

# Factors and multiples

### Learning objectives

**(Y4)** Recognise multiples of 2, 3, 4, 5 and 10, up to the tenth multiple.

**(Y5)** Find all the pairs of factors of any number up to 100.

**(Y5 and Y6)** Recognise multiples of 6, 7, 8 and 9, up to the tenth multiple.

### Mental starter

See the starter 12 on page 13.

### You will need

0 - 9 number cards for each group; photocopiable page 51 for each child; calculator or table square for each group.

### Moving on

● The activity with the Venn Diagram can be set up as a game for the children. They select cards in the same way as the game above, but they must get one number in each of the four cells to win.

● Allow the children to choose how many cards to turn over. They could opt for more or fewer than two if it helped them to fill a box.

### Whole class work

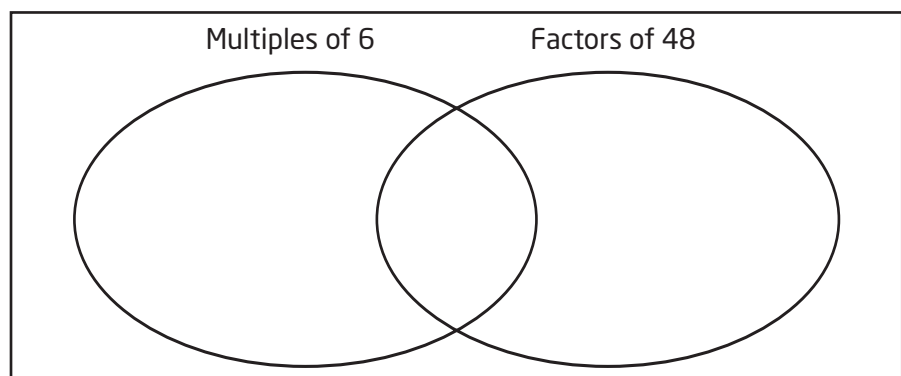
- Write the number 12 on the board. Give each child a set of 0 - 9 number cards and ask them to hold up a multiple of 12.
- Discuss the various answers. If too many children show 24 then ask for another number greater than 40.
- Now say: *Show me a factor of 12.* Check that the children understand the difference between factors and multiples.
- Repeat this activity with the numbers 27 and 35.

### Group work

- Give each child a copy of photocopiable page 51 and arrange the children in groups.
- Take one set of number cards and arrange them face down so that each card is accessible. Ask a child to take two cards and turn them over. Each child then uses these two digits to make a true statement, in any one of their boxes. For example, the digits 1 and 8 may be used to show that 81 is a multiple of 9, or that 18 is a factor of 36.
- The cards are turned face down again and the next player chooses two cards. Play continues until a player has completed statements in one of the four loops on the sheet. Play then continues until another loop is complete, and so on.

### Plenary

- Draw two intersecting loops on the board to form a Venn Diagram. Label one loop 'Multiples of 6', and the other loop, 'Factors of 48'.
- Indicate one of the four regions and ask the children to hold up a number in that region. Place some of the answers on the board. Repeat for the other three regions.



Potential difficulties	Further support
Children may struggle with multiples which are outside their immediate knowledge.	Supply a table square or a calculator. This will allow the children to focus on the strategy of the game.
Children may have difficulty with the concept of factors since far less time is usually devoted to factors than to multiples.	Practise writing down all of the factors in a given number. Remember to include both 1 and the number itself.