



INVESTIGATION



5 digit addition



2

1

2

MathSphere

5 Digit Addition Investigation

Starter



Hi! I've just made a list of
all my favourite whole
numbers.

All you've got to do is guess
them!

Can you guess the numbers?

Here are two clues:

The digits of each number add up to 5

None of the digits is a zero.

How many different numbers can you find?

Write them all down to make sure you don't use the same
number twice.



Here's one to start you off:

131

Some Ideas

Work in a methodical way, recording your results carefully as you go.

Think about how to set out your results clearly.

Try to find as many rules and patterns as you can.

Can you be sure that you have got all the possible numbers?

What would happen if the total added up to 6?

What would happen with other totals?

What would happen if one of the numbers was zero?

What would happen if you used a decimal point eg 1.21

Answer Guide

This is a good investigation to carry out when children are becoming more confident about larger numbers and are interested in how to write a thousand etc. in numbers.

It is a good idea to have a whole class starter session to explain the task and some children do get a little confused about adding up the digits of a number to make another number.

There are sixteen numbers that can be made which add up to 5:

11111 1112 1121 113 1211 122 131 14
2111 212 221 23
311 32
41
5

Encourage children to set out their results in the best possible way - the above list could be put into order, although written like this shows that all possible answers have been covered.

Also encourage them to look at the pattern of answers - how many answers which begin with the 1 digit compared to the 2 digit etc.

Extensions could include:

1. Changing the total to 6 or 7.
2. Allowing zero - although this makes for an infinite number of answers.
3. For older pupils, a decimal point could be included.