

1

100 square squares!

Ask children to look at a 100 square and find four numbers at the four corners of a square contained within the grid, for example the square made by numbers 4, 5, 14, 15. Ask the children to add the diagonal numbers. What do they notice? Find another square e.g. 45, 47, 65, 67. Again ask them to add the diagonal numbers and see what they find. Set a challenge to continue finding squares in this way across the 100 square and compare what happens for larger or smaller squares.

2

Shopping codes

Tell the class that each letter of the alphabet has been given a value: a is 1p, b is 2p, c is 3p ... z is 26p. Then write up a shopping list of items to be bought and ask the children to write the price of each item e.g. egg = 5p + 7p + 7p = 19p. Challenge them to think of an item that equals exactly £1.

3

Maths investigation squad

Explain to your class that as they are a crack team of mathematicians, you will be setting them a series of investigations that require open approaches such as trial and error or repeated testing to prove a theory.

Which of the numbers from 1 to 30 can be written as the sum of two consecutive numbers? Extend this to numbers which are the sum of 3, 4 or 5 consecutive numbers.

Find the number which, when added to that number reversed, is closest to 50. E.g. the reverse of 13 is 31 so the total would be 43. Do the same for 100, 150, 200, 250, 300, 350, 400, 450, 500.

My 'magic numbers' are four digit numbers that, when all their digits are added together equal 6, but no digit is 0. Can you find 10 of my 'magic numbers'?

A famous mathematician called Christian Goldbach claimed in 1742 that every even number greater than 2 is the sum of two prime numbers. Was he right?

4

Race to the bottom

The aim of this game is to get to 0. Working in trios, starting at 100, the first player chooses a single digit number to subtract. They then pass to the next player. Each player scores points according to the answer they produce - 2 points for an odd answer, 3 for an answer ending in 0, 5 points for a multiple of 7. A bonus 10 points is given to the player who ends on 0. Challenge the children to explain the following: What strategy did you employ to get a high score? What is the fewest number of turns needed in a game? Try playing the same game in reverse for addition from 0 to 100.

5

Dice dilemmas

Playing in pairs, children begin by rolling the dice eight times and recording the numbers as the digits for two four digit numbers. They then subtract the smaller number from the larger one. The person with the answer closest to 1000 is the winner. Alternatives are to make each player record the digits in place value as they roll the dice or to allow the opposite player to record digits in a place value of their choosing.