



Virtual STEAM

Science

Shining Light Challenge

Goal: I can observe how light interacts with objects.

Science Indicator: SC.1.2.1.C Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

Materials:

- Flashlight
- 3 - 7 oz Clear cups
- Food Coloring
 - Red, yellow, blue
- 1 - Red Solo Cup
- Water (not included)



Instructions:

1. Watch YouTube Video for background knowledge:
<https://youtu.be/d7yTlp4gBTI>



2. On a sheet of paper, draw and label a picture of what you think will happen when you shine a light through a clear cup of water and through a red cup.
3. Fill one cup full of water.
4. Shine the light at the clear cup of water and then at the red cup.
5. Record your observations on your sheet of paper.
 - a. What did you notice happening?
 - b. Did the water block the light? Why?

Book Extension:

[The Doctor with an Eye for Eyes: The Story of Dr. Patricia Bath \(Amazing Scientists\)](#)

[By Julia Finley Mosca](#)

Vocabulary/ Pre-teach:

- Transparent
- Translucent
- Opaque





- c. What happened to the light when you shined it at the red cup? Why?
6. Turn off the lights, so the room is dark. Try the experiment again.
 - a. What did you notice about the light when you shine it at the clear cup and the red cup?
7. Fill the other 2 clear cups with water.
8. Add one food color to each clear cup.
9. Shine the light at each cup of water.
 - a. What do you notice about the light shining through the water onto the table?
 - b. What happens when you put one cup in front of the other and shine the light through both?
10. Observe what happens
Document the challenge using video, photos, drawings, etc.
11. Have fun!

- What amazing thing does our brain do to the image our eyes see?
- Try the pencil activity in the video to see what the job of the lens is.

Ignite Our Future Connection:

- **Social Justice/Diversity** - The view that everyone deserves equal rights and opportunities. Lessons teach the importance of treating everyone fairly without prejudices.

Extension Activity:

- <https://www.youtube.com/watch?v=axpCN6Vj9p0>
- What color is your iris? What allows light in and out of your eye?

