The Slope Game

Description: Students acquire an intuitive feel for slope as they construct and play a game in which one player rearranges lines on the screen and the other player tries to match each line with its slope measurement. The game can be modified to play alone as well.

Technology Strength: Because the sketch provides immediate feedback, students quickly improve their sense of slope. As well, student creating challenges for each other enjoy tricking each other with lines that are very close to each other in slope, or the opposite of each other, providing good learning opportunities.

Objectives: Match slope measurements with lines in the plane; acquire an intuitive feel for slopes

Prerequisites: Familiarity with the concept of slope; knowledge of the rise/run definition not needed

Suggested Grade Level: 7 to 10

Sketchpad Level: Beginning

Suggested Duration: 20 minutes

Suggested Classroom Setting: Student Pairs. This activity designed for student pairs can also be played alone. Directions are given on the worksheet.

Preparation: Review the Activity Notes. Students work in a new sketch. Work through the steps on the worksheet, and make a copy of the worksheet for each student.

Materials: None

Student Worksheet(s): The Slope Game

Student Sketch: None

Presentation Sketch: None

Vocabulary: Slope

Sketchpad Version: GSP5

Using the Sketch:

In a new sketch, students construct the game set-up by drawing five lines, measuring their slopes, and creating a Hide/Show button so the points defining the lines can be hidden. (The point labels would give away the answers.)

Ideally the game is played in pairs. One student rearranges the lines by dragging points, and then hides the points. Students can also rearrange the lines automatically by selecting them and and choosing **Display | Animate Lines**, or by creating an Animation button.

The other student now tries to match the slope measurements to their lines. To show the matches, the student drags each measurement to its line. To check, the student presses the Hide/Show button, revealing the labeled points. The player earns one point for each correctly matched point. The students switch roles and play again. Students can also add more lines to make the game more challenging.

To play the game alone, a student hides the labels and covers the slope measurements before rearranging the lines.
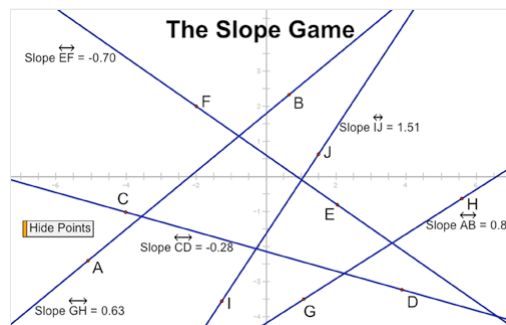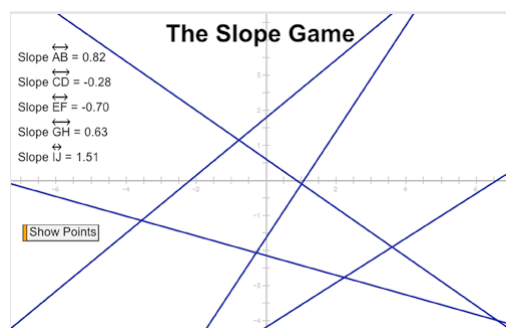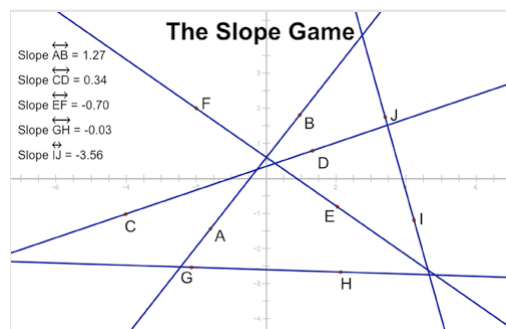
Sketch Tips:
Sketch Tips show skills needed in this activity, and the step at which the skill is first used.

Sketch Tip	Tip Sheet or Tip Video
Step 1: Construct a line with the **Straightedge** tool	Using the Straightedge Tool
Step 4: Create a Hide/Show button using **Edit | Action Buttons | Hide/Show**	Making Hide-Show Buttons
Step 4: Select all points by choosing the **Point** tool and then using **Edit | Select All Points**	Selecting All