Vector Treasure Hunt

Working in small lab groups, students will create a vector map. Each lab group will "hide" a "treasure" at the finish for the group following their map to find. They then will be given another group's vector map to follow. This activity is used to reinforce definitions of terms and the graphical method of vector representation and addition.

Objectives	Materials
To create a map using vectors	Centimeter ruler
To follow a vector map	Tape
	Pencil and Graph paper

Map Requirements

- 1. Each map must consist of a **minimum** of 8 different arrows.
 - a. An arrow has a different length and a different compass direction.
 - b. An arrow must have a minimum length of 2 m or 6 floor tiles.
 - c. Directions should be given as either North, East, South, or West.
- 2. Each lab table will start their map at a different location in the room. Each group must clearly indicate and label this position on their vector map.
- 3. The ending position is to be decided on by each group also and should also be labelled on the map.
- 4. On the map, each arrow should simply be numbered 1, 2, 3, etc. On a separate sheet of graph paper each group must list the length and direction of each vector.

For example: Arrow $1 \rightarrow 6.5$ squares E Arrow $2 \rightarrow 3$ sq N Arrow $3 \rightarrow 2.5$ sq W

Part 1 - Treasure Map Directions for Your Group

Starting Point (Lab Table #) _____

Put a piece of tape on the starting point. Then write directions to the treasure below.

1.	7.
2.	8.
3.	9.
4.	10.
5.	11.
6.	12.

Part 2 - Treasure Map Directions for Your Group

- 1. After all the treasures have been placed, each lab group will exchange map directions.
- 2. Draw the arrows for each map you follow on the graph paper provided.
- 3. Follow the map to "collect" the data in the table below.

Map from Table #	What was the Treasure?	Total Distance to Treasure	What is the Straight Line Distance to Treasure
YOUR GROUP			

Scoring Rubric

Activity	Points Awarded (25 Total)
Minimum of 8 arrows for your table's map	8
Other tables successfully follows your map	3
Scale indicated on map	3
Arrows drawn "tip-to-tail" on map	4
Compass rose included on map	1
Arrows are numbered in order on map	1
Data Table filled in correctly	5