

Max's Spooky Math Garden

Learning objective: To solve multi-step problems involving multiplication, division, and money, whilst applying mathematical reasoning to a creative design task.

Max the monkey is helping his friends decorate the community garden for a spooky fall festival. Follow the steps below to design the garden and solve the math challenges shown in your drawing.

Draw: Draw a large rectangular garden scene. Inside, include a pumpkin patch arranged in a neat array (grid). On the left side of the garden, draw a symmetrical ghost-shaped lantern hanging from a tree. On the right side, add a path that is 6 metres long and 2 metres wide. Use labels from the word bank to identify the different mathematical features in your drawing.



Label words: Pumpkin patch · Symmetry · Area · Perimeter · Total cost · Array

Steps:

1. Max buys 8 pumpkins and 5 lanterns. Calculate the total cost of these items. Show your working out.
2. If Max has £50, how much money will he have left after buying the pumpkins and lanterns from the previous question?
3. Max wants to create a rectangular pumpkin patch with an area of 24 square metres. If the width is 4 metres, what must the length be?

4. Draw an array of 15 pumpkins in your patch. How many rows and columns did you use to make your array?
5. If the perimeter of the square garden fence is 20 metres, what is the length of one side?