

Max's Factor and Multiple Adventure

Learning objective: To identify factors and multiples, including finding all factor pairs of a number and common factors of two numbers.

Read the information below about Max the monkey's fruit stall. Use your knowledge of multiplication and division to solve the puzzles. Show your working out clearly.

Max the monkey runs a fruit stall in the jungle. He loves to organise his fruit into equal piles! Today, Max has 24 juicy jungle berries. He knows that a factor is a whole number that divides into another number exactly, with no remainder. Max can arrange his 24 berries into 1, 2, 3, 4, 6, 8, 12, or 24 piles. These are the factors of 24. Max also loves multiples. If he adds 5 new berries to his stall every hour, the number of berries he has will be a multiple of 5 (5, 10, 15, 20...).

Word bank: factor · multiple · product · prime · composite · divisible

1. Max has 18 mangos. List all the factor pairs of 18. (2 marks)

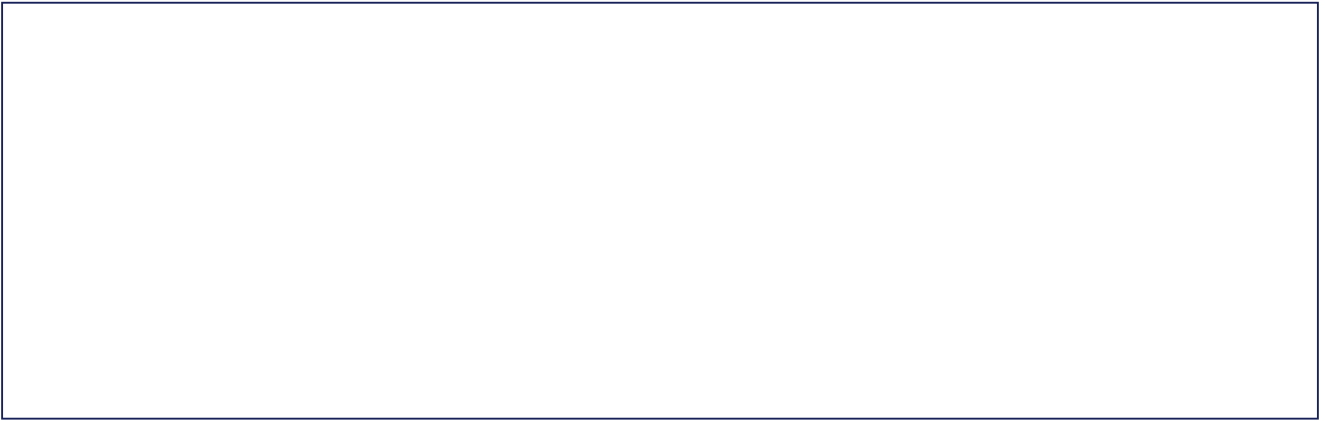
2. Is 7 a factor of 42? Explain how you know using a division or multiplication fact. (2 marks)

3. Max is counting his bananas in multiples of 6. Write down the first five multiples of 6. (2 marks)

4. Find the common factors of 12 and 16. Which numbers appear in both lists of factors? (2 marks)

5. Max sells a bunch of bananas for £4. If he sells 9 bunches, how much money does he make? Is the total cost a multiple of 4? (2 marks)

Draw: Draw a picture of Max the monkey sorting 12 coconuts into equal groups to show the factor pairs of 12.



Extension challenge: Challenge: Can you find a number less than 50 that has exactly three factors? Hint: Think about square numbers!