

# Summary of Module 2 Activities

## **Titanium Dioxide: An Optical Joke: 10-15 minutes**

Students observe what happens to colored words when viewed through a cylinder “containing” titanium dioxide. This brain teaser is used to introduce the module and the answers revealed after the Multiple Reflections activity.

## **You Spelled COOKBOOK Upside Down! 30-45 minutes**

This activity explores the concept of reflective symmetry. Students discover which letters are horizontally and/or vertically symmetric using mirrors.

**MIRROR**  
*WIBBOB*

## **Right is Right, or is it Left? 7-10 minutes**

This activity explores the concept of retro-reflection created by two mirrors at a 90 degree angle to each other. A group of two students can share the hinged mirrors; however they should each participate and do each part of the activity so that they can see what happens at each stage.

## **Making a Dollar Out of a Penny: 30-45 minutes**

This activity introduces the concept of infinite reflections caused by two parallel mirrors. The students will make a hypothesis, record observations, and draw conclusions about this mirror system.



## **Multiple Reflections: 30-45 minutes**

Students will learn how different mirror configurations change the orientation of reflected images. They will record data and make predictions. They will also make a hypothesis for the relationship of the angle between the mirrors and the number of images they see.



**Kaleidoscopes: 30-45 minutes**

In this activity, students will apply what they learned about multiple mirror systems by building a kaleidoscope. Here you will also find a brief history of kaleidoscopes as well as a description of the many types there are. You can either read this to the students or make a copy for each student to read.

**Seeing Around A Corner (30 – 45 minutes)**

Students will learn how to use two mirrors to see objects hidden around a corner. This activity will lead students to understand how a periscope works.

**Periscopes: 60 minutes**

Students will make predictions and observations about the nature of an image produced through a periscope when it is held with different orientations. They describe and measure the length of the light path and compare images to a single-mirror system.

