

Grade 5

Reflecting on Refraction



Life on Earth is dependent on light and heat energy from the Sun. We also use light to help us see objects in our world. We have special sensory organs called eyes that can detect and interpret rays of light. The human eye can be mysteriously fooled by reflection and refraction of light, because the light rays can be bounced or bent away from the original object making it seem larger or smaller than it really is.

In this learning experience, students discover the mysteries of light rays from the sun and how light can be reflected or refracted by different surfaces. Flat and curved mirrors are used to demonstrate the law of reflection. Students also observe refraction and explore how the shape of a lens affects light rays. Finally, students construct their own "Moon Tubes" to discover how lenses are used in telescopes to observe the moon and planets.

Table of Contents

	page
♦ Interdisciplinary Connections Language Arts, Mathematics, Social Studies, Art	1
♦ Overview of Learning Experiences Targeted Science TEKS, Engage, Explore, Explain, Elaborate, Evaluate	2
♦ Engage Students participate in introductory activities to capture their interest about a problem or phenomenon and make connections to prior knowledge and experiences.	3
♦ Explore Students communicate their findings from the explore activity as the teacher guides the discussion using effective questioning strategies, introducing new terms as appropriate, and clarifying any misunderstandings.	6
♦ Explain Students communicate their findings from the explore activity as the teacher guides the discussion using effective questioning strategies, introducing new terms as appropriate, and clarifying any misunderstandings.	10
♦ Elaborate Students apply, extend, and enhance their understanding by participating in additional active learning opportunities.	13
♦ Evaluate Students demonstrate their understanding of concepts.	18
♦ Materials Details Sheet List and description of items required for each section of the learning experience	17
♦ Background Information for Teachers General summary of content information for teachers	20
♦ Content Area TEKS Texas Essential Knowledge and Skills statements for each of the content areas addressed in this learning experience	22
♦ Reading Connections List of suggested books and stories for students about reflection and refraction of light.	26
♦ References List of books, articles, and websites used by developers of this learning experience	28
♦ Master Copies of Student Materials Student sheets and other materials to be copied by teacher when using this learning experiences in the classroom	A-H

