

Light: Bouncing and Bending

Teacher Notes

- Duplicate a set of reflection cards for each pair of students. Cut apart and clip together or place in a snack-size baggie.
- Give each pair of students a copy of the reflection cards.
- Let the students read the words out loud. For any word or object that the students don't know, you might explain what the objects are or show a picture, if one is available.
- Have the students sort the cards into two groups—those that reflect light and those that do not.
- Discuss the groups' responses. Emphasize the idea that if we can see an object, regardless of its observable physical properties, it is reflecting some light in order for us to be able to see it.
- Remind students that objects like mirrors and smooth foil are reflective materials—the light bounces off of them at a definite angle.
- Give each student a copy of the passage with the assessment items attached.
- Call on volunteers to read the words in the box. Don't define yet.
- Guide the students in reading the passage. (They can read it silently first and then orally or just orally.)
- Discuss the passage as desired, having students define the words in bold print in their own words, using context clues or prior knowledge.
- Vocabulary: Have students complete the word search puzzle to find words from the selection. Let them create a sentence with each word.
- **TEACHER BACKGROUND**

The purpose of the formative assessment is to elicit students' ideas about the reflection of light. The probe is designed to find out if students know that ALL non-light-emitting objects that we can see reflect some light or if they believe that only certain objects reflect light. The best response to this probe is "All of the objects listed on the cards reflect light." If something is visible to the human eye, then that object reflects some light. Otherwise, we would not be able to see it. Most materials absorb some wavelengths of light and reflect the rest. That is why we see different colors. When something appears to be white, all colors are reflected back. Materials that absorb all colors appear to be black. Black objects whose features you can actually see do not absorb all light. Some reflection at the surface of these objects allows you to see them.

Some materials reflect light better than others. Mirrors and shiny, smooth objects reflect the most light because the light bounces off the surface at a definite angle. When light hits rough surfaces, such as carpet or a rock, it is scattered and bounces back in many different directions. This scattering of the light rays makes some objects appear to have a dull surface.

Answer Keys

Answer Key—Multiple Choice Questions

1. B
2. C
3. C
4. D
5. C
6. A
7. B
8. D
9. A
10. C