

Max's Map Adventure: Grade 3 Coordinates Assessment

Learning objective: To describe positions on a 2D grid as coordinates in the first quadrant and plot points given coordinates.

Read each question carefully. Remember to write the x-coordinate (horizontal) first, followed by the y-coordinate (vertical). Always use brackets and a comma when writing your coordinates, for example: (3, 2).

Max the monkey is exploring a new jungle map. He has placed items at various locations on a grid to help him navigate. The bottom-left corner of the grid is the origin (0, 0).

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

1. Max finds a bunch of bananas at (2, 4) and a map at (5, 1). Plot these two points on your grid and label them B for Bananas and M for Map. (2 marks)

2. Look at the provided grid. State the coordinates for the 'Secret Waterfall' located at the point where the horizontal line 7 and the vertical line 3 meet. (1 mark)

3. Max moves from the Bananas at (2, 4) to the Waterfall at (7, 3). Explain how many squares he must move right and how many squares he must move down to reach his destination. (2 marks)

4. A treasure chest is located at (4, 8). If Max moves the chest 3 squares to the left, what would be the new coordinates of the treasure chest? Show your working. (3 marks)

5. Max wants to create a square shape on the grid. He has already plotted three corners at (1, 1), (1, 4), and (4, 1). What are the coordinates of the missing fourth corner to complete the square? (3 marks)

6. Compare and contrast the positions of point A (2, 5) and point B (5, 2). How does swapping the numbers in a coordinate pair change the location on the grid? Justify your answer. (4 marks)

7. Max is planning a path for his friends. He wants to draw a right-angled triangle on the grid. Define the coordinates for the three vertices of your triangle and explain why your chosen points form a right-angle. (5 marks)

Draw: Draw a 10x10 grid with the x-axis and y-axis clearly labelled from 0 to 10. Ensure the origin (0,0) is marked in the bottom left corner.



Extension challenge: Imagine a situation where Max finds a rare orchid at (6, 6). If he wants to place a protective fence around it that forms a rectangle with an area of 8 square units, what might the coordinates of the four corners of the fence be? Explain your reasoning. Total: /25