

GED 2002 Teachers' Handbook of Lesson Plans

Area/Skill - Mathematics	Cognitive Skill Level - Application	Correlation to Framework - 05.12/05.14	Lesson Number - 16
<p>Activity Title - Plotting Grids Using Battleship</p> <p>Goal/Objective</p> <p>Introduce students to the coordinate system using X-axis and Y-axis. Students will be able to utilize grid points to plot physical location</p> <p>Lesson Outline Introduction The ability to use X and Y coordinates is important not only as a mathematics skill but as an everyday skill that is used to locate points on a street or road map. By playing the simple game of Battleship, we gain first hand knowledge of this skill.</p> <p>Activity Provide each student with a sheet of ruled graph paper. Instruct them to draw a line down the middle length-wise. Label the left side of the paper "My Battlefield" and label the right side of the paper "My Opponent." On each side of the paper draw a coordinate system from -5 to +5 on each axis. Remind students that the vertical axis is the X and the horizontal axis is the Y. Utilize a transparency of the grid and explain the game to the class. Set up a fleet of ships on "My Battlefield" using 2 points as a submarine, 3 points as a destroyer and 4 points as a carrier. Explain that the opponent will call a grid point and you respond if it is a hit or a miss. This point is tallied on the "Opponent" field as an x for a hit and an o as a miss. Once all points of a vessel are hit the vessel is sunk and points are awarded to the student.</p> <p>Debriefing/Evaluation Activity Ask students to explain how they fared in the "Battleship" game by assuming the role of a reporter on the battle. This will make students have to utilize the points as they describe the shots fired and the victories won. They will also utilize thinking skills as they share their strategies for aiming their next shot. Ask students to relate a trip they may have taken them to an unfamiliar area and how they used (or could have used) the coordinate system on maps.</p>			<p>Materials/Texts/Realia/Handouts</p> <ul style="list-style-type: none"> • Handout - Graph Paper • Handout - Transparency of Battlefield • Overhead Projector • Markers • Maps • Paper and pencils • If available - Commercial version of Battleship
			<p>Extension Activity</p> <p>Instruct students to draw a basic diagram of their bedroom (or other room) and locate some piece of furniture in the room using X Y coordinates.</p> <p>Students may pair up and share their diagrams with partners to determine if they can place the item using points.</p>
			<p>ESE/ESOL Accommodations</p> <ul style="list-style-type: none"> • Provide ESE students with graphs using smaller number of points. • Provide students with "Battlefields" that have the ships already placed. • If available utilize the commercial version of the game.
<p>Real-Life Connection</p> <p>Instruct students to describe their home, school and one other location on a local map using coordinate points.</p> <p>If a map is not available for the local area, utilize a road or city map from some other locale. Pick random points and instruct the students to describe them using the coordinate system</p> <p>After points have been selected, partner students and have them find the chosen locations using only the coordinates.</p>			

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Activity Title - Plotting Grids Using Battleship

Introduction

Say: Today we will learn how to use X and Y axis to locate a point and plot a location. We will use the game “Battleship” to illustrate how X and Y points work.

Main Activity

Do: Pass out a sheet of graph paper to all students

Say: Draw a line down the middle of the paper lengthwise. Label the left side of the paper “My Battlefield” and label the right side of the paper “My Opponent.” On each side of the paper draw a coordinate system from -5 to $+5$ on each axis.

Do: Illustrate the concept for the students using an overhead of the graph paper.

Say: Create a fleet of ships using a submarine, a destroyer and a carrier. Use 2 coordinate points for a submarine, 3 points for a destroyer and 4 points for a battleship.

Do: Explain that the opponent calls a grid point and you respond by calling hit or miss. This point is tallied on the “Opponent” field as an x for a hit and an o for a miss. After a predetermined number of shots, or if all opponents ships are sunk ,the battle is over.

Closure/Conclusion

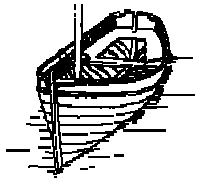
Do: Select various students to describe how they fared in the game using correct terms.

Say: Can you think how we can use this system in daily life? Have you ever had to find an unfamiliar location on a street or road map? Explain how this relates to today’s activity.

Follow-Up Lessons/Activities

Say: At this time, change partners and complete another game of “Battleship.” You may wish to modify the field of play by adding additional ships to the fleet.

Say: Using another piece of graph paper, diagram a room in your house or workplace and place some basic objects using coordinate points. After you complete the activity, share the results with partners to determine the accuracy of your diagrams.



Battle Ship

Locating x y coordinates

Ged 2002

Divide Sheet In Half One sheet for each participant

GRAPH PAPER

