Assessment: Describing the position of objects

Assessment task

Students compare a grid reference system to a coordinate system (using the first quadrant of a Cartesian plane).

Provide each student with the assessment task worksheet.

Achievement standard

Students use grid coordinates to locate and move positions.

Guidance

Use this guide to assess student responses.

1. Ask students to look carefully at the two grids and describe three ways the grid systems are different.

Answers might include:

- one uses numbers and letters the other uses numbers
- the grid using numbers and letters describes an area whereas the other pinpoints a position on the grid
- a pair of numbers locates a point
- one grid has negative numbers.

2. Ask students to describe the position of the three ships.
These are:

- A2, B2, C3
- E4, E5, E6
- H10, I10, J10

3. Ask students which of these grid references would score a hit in a game of battleship. (Answers are circled.)

A3, B2, D5, E5, G10, J10

4. Ask students to draw a battleship on the grid and describe its position using grid references.

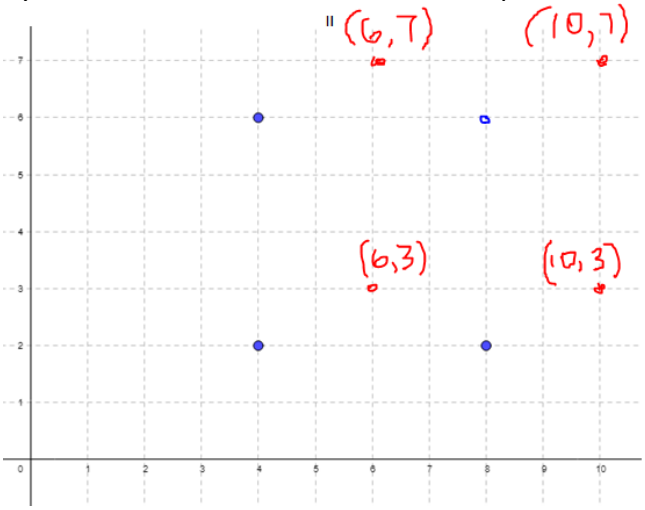
Check that their grid references correspond to their drawing.

5. Ask students to circle which of these points is **not** plotted on the grid. (Answer is circled.)

(4,2), (4,6), (8,2), (8,6)

a. Plot the missing point on the grid. What shape does it create if you join the dots?

b. Plot the **new** points if the horizontal axis number in each pair is increased by two and if the vertical axis number pair is increased by one.



6. Ask students to create their own shape, plotting the points on the grid and listing the coordinates of those points.
Check that their grid references correspond to their drawing.

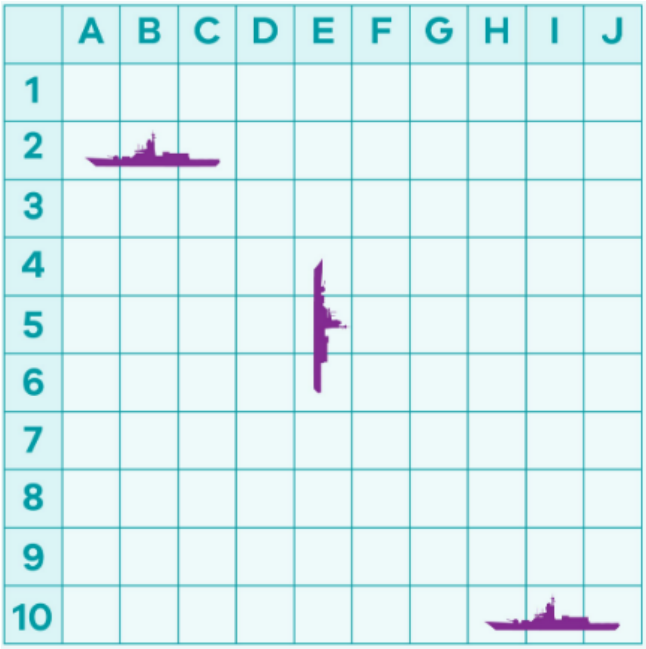
7. Ask students to think about which type of reference system they would choose to use when providing a location on a map, and ask them to explain their thinking.
A suitable answer would include making connections to a coordinate system that pinpoints a location. The alphanumeric system of A letter and number provides a less accurate reference for a location.

Describing the position of objects

1. Look carefully at the two grids. Describe three ways the grid systems are different.
   a) _____

   b) _____

   c) _____



2. Describe the position of the three ships.

3. In a game of battleship, circle which of these grid references would score a hit.

A3, B2, D5, E5, G10, J10

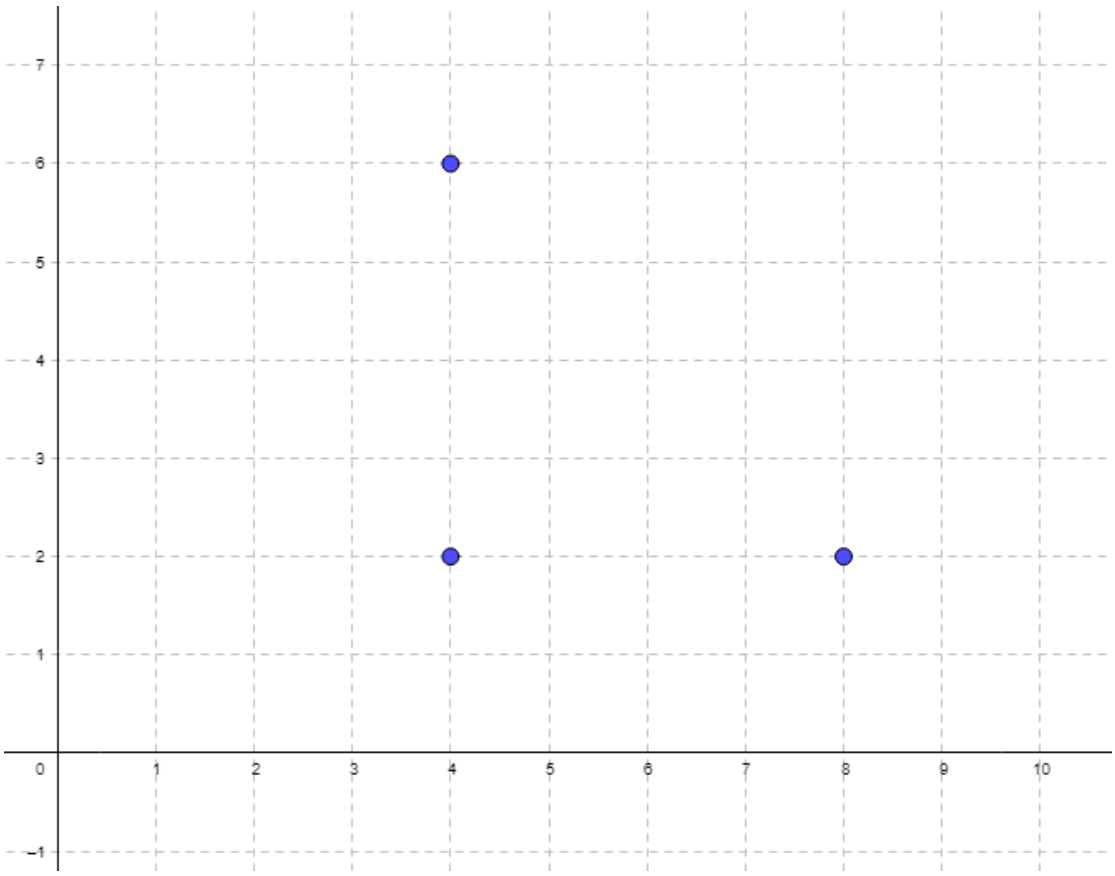
4. Draw a battleship on the grid above. Describe its position using grid references.

5. a. Circle which of these points is not plotted on the grid below.

(4,2), (4,6), (8,2), (8,6)

b. Plot the missing point on the grid. What shape does it create if you join the dots?

c. Plot the **new** points if the horizontal axis number in each pair is increased by two and if the vertical axis number pair is increased by one.



6. Create your own new shape and plot the points on the grid above. List the coordinates of those points. _____

7. When providing a location on a map, which type of reference system would you use? Explain your thinking.

Two grid systems