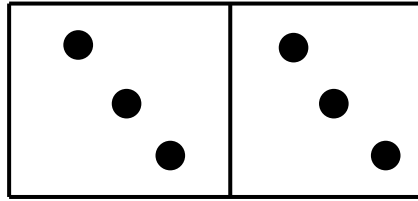


Y 2 / Y3 Dominoes and equal size grouping 1

In a 3-3 set there are ten dominoes.

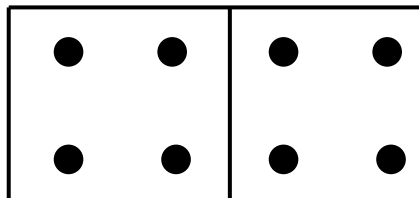


Using all the dominoes in a 3-3 set, partition them into five pairs so the total number of spots for each pair is the same.

Using all the dominoes in a 3-3 set, try to make two equal size groups so the total number of spots for each group is the same.

Y3 / Y4 Dominoes and equal size grouping 2

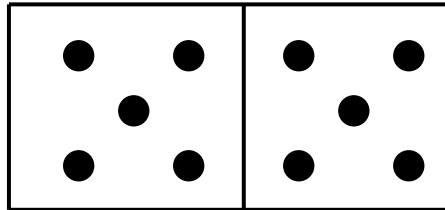
In a 4-4 set there are fifteen dominoes.



Using all the dominoes in a 4-4 set, partition them into three equal size groups so the total number of spots for each set is the same.

Using all the dominoes in a 4-4 set, partition them into five equal size groups so the total number of spots in each group is the same.

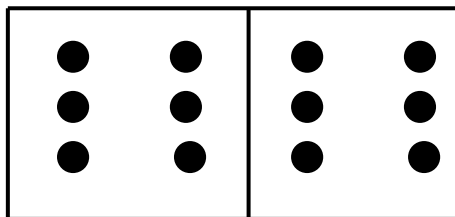
Y4 / Y5 Dominoes and equal size grouping 3



Partition a 5-5 set of dominoes into three equal size groups so the total number of spots for each group is the same

Partition a 5-5 set of dominoes into seven equal size groups so the total number of spots for each group is the same.

Y5 / Y6 Dominoes and equal size grouping 4



From a 6-6 set remove all the doubles and then partition the remaining dominoes into three equal size groups so the total number of spots for each group is the same.

From a 6-6 set remove all the doubles and split it into seven equal size groups so the total number of spots for each group is the same.

Group a 6-6 set of dominoes, with the doubles removed, into a 7 by 3 array, so the rows of 7 dominoes each sum to the earlier total AND the 3 columns of dominoes total to the other common total.

Dominoes and differencing Y2 / Y3

Choose whichever size of set you think will be appropriate. You might even use larger sets; a 7-7 set has 36 dominoes, an 8-8 set has 45 and a 9-9 set has 55 dominoes.

These games are for children to practise the idea of 'difference between'.

The set of dominoes needs to be turned over, face down, and spread across a table. Pupils take turn to:

- choose two dominoes
- find the total for each one
- find the difference between these two totals
- this value becomes their score for that 'go'
- the dominoes are not returned to the table

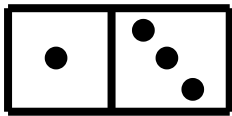
Players take turns and the 'winner' is the person with the greatest sum of the differences. Clearly everyone will need to take the same number of turns so with some sets there will be some unused dominoes at the end of each game.

You might ask one member of the group to become the recorder of the scores for the other pair of players. However each player should obviously be encouraged to work out their scores which the recorder needs to check.

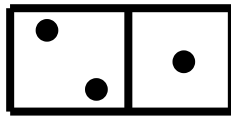
Dominoes and differencing Y3 / Y4

The game could be made harder by applying place value.

For example if the two dominoes chosen are the



and the



pupils have to turn these

into tens and units.

So as they appear above they would be worth 13 and 21 respectively, in which case the difference would be 8.

Strategically, the best choice would be 31 and 12, in which case the difference becomes 18

Dominoes and differencing Y3 / Y4

This game involves multiplication and subtraction.

As before pupils choose two of the face down dominoes and find the product of each, thus with a 5-5 set if the 5-3 and the 3-2 dominoes are chosen, the products become 15 and 6 so the resulting calculation will be $15 - 6 = 9$

This game is also useful for practising multiplication by zero!

Learning to play the game of threes and twos Y3 / Y4

This is a simpler version of the game of 5's and 3's below and could be played with a 4-4 set of dominoes. So points are scored when the 'end values' total to a multiple of either 2 or three.

Thus if the end values total to 12, this would score six (for the 2's) and four (for the 3's) making a total of ten points.

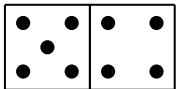
Similarly if the end values total to 6, this would score three (2's) and two (3's) making a total of 5.

Learning to play the game of fives and threes Y4/ Y5 / Y6

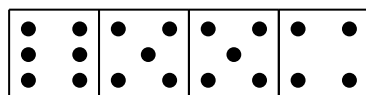
The basic idea is to play dominoes by matching pairs of the same numbers and adding together the values appearing at either **end**. Players score points according to whether this total is divisible by either 5 and/or 3.

'Doubles' are placed 'vertically' rather than horizontally.

Below is the beginning of a game between two players A and B:

If **player A** plays  this scores 3 points because $(5 + 4) \div 3 = 3$

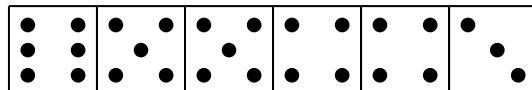
If **player B** adds the 6-5 domino to form the following arrangement:



this gives a score of 2 because $(6 + 4) \div 5 = 2$ (points)

If player a now plays the 4-3 this will give a score of 3

This is because $(6 + 3) \div 3 = 3$ (points)

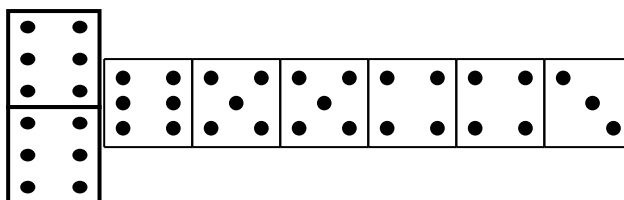


Scores are accumulated so **player A** at this point of the game has scored a total of 6 points.

If **player B** now plays the double 6 this is placed 'vertically', as shown below and the two ends now total to 15 (i.e. $6 + 6 + 3$).

In fact all doubles are placed vertically.

In this situation **Player B** scores 8 points for making a total of 15 because 15 divides by both 5 and 3, so $15 \div 5 = 3$ (points) and $15 \div 3 = 5$ (points), e.g.



The game continues and the winner is the person to score 121 points (or twice around a cribbage board).