

Max's Mapping Adventure: Mastering Coordinates

Learning objective: To describe positions on a 2D grid as coordinates in the first quadrant and plot points using (x, y) notation.

Max the monkey is helping the forest animals organise their belongings. Use the coordinate grid provided in your workbook to plot the locations and answer the following questions. Remember: move along the corridor (x-axis) before you go up the stairs (y-axis).

Max has placed items on a grid where each unit represents 1 metre. The 'Treehouse Base' is at (0,0). Pip's book pile is at (2, 5), Nova's telescope is at (6, 3), and Ellie's history trunk is at (8, 7).

Word bank: x-axis · y-axis · coordinate · origin · quadrant · horizontal · vertical · plot

1. Max wants to move Pip's book pile to a new location. Currently, it is at (2, 5). If he moves it 3 units to the right and 2 units up, what will the new coordinates be? Explain your reasoning. (2 marks)

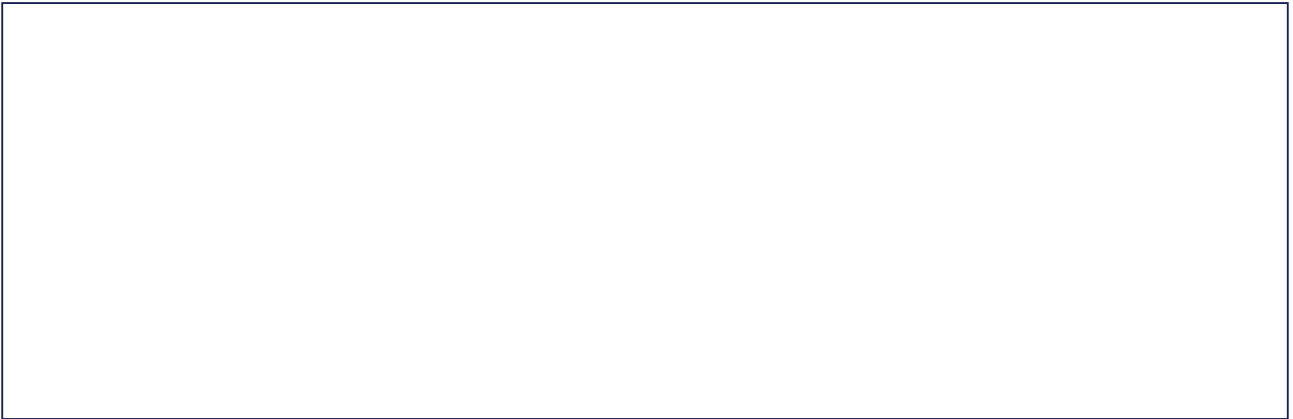
2. Identify the coordinates for the following items on the grid: A acorn at (1, 2) and a feather at (4, 4). If Max draws a straight line between the acorn and the feather, describe the path taken using horizontal and vertical movements. (2 marks)

3. Compare and contrast the positions of Nova's telescope (6, 3) and Ellie's trunk (8, 7). Which item is further from the x-axis? Justify your answer. (3 marks)

4. Max creates a square on the grid. He plots three corners at (1, 1), (1, 4), and (4, 4). What are the coordinates of the fourth corner? Justify why you chose these coordinates. (3 marks)

5. What might happen if Max accidentally reversed the order of the coordinates (writing the y-coordinate first instead of the x-coordinate)? How would the map change? (2 marks)

Draw: Draw a 10x10 coordinate grid. Plot the following: a star at (2, 8), a flower at (9, 1), and a map at (5, 5). Connect the points in the order they were listed to create a triangle.



Extension challenge: Design your own treasure map on a 10x10 grid. Create a set of three 'clue' coordinates that lead to a hidden prize. Write a 'Greater Depth' challenge for a partner, asking them to predict the coordinate of a fourth point that would create a symmetrical pattern with your existing points.