


JAMAICA

Primary Mathematics

NSC Edition

Grade
3

SAMPLE

Lisa Greenstein


Boost

 **HODDER**
EDUCATION

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1 Number work

In this chapter you will:

- understand sets
- compare sets
- identify equivalent sets
- work with sets in a variety of ways.

Key words

set
member
equivalent

Starting point

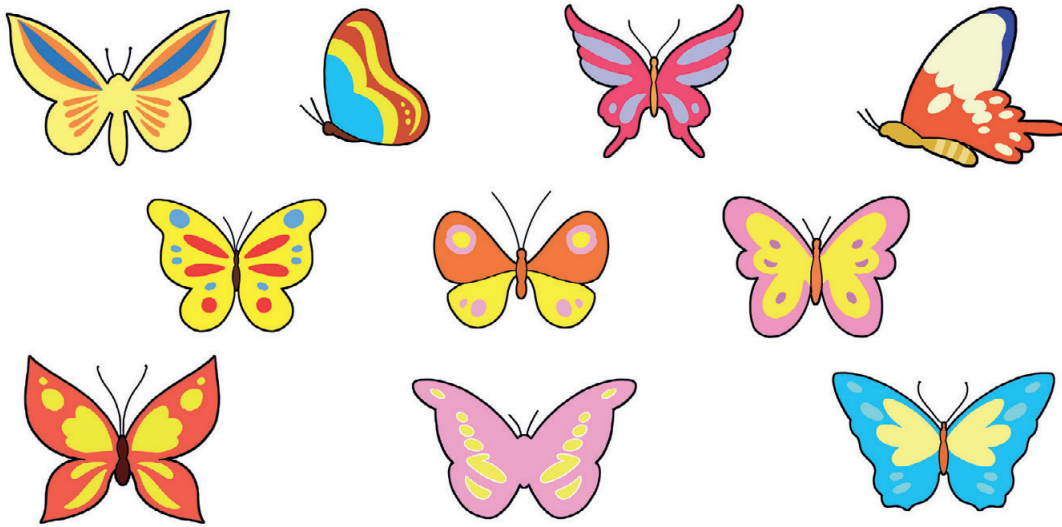
- 1 Draw some of the different shapes you can see in this mosaic.



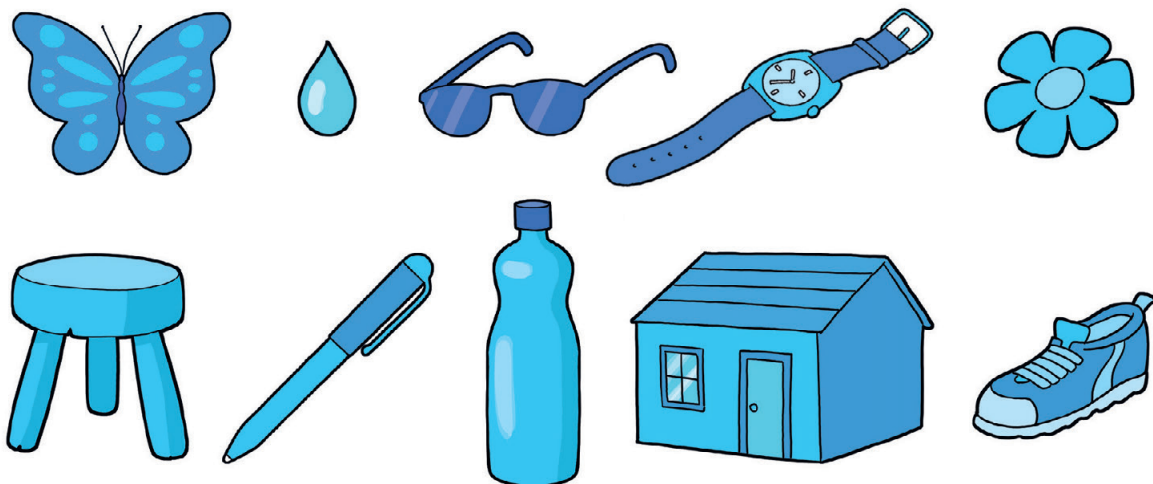
- 2 Find two different kinds of triangles in the mosaic. Draw over them with a crayon to show where you found them.
- 3 Tell a partner:
- a the names of the shapes you see in each triangle
 - b how you could sort the shapes into sets in different ways.

Equivalent sets

In mathematics, any group of objects, shapes or numbers is known as a **set**. Things that belong in a set are called **members** of the set. Sometimes the members in the set are all the **same**. Sometimes they are different, but they have been grouped together.

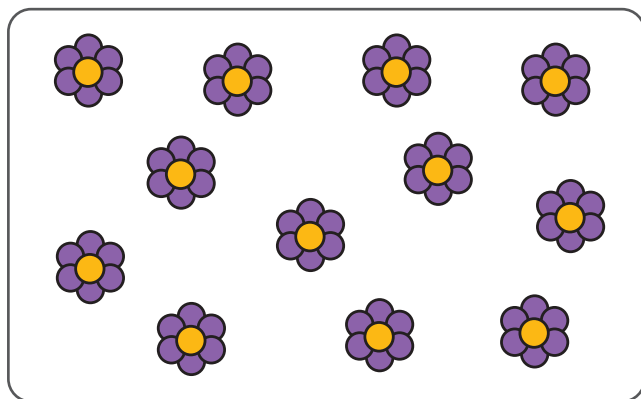


a set of 10 butterflies

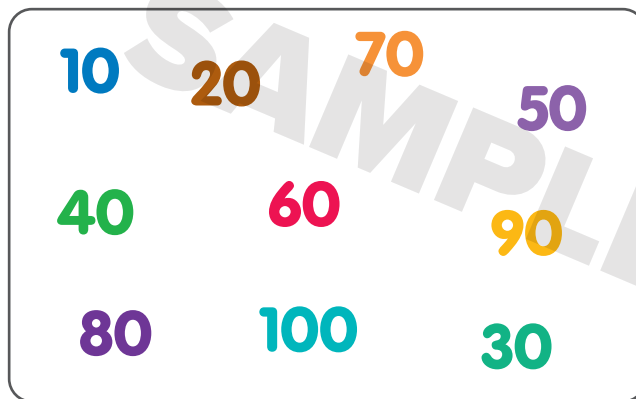


a set of 10 blue things

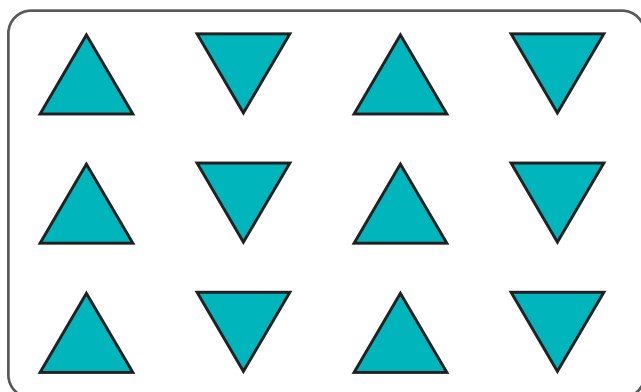
Sets that have the same number of members are called **equivalent sets**. 'Equivalent' means the same. It only tells us about the number of members in the set, not about what they are.



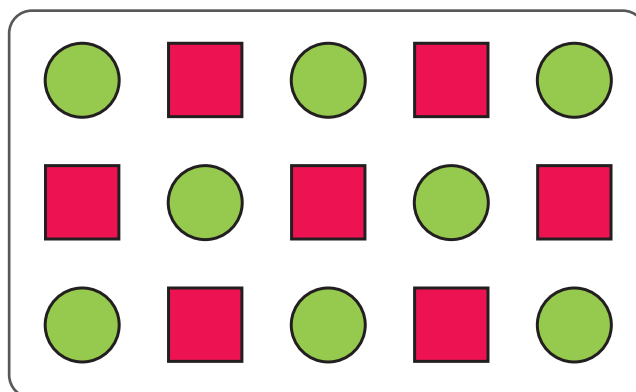
Set A



Set B



Set C



Set D

1 Describe what each set shows.

- a** Set A:
- b** Set B:
- c** Set C:
- d** Set D:

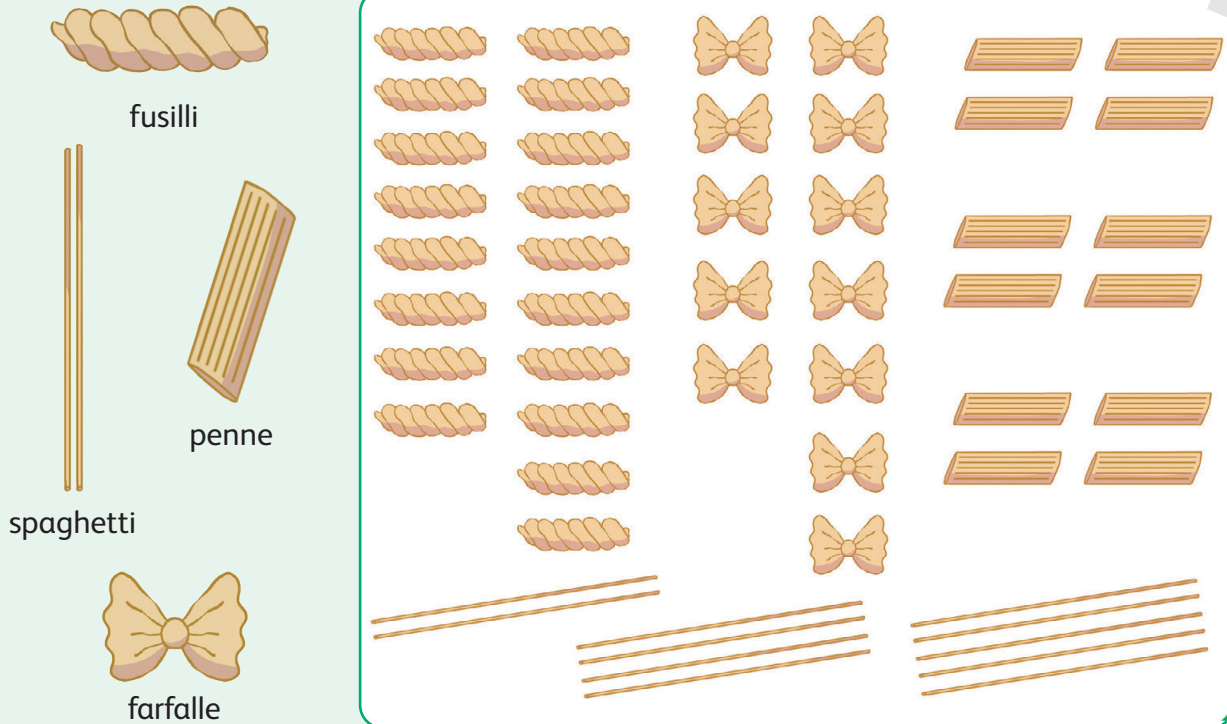
2 Complete the statements comparing the sets.

- a** Set is the greatest because it has the most members.
- b** Set has fewer members than set
- c** Set and Set are equivalent sets.

3 Amanda says that Set D only has 2 members: circles and squares. What is her mistake?

Joining sets

Pasta comes in many different shapes. In this picture, you can see the following different shapes:



Look at the picture and complete the statements.

- 1 **a** There are two sets of fusilli. One set has members and the other has members.
b If you joined together both sets of fusilli, you would have one set of fusilli pieces with members.
- 2 There are two sets of farfalle. One set has members and the other has members. Together, they would make a bigger set of pieces.
- 3 How many sets of spaghetti pieces do you see?
a Explain to a partner how you counted them.
b About how many pieces of spaghetti do you count in the picture?
- 4 How are the penne pieces arranged? Describe the groups and the total number of pieces.

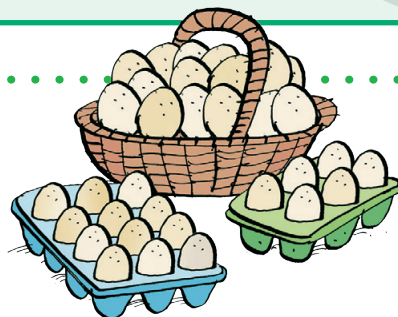
- 5 What is the total number of pasta pieces in the picture? Explain to a partner how you worked it out.

Sharing sets

Sometimes we **share** sets to make smaller equivalent sets. You learned about this last year when you did division.



Real-life maths activity



1 Here are three sets of eggs.

a Which set of eggs is difficult to count? Why?

b Which set has the greatest number of eggs? Explain how you know.

c Mrs Cotton-Jones buys the blue tray of eggs. She uses 4 eggs each morning for breakfast. After how many days will she need to buy another tray?

d The basket contains 23 eggs. How long would this last Mrs Cotton-Jones? How many eggs would she have left on the last day?

e How many eggs will you have if you buy 5 green trays?

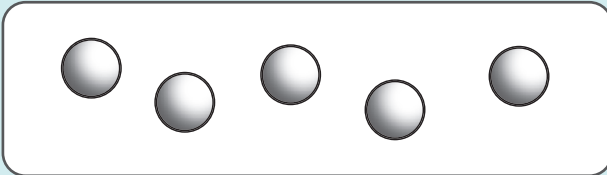
2 Draw a set of 16 shapes, objects or numbers. Show two different ways that you can share them into smaller equivalent sets.



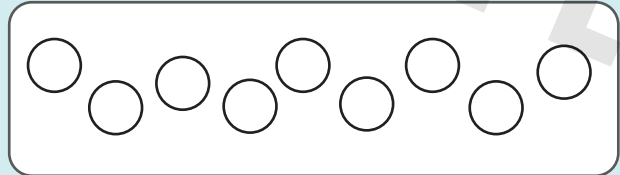
Rearranging sets



Problem solving

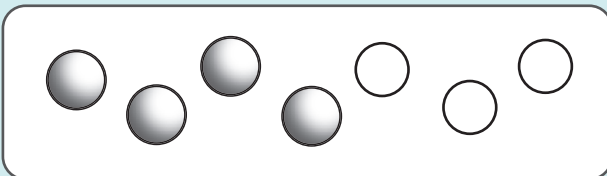


Set C

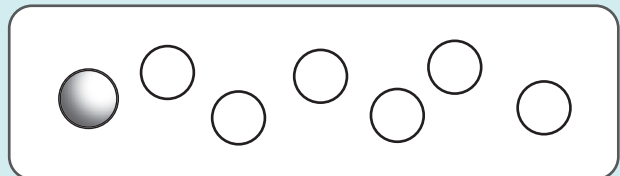


Set D

- 1 Set C and Set D have different numbers of members. Katy wants to rearrange them into two equivalent sets, Set E and Set F. She does it like this:



Set E

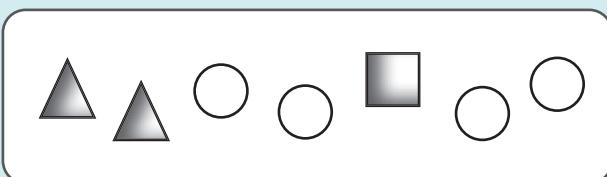


Set F

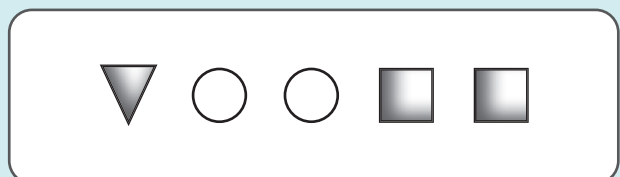
Draw a different way that Katy could have arranged the colours into equivalent sets.



- 2 Set A and Set B each have triangles, circles and squares.

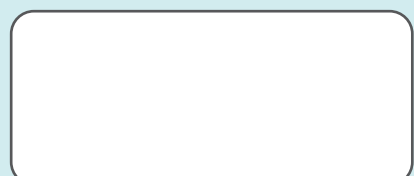
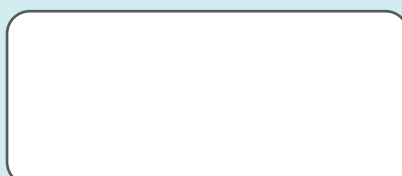
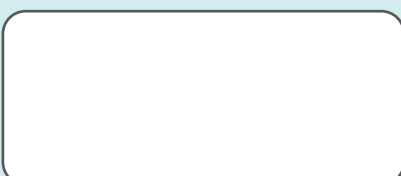


Set A






Set B

Work with a partner. Arrange the members from the two sets into three new sets that are all equivalent.






What I have learned

- 1** Draw a set of shapes and a set of numbers. Make them equivalent sets.



- 2** Matthew has a set of 100 envelopes, a set of 60 holiday-themed notecards, a set of 20 thank-you cards and a set of 20 blank cards. How would you make these sets into two equivalent sets?



- 3** Write the members of these sets.

a Set A = a set of whole numbers greater than 0 and smaller than 21



b Set B = a set of 2-digit numbers that end with 0



c Set C = a set of numbers greater than 50 and less than 71



4 Use the sets from Exercise 3.

a Complete: Set is equivalent to set because

.....

b Write the numbers that belong in both Set A and Set B.

.....

5 Find the sum of the greatest number in Set A and the smallest number in Set C.

.....

.....

6 Jenny says that if two sets both have an odd number of members, it is possible to rearrange them into two equivalent sets. Explore this with a partner and try to work out whether Jenny is correct and why. Write or draw some of your ideas here.

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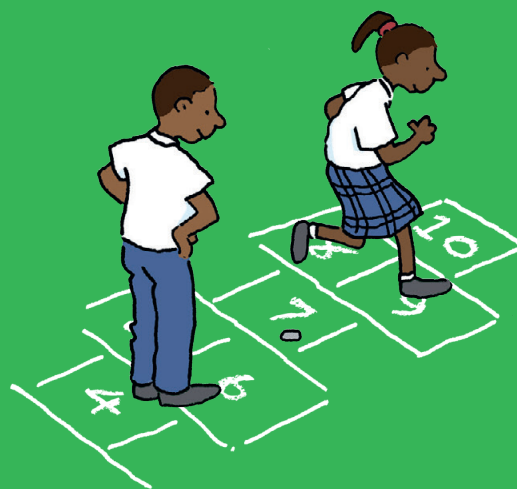
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