

Grade 4

Nature's Reflections



Students experience the magic of mirrors as they learn more about the properties of light. They design systems to illustrate straight rays of light, and test how light rays reflect or bounce off different surfaces. This leads to the discovery that shiny, mirrored surfaces cause reflected light to follow very specific and recognizable patterns. These patterns of reflection are experienced every day when we use mirrors for grooming, safe driving, or other observations. Students develop an intuitive understanding of the law of reflection from these concrete experiences with mirrored surfaces, which can be expanded by experiencing reflection in new and different contexts.

For example, students learn how to use a MIRA™ and patty paper to determine symmetry by reflection, as well as changes in orientation, such as translation and rotation. After learning how to redirect light by placing mirrors at angles, students build a maze out of tubes and mirrors to direct light around corners. During the summative assessment, students are challenged to build a "periscope", using their choice of container, interior design, and placement of mirrors.

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