

Max's Jungle Map Adventure

Learning objective: To identify, describe and represent the position of a shape following a reflection or translation, and to use coordinates in the first quadrant.

Max the monkey is mapping out the jungle to find hidden fruit patches. Look at the grid provided in the drawing prompt. Each square is 1 unit. Follow the instructions for each question to move Max or plot the fruit locations. Remember to go along the corridor (x-axis) before you go up the stairs (y-axis)!

Word bank: x-axis · y-axis · coordinate · quadrant · origin · translation · reflection

1. Max starts at a mango tree at (2, 3). He moves 4 units to the right and 2 units up. What are his new coordinates? (2 marks)

2. There is a bunch of bananas located at (6, 7). If you reflect this point across the vertical line $x = 8$, what will the new coordinate be? (2 marks)

3. A secret path starts at (1, 1) and ends at (5, 5). If Max translates this path 2 units left and 3 units up, what are the new start and end coordinates? (2 marks)

4. Max finds a hidden treasure chest at (9, 2). He moves 3 units left. Explain how his coordinates change. (2 marks)

5. If Max is at (4, 4) and wants to reach the river at (4, 8), how many units does he need to translate his position upwards? (1 mark)

Draw: Draw a 10x10 grid. Label the x-axis 0-10 and the y-axis 0-10. Mark the 'Mango Tree' at (2, 3), the 'Banana Bunch' at (6, 7), and the 'River' as a blue line spanning from (0, 8) to (10, 8).



Extension challenge: Max wants to create a symmetrical pattern of flowers. If he plants one flower at $(3, 2)$, $(3, 4)$, and $(5, 2)$, what coordinate would he need for a fourth flower to make a perfect rectangle?