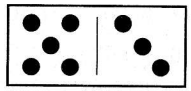
IDEA 22

DOMINO DELIGHT



Using a set of dominoes as a resource for the mathematics classroom can provide students with opportunities to engage with some interesting ideas. Just exploring the structure that exists in a set of dominoes, in terms of how many there are up to 6–6, how many up to 5–5, 4–4, etc., is one way of generating the triangular number sequence.

PROBLEM 1

Find a way of adding together all the spots on all the dominoes using a set up to 6–6 without needing to count each spot!

PROBLEM 2

How many spots will there be for smaller and larger sets of dominoes?

The next four problems are based upon a double six set with all the doubles removed, thus leaving 15 dominoes.

Consider all these 15 dominoes as 'proper' fractions (i.e. where the numerator is smaller than the denominator).

PROBLEM 3 (A)

What do all these dominoes, as proper fractions, sum to?

PROBLEM 3 (B)

Split the dominoes into three sets of five so the total for each set is the same.

PROBLEM 4 (A)

What is the sum of the 15 dominoes if they are treated as improper (or vulgar) fractions?

PROBLEM 4 (B)

Split the dominoes into three sets of five so the total for each set is the same.

IDEA 23

FRACTION WALLS AS NUMBER LINES

For this idea I offer an alternative way of displaying fraction walls made from a series of strips of paper placed horizontally underneath one another. Often the fractional amounts are written in the middle of each fractional piece, for example:

½		½	
⅓	⅓	⅓	
¼	¼	¼	¼

An alternative way of displaying fraction walls is to write each strip as a number line.

The top strip will have 0, ½, ²⁄₂ written at the beginning, the middle and the end.

The next line down will have 0, ⅓, ²⁄₃ and ³⁄₃ written on it.

The next line down will have 0, ¼ , ²⁄₄, ¾ and ⁴⁄₄ written on it.

By taking the strips of paper down to say twelfths, students can look for equivalent sets of fractions and also compare fractional sizes, for example, which is the biggest: ²⁄₃ or ⁵⁄₇?

A development of this is to make two strips for each fractional division and place one strip underneath the other. Writing fractional divisions on one strip and decimal equivalents on the other. For example:

0	⅕	²⁄₅	³⁄₅	⁴⁄₅	⁵⁄₅
0	0.2	0.4	0.6	0.8	1.0

Comparisons between fractions and decimals can be seen.

A further development is to make a 'Toblerone' shape (or triangular-based prisms) to produce three rectangular faces. These can be used to write and compare fractions, decimals and percentages.