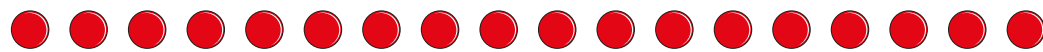


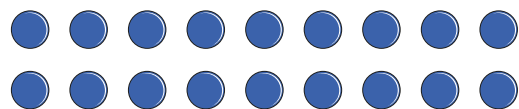
Factor pairs

1 Alex is making arrays using counters.

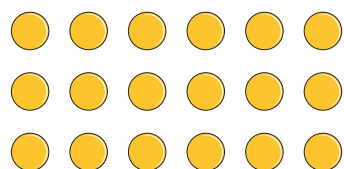
a) What calculation is represented in each array?



$$\boxed{1} \times \boxed{18} = 18$$



$$\boxed{2} \times \boxed{9} = 18$$



$$\boxed{3} \times \boxed{6} = 18$$

b) Use your answers from part a) to help you write all the factors of 18

1, 2, 3, 6, 9, 18

2 Use counters to make arrays and find the factor pairs for each number.

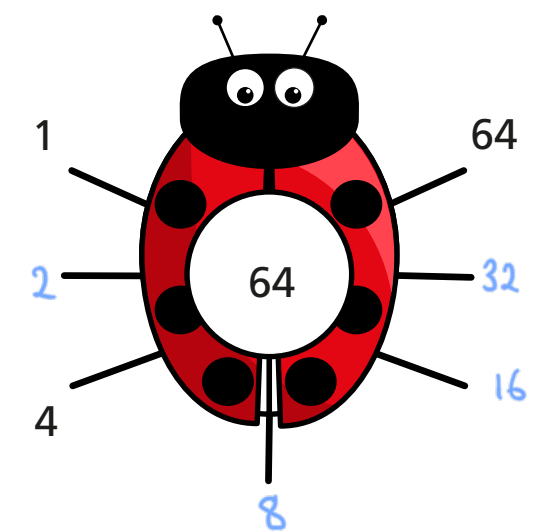
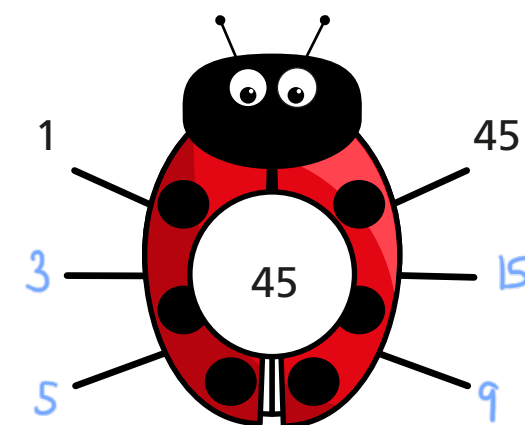
a) 12 1 × 12 2 × 6 3 × 4 1, 2, 3, 4, 6, 12

b) 15 1 × 15 3 × 5 1, 3, 5, 15

c) 24 1 × 24 2 × 12 3 × 8 4 × 6 1, 2, 3, 4, 6, 8, 12, 24

Which of the numbers has the most factor pairs? 24

3 Complete the factor bugs for 45 and 64



4 Find all the factor pairs for the number 72

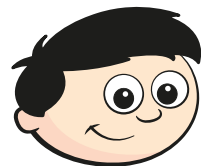
The factor pairs of 72 are 1, 72, 2, 36, 3, 24, 4, 18,
6, 12, 8, 9

5 Are these statements true or false?

	True	False
8 and 2 are both factors of 10	☐	☒
5 and 50 are both factors of 50	☒	☐
25 has only three factors.	☒	☐
All the factors of 15 are odd.	☒	☐

Talk about your answers with a partner.

6



The bigger the number the more factor pairs it has.

Use examples to show that Dexter is wrong.

E.g. 4 has 3 factors (1, 2, 4)

and 5 only has 2 (1, 5)

7 Tommy is finding factors of 12 and 18

12 and 18 have the same number of factor pairs.



a) Is Tommy correct? Yes

Explain your answer.

They both have 3 factor pairs and so 6 factors.

b) Find two other numbers with the same number of factor pairs.

E.g. 32 and 50

8

Class 4B is having a sports day.

There are 36 children in the class.

The children need to be in equal groups.

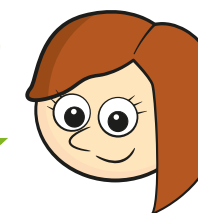
What group sizes are possible?

E.g. 36 groups of 1, 18 groups of 2 etc.

9

Rosie is investigating factor pairs.

6 is a perfect number because when you add its factors together, apart from itself, they equal 6



What is the next perfect number after 6?

28