

Using Technology to Teach Parallel Lines with Transversals

*Second Place Winner 2006 NASCO High School Math Lesson Plan Contest
Submitted by Charlea Lindley, Morgantown, WV*

Instructional Objective:

Explore the relationships between angles formed by two lines cut by a transversal when lines are and are not parallel. Use results to develop methods to show parallelism.

Materials:

Class set of handheld computers (Palm Zire) or may be adapted with disposable cameras or Polaroid cameras
Synchronization port
Computer with printer
Colored pencils

Steps:

1. Review vocabulary:
 - Parallel lines
 - Transversal
 - Corresponding angles
 - Alternate interior angles
 - Alternate exterior angles
 - Same side interior angles
 - Vertical angles
2. Give typed instructions for handheld computers (see next page). Read through and emphasize safety and appropriate use.
3. Exchange pictures of parallel lines with transversals.
4. Send partners to take pictures around school of parallel lines with transversals.
5. Beam pictures to teacher and/or synchronize student handhelds to computer.
6. Print pictures.
7. As homework, ask students to color code sets of:
 - Corresponding angles
 - Alternate interior angles
 - Alternate exterior angles
 - Same side interior angles
 - Vertical angles



Parallell lines with transversals



Vertical angles



Corresponding angles



Alternate interior angles



Alternate exterior angles



Same side interior angles

Evaluation:

Printed pictures with correct color coding and labeling.

Observation of cooperative work among the students and appropriate use of technology.

Individual Differences and Modifications:

Read instructions aloud.

Show examples of printed picture with color coding and labeling.

Have vocabulary posted in classroom for spelling and definition purposes.

Handheld Computer Picture Instructions:

1. Turn on computer. Button on top right.
2. Slide front of computer up to expose camera lens and button.
3. Aim handheld at item for picture and hold very steady.
4. Push button (button front and center).
5. To view picture at any point, slide computer down to close and use stylus (pen-like device located in the handheld).
6. Tap label of any photo you want to see.
7. To return to photo menu, tap the photo.
8. Synchronize to the desktop computer or beam to the teacher for printing.