

Elementary Retro-Reflectivity and Pedestrian Safety

INTRODUCTION:

Objective/Learning Targets

Understand the importance of reflective material and how it relates to pedestrian safety for elementary-aged students.

RESOURCES

Materials:

- A device to play videos
- A cardboard box with a lid (something to cover the top of the box)
- Retro-reflectivity stickers
- Colored construction paper
- Black construction paper
- Scissors
- Flashlights

Amount of Time: 1 hour

Age Range: 2nd grade and above

Warm-Up / Before Activity

1. **Optional:** use the following PowerPoint to guide you through the warm-up activity.
[Retro Reflectivity-Elementary.pptx](#)
2. **Ask the students what they know about reflection.** Where are places they see their reflection (mirrors, lakes, shiny surfaces like coins, road signs)? How do they think reflections work?
3. **Share a short lesson on light waves and how they bounce back to us on reflective surfaces.**

Light itself is invisible until it bounces off something and hits our eyes.

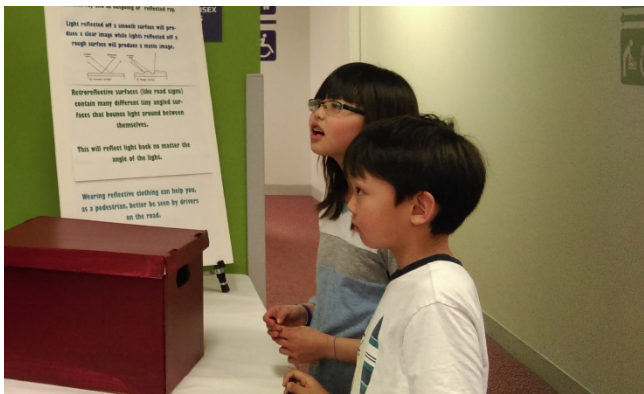
4. Share with Students a Video by 3M explaining visibility at night:

- ✓ <https://www.youtube.com/watch?v=3u-HmsfsPRY>

ACTIVITY/PROCESS

1. Construct a Reflectivity Box:

- Line the inside of the reflectivity boxes with black construction paper. This is to make sure that the box is completely dark. Make sure to have a lid to cover the cardboard box. Otherwise, use the black construction paper and line the top of the box as well.
- Cut out two windows of about 6 inch by 6 inch at each side of the box for people to peer in the boxes.



- Inside the boxes place strips of colored construction paper and retro-reflectivity stickers. Make sure to place them where a person can view them when they are peering into the boxes through the window that was cut out.
 - Place flashlights opposite to where the colored paper and retro-reflectivity stickers were placed. Make sure the light of the flashlight hits the colored paper and stickers.
- Ask students to peer into the reflectivity boxes.
 - Ask the students to share what they notice about the boxes when the flashlight in the box hits the different types of material.
 - Is the retro-reflective tape more visible than regular construction paper?

CONCLUSION

Conclusion: Describe the objective for the lesson and point students forward by connecting your objective to their own writing.

- Discuss things that students can see in the dark when they are out walking around. Are there things that are easier to see than others in the dark? (Animal eyes, light- or dark-colored cars, different colors of clothing, road signs, elements of nature).
- Ask students how reflectivity and visibility is important to them.