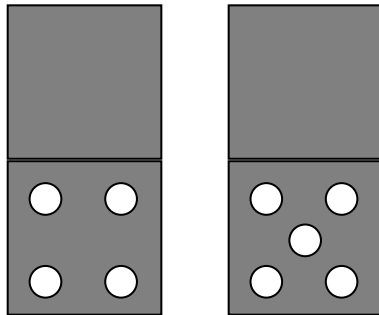# Square Spot Totals

The aim here is to make sets of dominoes having a spot total which is a square number.

These two dominoes have a spot total of 9, which is a square number.

How many of sets of 2 dominoes can you find that have a square spot total?

How many square numbers can you make with the spot totals of 3 dominoes?

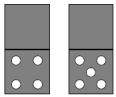How many square numbers can you make with the spot totals of 4 dominoes?

Square Spot Totals

Observe how your child goes about getting started on this investigation Some children will:

➢ make totals that are rectangular numbers moving on from 1 and four to six and eight without realizing their error

➢ make a list of square numbers realising that nine will be the highest possible with two dominoes

➢ systematically find all the pairs of dominoes with totals of 1, 4, 9 and 16

➢ use a trial and error strategy when finding triads of dominoes and therefore miss some possibilities

➢ work systematically to find all the possibilities using a particular value domino in first place before trying a different number of dots in the first place.

Encourage your child to:

➢ list (make with square tiles or blocks) square numbers up to the maximum total that are available on the number of dominoes being used each time

➢ explore all the possibilities that can be made for a given total, for instance place the double one block ad then find all the other dominoes that can go with it to make pairs with a total of nine

➢ create an organised list or table to present their results.

Allow time for your child to investigate, record and prove their answers as well as to ask similar questions of their own.

Challenge your child to find a method of proving that they have found all the possibilities for each square number. Some children could go on to investigate triangular numbers in the same way – which are 1, 3, 6, 10, … the number of dots in a triangle of side 1, 2, 3, 4, …