

Student Activity:  
Directional Displacement



Name _____
Date _____
Period _____ Table _____

**THE TRAVELING WASHER**

**Materials:** washer or coin centimeter ruler centimeter graph paper

- Label the paper "North, South, East, West". Place a washer on a piece of paper in the lower left-hand corner. Draw a circle around the washer. Mark the center of this circle with the word "START."
- Move the washer in the manners listed below. After each move, draw a circle around the washer and measure the distance the washer moved using a centimeter ruler.
  - 2 centimeters North
  - 5 centimeters East
  - 5 centimeters North
  - 3 centimeters West
  - 4 centimeters North
  - 6 centimeters East
  - 3 centimeters South STOPLabel this circle "FINISH."
- Find the total distance the washer traveled.  
\_\_\_\_\_ centimeters
- Using the centimeter ruler, draw a line from the "START" position to the "FINISH" position. Measure the length of this line using the centimeter ruler. This length is part of the "displacement".  
\_\_\_\_\_ centimeters
- Which is longer, the total distance traveled or the "START-to-FINISH" line?  
\_\_\_\_\_
- In what direction is the "FINISH" position in comparison to the "START" position? Circle one of the following: This direction is part of the "displacement".
  - directly North
  - directly South
  - directly East
  - directly West
  - Northeast
  - Northwest
  - Southeast
  - Southwest
- Describe the displacement of the washer.  
\_\_\_\_\_  
\_\_\_\_\_
- Write instructions on how to get from the "START" position to the "FINISH" position (Use few words)  
\_\_\_\_\_  
\_\_\_\_\_
- Compare your instructions with instructions written by other participants. What are the characteristics of a good set of instructions?  
\_\_\_\_\_  
\_\_\_\_\_