

Illustrative Mathematics

5.G Battle Ship Using Grid Paper

Alignments to Content Standards

- [Alignment: 5.G.A.1](#)

Tags

- *This task is not yet tagged.*

Materials

The students will need grid paper and colored pencils; some color for the ships and (for example) red for explosions on their ships and their enemy's ships. This is how they will keep track of what ordered pairs have been called.

Setup

Students begin by folding the grid paper in half. They need to draw coordinate axes on both the top half and the bottom half and label the x and y axes with the numbers 1–10 on each axis. The students will need to draw in 5 ships on ordered pairs and label the ordered pairs. They should draw:

- Two ships that are sitting on 2 ordered pairs,
- One ship that is sitting on 3 ordered pairs,
- One ship that is sitting on 4 ordered pairs, and
- One ship sitting on 5 ordered pairs.

Remind them the bottom half has their boats or (Navy) and the top half has their opponent's boats.

Actions

Students play in pairs sitting opposite each other and take turns calling out ordered pairs. Players should keep a list of the ordered pairs they call out written in (x, y) form on a piece of paper that both players can see so there is no disagreement later on about what has been called (it is common for students to transpose the coordinates). Then they are to mark the ordered pair they call out on the top coordinate plane. They should mark in black if they missed and red if they hit their opponent's boat. On the bottom half of the grid paper they are to color black for the ordered pairs their opponent calls out and color red for the ordered pairs that hit their ship.

Commentary

The purpose of this task is to give students practice plotting points in the first quadrant of the coordinate plane and naming coordinates of points. It could be easily adapted to plotting points with negative coordinates. It also provides teachers with a good opportunity to assess how well their students understand how to plot ordered pairs and identify the coordinates of points.

Students can play this after the teacher demonstrates how to find the point on the coordinate plane that corresponds to an ordered pair. The teacher should help students set up their game boards the first time they play and visit with each group of students to listen and watch what they are doing to assess their understanding of the game and how to find ordered pairs. Also, it is good to listen to see if they are properly labeling their axes and generating, identifying, forming, and correctly graphing the ordered pairs on the coordinate plane.

Submitted by Ryan Glenn from McKissick Elementary to the second Illustrative Mathematics task writing contest.

Solutions

Solution: Solution

The students will be able to demonstrate understanding of ordered pairs by playing this game. The teacher can assess the students' understanding through listening, watching, and checking the students' work as they play with a partner. The partners will also make sure the other student is not cheating because you can reward the winner with a prize.



5.G Battle Ship Using Grid Paper is licensed by [Illustrative Mathematics](#) under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#)