look at the message through the plastic. Can you read the message? (If not, try again with a color that's very different from your first try.) Now you just need to share your science secret with whoever the message is for!

Conclusions

What color worked best to write your message – was it similar to or different from your plastic? Why do you think that's true? Can you think of ways that scientists might use colored filters? What could you use yours for?

Brain Buster:

Take two different color filters.

Write a message - or a story - that could be read two different ways, depending on the filter.



Kids' Science Challenge
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