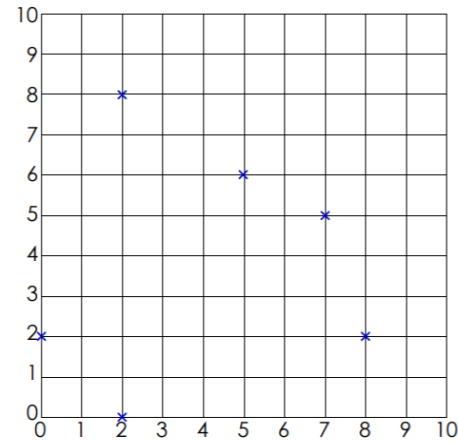


# Year 4 Unit 12: Position and Direction (1 week)

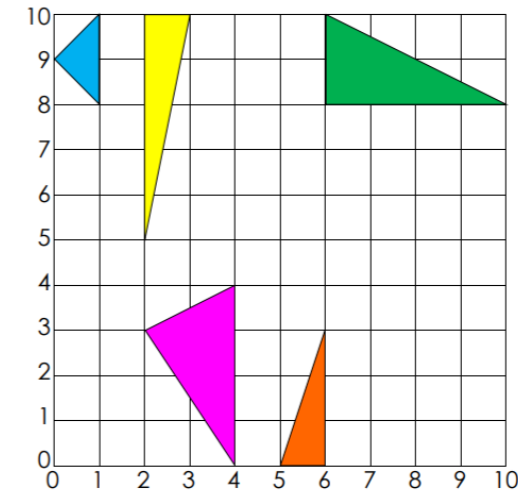
## Before you start...

- How secure are pupils in reading number lines, including those with intervals of 5 and 10, and unlabelled intervals?
- How confident are pupils with their knowledge of properties of shape including quadrilaterals and types of triangles?
- Do pupils understand and use left and right accurately?



## Classroom coordinates

This [article](#) from NRICH suggests further ways you may wish to introduce and explore coordinates with pupils.



## Reading and writing coordinates

L1 Describe positions on a 2-D grid as coordinates

This is pupils' first formal work with coordinates although pupils may have come across this incidentally through games such as battleships, online games and map work. Introduce the language associated (including x- and y-axis) and support pupils' accurate use of this when describing examples. Pupils should have multiple opportunities to read coordinates correctly and write them using the correct (x,y) format. Pupils then plot coordinates to form quadrilaterals.

? How will you support pupils in understanding and remembering the convention of x coordinate then y?

## Reading and plotting coordinates of polygons

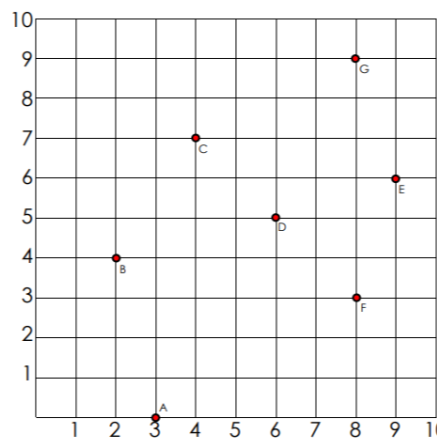
L2 Solve a problem involving reading and plotting coordinates  
L3 Plot points and find missing points of triangles

Pupils explore reading and plotting coordinates in the context of shapes (squares and triangles), consolidating their understanding from Lesson 1. In Lesson 2, pupils explore joining given coordinates to make squares of different sizes using given constraints. Discussion should continue to focus on use of correct terminology established in Lesson 1. In Lesson 3, pupils apply their knowledge of triangle types when describing and plotting coordinates on a grid. Considering where a missing point may be when constructing triangles allows pupils to reason and explain.

? You may wish to have a go at the Independent Task for Lesson 2 prior to the lesson. What prompts and scaffolds might you need to allow all to experience success?

Take opportunities to consolidate coordinates in different subjects:

- Grid work in PE, moving to different positions
- Map work in Geography or History
- Using coordinates of school grounds in outdoor science experiments



Point A translates to Point C. It moves 1 unit right and 7 units up.

Video: Translating points

## Translation of points

L4&L5 Describe movement between points as a translation using correct units

Pupils apply their understanding of reading and plotting coordinates to translation (movement) of a point within the coordinate grid. They identify the movement using up, down, left and right and use units to explain this movement. Take opportunities to use concrete manipulatives or online tools to physically move points and discuss the movement. In both lessons, pupils explore the result of instructions on the position of a point as well as translating points using given instructions. Pupils should recognise that the order the translation is given in does not matter as the end result is the same.

- ? What concrete opportunities can you give to pupils to develop their Conceptual Understanding of translation?
- ? What difficulty points might pupils encounter? How might your modelling support pupils to overcome these?