

## Investigating Properties of Parallel Lines

Materials Needed: Communicators  
Parallel Lines Cut by 1 Transversal Template

Procedures:

1. Ask students to place the Parallel Lines Cut by 1 Transversal template in their Communicator®. Ask students to identify each of the following types of angles in the picture: corresponding angles, alternate interior angles, alternate exterior angles and angles on the same side of the transversal.
2. Ask students to place their Communicator® on top of the Parallel Lines Cut by 1 Transversal template and trace the various angles and use symbols to illustrate which angles are equal to each other. (Students should conclude that the corresponding angles are equal, the alternate interior angles are equal.) Students can trace one of the angles and then show which other angles are congruent to it by positioning the Communicator® on top of appropriate angles. Ask students to trace the interior angles on the same side of the transversal adjacent to each other and notice what is true. (They are supplementary or total to  $180^\circ$ ) Ask students to trace the exterior angles on the same side of the transversal adjacent to each other and notice what is true (They are supplementary or total to  $180^\circ$ ) Ask students to write a paragraph completing the following statement: "When two parallel lines are cut by a transversal, then..." (The corresponding angles are congruent. The alternate interior angles are congruent. The alternate exterior angles are congruent. The interior angles on the same side of the transversal and the exterior angles on the same side of the transversal are supplementary.)
3. Ask students to place their Communicator® on top of the Parallel Lines Cut by 1 Transversal template. Ask students to trace this template on their Communicator®. Ask students to take a standard ruler and add a line parallel to one of the parallel lines. Ask students to draw a parallel line using the other side of the ruler. By moving the Communicator® around to compare sizes of angles, ask students to compare the new angles created by this new line to the other angles. What can you conclude? (The same set of angles is created, or a new set of corresponding, congruent angles is formed because the lines are parallel.)

# Parallel Lines Cut by 1 Transversal

