

Veering Path Investigation

Needed Materials: 5 markers (flags, clay balls, etc.), metric tape measure or meter sticks, 15 meters of rope or string, graph paper, and a schoolyard to conduct the investigation.

Safety Rule: Be careful to make sure anyone who is blindfolded is carefully watched so they do not run into something or fall.

Student Information: This investigation will determine and measure how individuals and groups of individuals respond to being blindfolded and asked to walk a straight line. This experiment draws upon students' knowledge of right and left handedness to determine if there is a relationship to the direction an individual will veer. They may also want to see if there is any relationship to this and what happens when people get lost in the woods. Other discussions might also center around the sport of orienteering and using a compass to find your direction.

Procedural Steps for Conducting the Investigation

- 1. Click on the "View Data" link at the Veering Path Investigation web page. Click on "View" in the blank sample listed on the chart. What comes up is the data collection sheet that will be used in this investigation. Print it and place it on your clipboard.
- 2. Form a hypothesis as to whether right/left handedness will affect the direction a person will veer when blindfolded and asked to walk a straight path.
- 3. Find a flat and level surface and lay out a 15-meter straight line with the rope. (Mark the rope at 3-meter intervals to save time with measuring). NOTE: You might also mark a chalk line and make cross marks at 3-meter intervals.
- 4. Team member "A" is blindfolded and placed at the zero point of the line. Team member "B" lines up directly behind team member "A". NOTE: This procedure requires all team members to be perfectly quiet at the time a member is trying to walk the line. Laughing may cause the individual to change their course.
- 5. When team member "A" begins walking, team member "B" follows closely behind and drops a marker flag in "A's" tracks perpendicular to each 3-meter mark on the rope or straight line. Stop "A" either when he/she reaches the end of the 15-meter line, or when he/she is in danger of running into something (See photo below).
- 6. Measure the distance each dropped flag is from rope mark or cross mark that is in a direct line with it. This measurement can be made with a meter stick or a tape measure. Measure and record the distances of each of the flags you have dropped and record your measurements on the printed data collection form.
- 7. Have team member "A" walk the course two more times and then follow the same procedure carefully measuring and recording the data.
- 8. Team member "B" now can walk the course three times and member "A" can drop the markers as described in steps 4-7.
- 9. Be sure to enter all of your collected data onto your printed data collection sheet.

- 10. Login to enter your data at the COILS Veering Path Level 1 web page where you will only record the number of students who went left or right, and determine their ending distances from the line. Or log in to enter your data at the COILS Veering Path Level 2 page where you can record actual distances of each participant's trials at 3-meter intervals. **NOTE: To get veering lines to appear above and below the X axis of your Excel chart, you must designate all measurements of veering to the left of the line as a negative number (Ex. -3).**
- 11. Once all classroom data is submitted you can download all submitted Schoolyard Litter data and develop charts and graphs in Excel by following the general directions provided at "Downloading and Analyzing Collected Data Using an Excel Spreadsheet"