

## Lesson Plan for Coordinate Plane Game

### Objective:

Students will be able to find a path using coordinates in a plane.  
A1.2.5, A1.2.8, A1.2.9, A1.2.10, A1.2.18

### Procedure:

Cooperative Project. Students should have basic graphing knowledge of coordinate plane and graphing ordered pairs. See attached sheet.

### Modifications:

The cafeteria floor (which is one foot by one foot tiles) is taped off into a coordinate system and the students form teams to play the game. One student is the rescue ship and a second is the stranded ship. The rest of the team act as iceburgs and stand in the grid to try and block the way. The other team tries to find the shortest route to save the ship. (All students will be permitted to use calculators in order to calculate distance.)

Evaluation: See rubric

Coordinate Plane Game  
Answer Sheet

Name: \_\_\_\_\_

1. A = \_\_\_\_\_ Quadrant = \_\_\_\_\_  
B = \_\_\_\_\_ Quadrant = \_\_\_\_\_

2. yes or no  
If yes, describe the route \_\_\_\_\_  
Length of route \_\_\_\_\_

3. Alternate route #1 length: \_\_\_\_\_  
Description: \_\_\_\_\_

Alternate route #2 length: \_\_\_\_\_  
Description: \_\_\_\_\_

4. Partner Name : \_\_\_\_\_

	# of icebergs	# of moves	Total Distance of route	Beginning Point (rescue ship)	End Point (stranded ship)
Game 1					
Game 2					
Game 3					
Game 4					
Game 5					
Game 6					
Game 7					
Game 8					

Game Rules: Use colored pencils to mark routes.

Icebergs cannot be plotted side by side.

The player plotting icebergs must always leave a possible path.

5. \_\_\_\_\_

\_\_\_\_\_

6. \_\_\_\_\_

\_\_\_\_\_

### EXTENSION:

The game is now going to be played as a group. Separate into two large groups. One group will be the "icebergs" and position yourselves on the coordinate plane that has been marked on the floor. The other group will take turns navigating through the iceberg field to reach safety. Record your data on the chart below.

Beginning Point	Number of Moves	End Point	Total Distance

## Grading Rubric for Coordinate Plane Game

### Distinguished:

( 93 - 100 )

The students play the game correctly - all of the answers are correct. The students answer the questions logically and insightfully. The coordinate planes are clear and neat. The students play the game successfully.

### Above Mastery:

( 85 - 92 )

The student completes the table correctly. The number lines and calculations may have minor mathematical errors. The student's explanations are correct, but may be a little unclear. The student's work is neat.

### Mastery:

( 75 - 84 )

The student completes the table with a small mathematical error. The student's calculations may have more than one error. The explanations may be unclear. The student's work is incomplete or sloppy.

### Partial Mastery:

( 65 - 74 )

The student does not complete the table. The student's work has several mathematical errors. The explanations are unclear and incomplete. The number lines are messy. The student's work is incomplete or sloppy.

### Novice:

( 0 - 64 )

The student does not attempt the table. The student's work has many mathematical errors. The work is incomplete and sloppy.

## Web Sites

<http://fcit.coedu.usf.edu/fcat8m/resource/activity/planet.htm>

<http://www.mathomatic.net/LessonPlan.pdf#search='teacher%20activities%20for%20coordinate%20pairs'>

<http://its.guilford.k12.nc.us/act/grade8/act8.asp?ID=670>

<http://www.shodor.org/~succeed/curriculum/MEX/CartesianCoord.html>

<http://www.cdli.ca/~rbandrew/math.html>

<http://www.arches.uga.edu/~catwise/WLnotes.html>

<http://copland.udel.edu/~andreacc/graphingteacher.htm>

[http://teacher.scholastic.com/activities/explorer/native\\_americans/reports/pueblos/report6.asp](http://teacher.scholastic.com/activities/explorer/native_americans/reports/pueblos/report6.asp)

<http://www.math.com/homeworkhelp/Algebra.html>

[http://math.about.com/gi/dynamic/offsite.htm?site=http%3A%2F%2Fwww.awesomelibrary.org%2FClassroom%2FMathematics%2FMiddle-High\\_School\\_Math%2FAlgebra.html](http://math.about.com/gi/dynamic/offsite.htm?site=http%3A%2F%2Fwww.awesomelibrary.org%2FClassroom%2FMathematics%2FMiddle-High_School_Math%2FAlgebra.html)

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