

Max's Magnificent Measurements

Learning objective: To calculate the perimeter of rectilinear shapes and find the area by counting squares.

Max the monkey is helping build a new wildlife sanctuary. Use your knowledge of area and perimeter to help him solve these construction puzzles. Remember to include the correct units of measurement.

Max has designed several enclosures for his animal friends. Each square on the grid represents 1cm by 1cm.

Word bank: perimeter · area · rectilinear · centimetres · square centimetres · calculate · dimension · total

1. Max builds a rectangular enclosure that is 6cm long and 4cm wide. Calculate the perimeter of this enclosure. Show your working out. (2 marks)

2. A small pond is shaped like a square with a side length of 5cm. What is the total area of the pond in square centimetres? (2 marks)

3. Explain why two different shapes could have the same perimeter but completely different areas. Provide an example to justify your answer. (3 marks)

4. A L-shaped feeding area has a perimeter of 20cm. If one side is 6cm and another is 4cm, what might the lengths of the other sides be? Sketch your shape and label the sides. (3 marks)

5. Compare and contrast the methods you use to find the area of a rectangle versus finding its perimeter. When would you use each measurement in a real-life building project? (4 marks)

Draw: Draw a rectilinear shape (a shape with only right angles) on a squared grid that has an area of 12 square centimetres. Label all side lengths.



Extension challenge: What might happen if Max decided to double the length and width of his 3cm by 4cm monkey climbing frame? Calculate the new perimeter and the new area. Does doubling the dimensions double the area? Justify your answer using your calculations.