

PEOPLE COORDINATES

(3 ; 0)	(3 ; 1)	(3 ; 2)	(3 ; 3)	(3 ; 4)
(2 ; 0)	(2 ; 1)	(2 ; 2)	(2 ; 3)	(2 ; 4)
(1 ; 0)	(1 ; 1)	(1 ; 2)	(1 ; 3)	(1 ; 4)
(0 ; 0)	(0 ; 1)	(0 ; 2)	(0 ; 3)	(0 ; 4)

1. If you are at row 0 column 1 (0 ; 1) how many columns do you go across and how many rows back would you go to get to row 2 column 4 (2 ; 4)?

Give directions for getting from row 1 column 0 (1 ; 0) to row 2 column 3 (2 ; 3)?

If you start at (1 ; 1) where would you get to if you go 2 columns across and 1 row back?

Make up some more questions like this for the class.

The crown is at (8 ; 5) and the mermaid is at (4 ; 1).
Give the coordinates of the other things.



How would you give directions for going forward from row 3 to row 1? What about going across from column 4 to column 0?

2. We use pairs of numbers, called coordinates, to give the positions of points on a grid, like the columns and rows of places in class. A semi-colon (;) is used in some countries to separate the coordinates and instead a comma (,) is used.

On this treasure map grid the columns are given by blue numbers and the rows are given by red numbers. The crown is at (8 ; 5) and the mermaid is at (4 ; 1).

Give the coordinates of the other things.

Give directions for both pirates to find the diamond.

For the teacher: This can be a whole class activity. The learners line up in an array of rows and columns. They can either sit in desks or in rows of chairs or they can stand in rows and columns indoors or out. The first picture shows an array of 20 people with 4 rows and 5 columns but it can be extended for any number of people and to positive and negative coordinates. Learners could follow directions given to the group, to trace a path between positions on the grid either using the coordinates to give positive and negative distances (vectors), or using compass directions. One learner could give directions to the rest of the class.



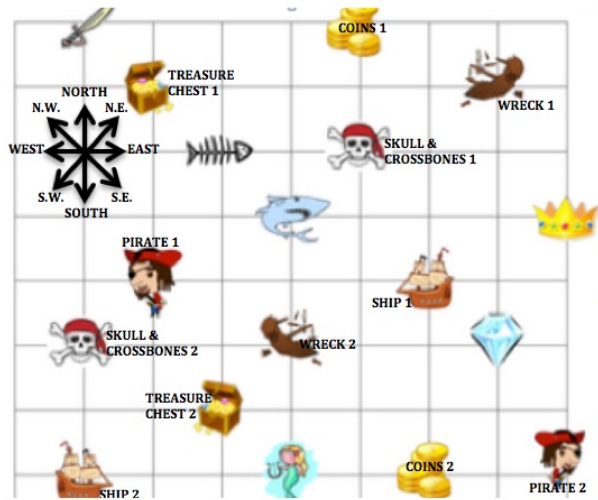
HELP

To give directions just say how far you go across, and how far up or down, and in which direction.

Coordinates are very useful in practical applications of mathematics for example for GPS coordinates in mapping.

We can give the position of every point on a flat surface with 2 coordinates and work out the distances between them.

NEXT



Picking up everything he meets on his way, Pirate 1 goes 3 squares North, then diagonally 1 South East, 2 squares North East, 2 squares South, 1 square South West, 4 squares East then 4 squares South. Where does he get to and what does he pick up on his journey?