

JAMAICA

SAMPLE

NSC Edition

Primary Mathematics

Second Edition

**Grade
3**



Lisa Greenstein

 **hachette**
LEARNING

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Introduction

Welcome to *Jamaica Primary Mathematics for Grade 3*. This book has been designed collaboratively by a team of international and Jamaican writers and educators to meet fully the requirements of the Jamaican NSC.

Mathematics is divided into five strands: **Number**, **Measurement**, **Geometry**, **Statistics and probability** and **Algebra**. In each chapter, you will find a colour-coded tab down the right-hand side of the page, showing which strand the student is working on. Students steadily build up their skills in each strand throughout each term. The **Contents** page shows you how the chapters have been allocated to each month of the school year.

This is what you will find as you work through the book:

Objectives box – the main content students will learn.

Term number and month → **TERM 1 September**

Chapter number and chapter name → **1 Number work**

Starting point – questions or an activity intended to stimulate discussion and give students an opportunity to think about what they already know.

Most questions and activities include space for students to work in this book, or instructions for how to complete them using easy-to-find materials.

Key words – vocabulary that students will use in the chapter. You can find definitions for these words (which are printed in bold black in the chapter) in the **Glossary and Index** at the back of the book.

Key words set member equivalent

Colourful photographs and original drawn artwork provides real-world context to make the content relevant and engaging.

Page numbers

8

Objectives box

In this chapter you will:

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

Starting point

1 Jo has a big set of blocks. She chose some of the blocks to make the smaller set in the picture.

a How many are in the smaller set Jo chose?

b Tell a partner two different ways you could sort this set into smaller sets.

c What is a set? Work with a partner to write what you understand.

2 The rest of the set is not shown in the picture. Colour or draw to show three more blocks you would expect to find in the set.

Dear Student

This book is your special guide to the world of numbers, shapes, patterns and problem solving. Mathematics is all around you. You use it when you count, measure, share things, and even when you play games. You can see mathematical patterns in nature in your environment, and in the built world around you. As you work through each page, you will discover colourful pictures, fun activities, challenges and new ways to solve problems.

As you work through this book, do not be afraid to try different ways of working, and to make mistakes. Mistakes help us to learn and understand new things. Ask questions and discuss your ideas with a partner or a group. Mathematics is challenging, and you will learn in many different ways. Good luck and have fun!

Other features you will find in a chapter may include:

-  **Real-life maths** – activities that link content to real-world contexts, or provide opportunities for hands-on and practical activities. These are often integrated with subjects such as Art, Science or Social Studies.
- A  indicates an opportunity for drawing.
- The  indicates an activity that gives students an opportunity to use technology or develop their digital literacy.
-  **Problem solving** to solve real-world problems, in context, using the maths that have learned.
- **Practice** – extra questions for students who need an opportunity for further practice in order to achieve mastery.
- **Challenge** – extension questions that give students an opportunity to extend or challenge themselves using what they have learned.
- **What I have learned** – a reflection activity at the end of each chapter, which can be used for consolidation or assessment.

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

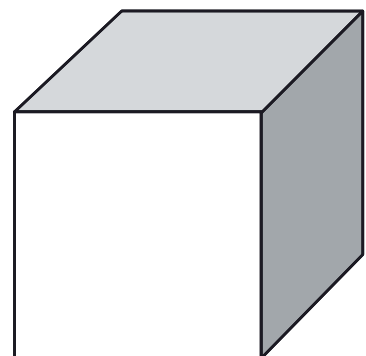
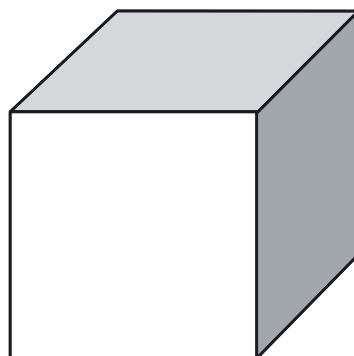
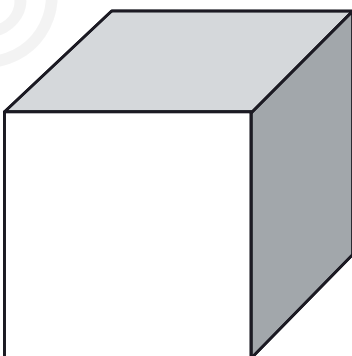
Starting point

- 1 Jo has a big **set** of blocks. She chose some of the blocks to make the smaller set in the picture.



- How many are in the smaller set Jo chose?
- Tell a partner two different ways you could sort this set into smaller sets.
- What is a set? Work with a partner to write what you understand.

- 2 The rest of the set above is missing. Colour in these blocks and add numbers or symbols to show three more blocks you would expect to find in the set.



Equivalent sets

A **set** is a group of objects, shapes or numbers. 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.

This is a set of ten butterflies.

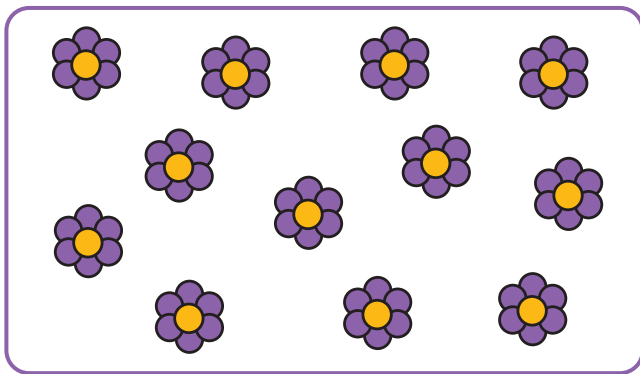


This is a set of ten blue things.

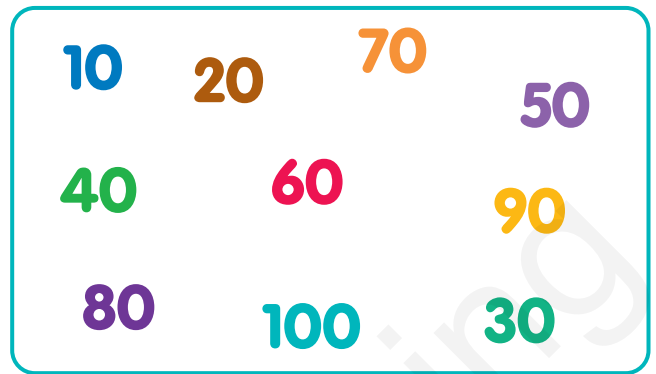


These two sets are **equivalent** sets. 'Equivalent' means the same. That means they have the same number of members.

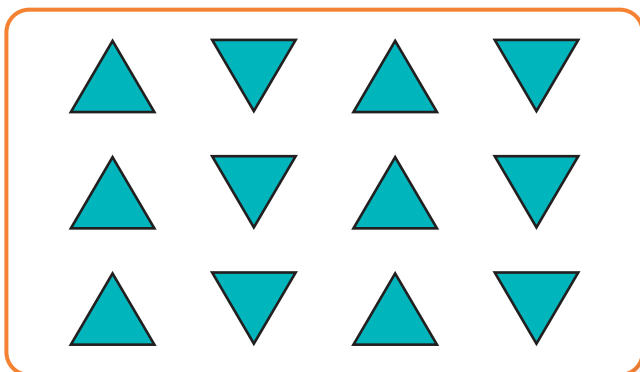
- 1** Look at each set. Discuss with a partner how many members each set has. Describe the members of the set.



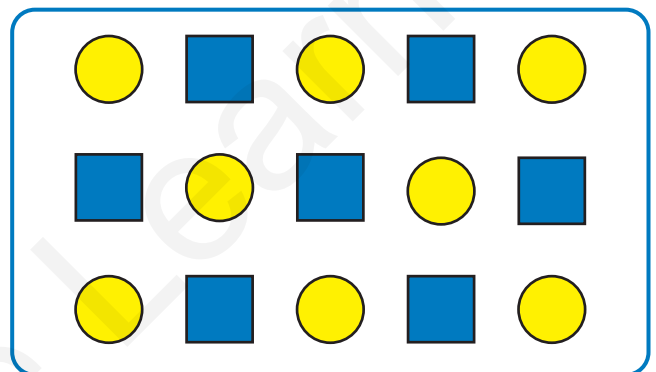
Set A



Set B



Set C



Set D

- 2** Use your ideas from question 1. Write what each set shows.

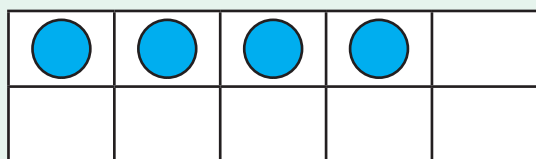
- a Set A: _____
- b Set B: _____
- c Set C: _____
- d Set D: _____

- 3** Complete the statements comparing the sets.

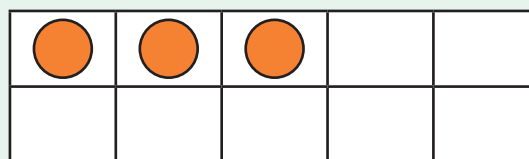
- a Set ____ is the greatest because it has the most members.
- b Set ____ has fewer members than set ____.
- c Set ____ and Set ____ are equivalent sets.

- 4** Amanda says that Set D only has two members: circles and squares. What is her mistake?

Joining sets

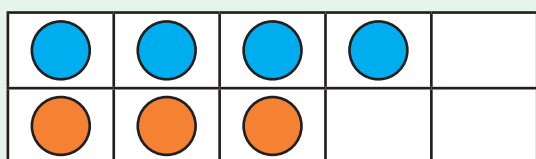


Set A has four blue counters.



Set B has three orange counters.

We can join Set A and Set B to make a new set. This is Set C.
Joining sets is the same as adding.



Set C

$$4 + 3 = 7$$

- 1 Set D has five yellow counters in a number frame. Set E has two black counters. Mike joins the two sets to create Set F. Draw the correct number of counters for Set F.

- 2 Set M contains 16 shapes.

- a Penny shares it into two equivalent sets, which she calls Set P and Set W. Draw the correct number of members. You can use any shapes to show the members of the new sets.

--	--	--	--	--	--	--	--	--	--

Set P

--	--	--	--	--	--	--	--	--	--

Set W

- b Grant shares Set M in another way. He makes three sets. None of the new sets are equivalent. Show how Grant can do this.

--	--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--	--

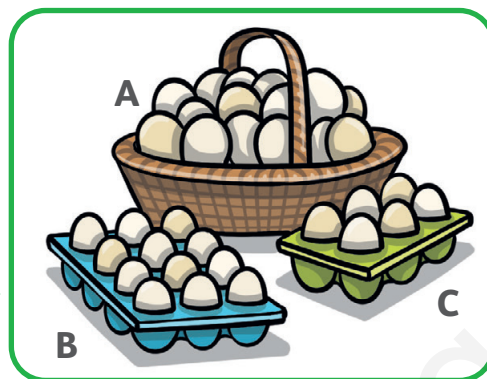
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- c Compare your answer to question b with some classmates. Find three different ways to answer question b. Write addition sums to show the different ways.

	+		+	
	+		+	
	+		+	

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 four 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 five 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.



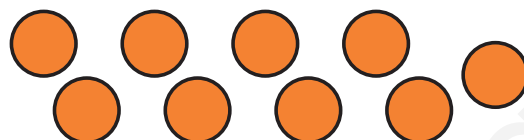
A large rectangular box for drawing and writing, with a pencil icon in the top right corner.

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 you can rearrange sets C and D 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 these two sets into three new sets that are all equivalent.

Practice

- 1 Set A is the set of whole numbers that are less than 15. Write the members of Set A:

Set A =

- 2 Set P is the set of even numbers between 25 and 35. Write the members.

Set P =

- 3 a In each set below, circle the greatest number.
 b Draw lines to join sets with the same number as one of their members.
 c Equivalent sets have the same number of members. Write them below.

A

14	94	74
84	4	

B

60	80
70	

C

78	74	70
79	73	

D

5	10	15
20		

E

24	44
54	94

F

5	15
10	

and

and

and

Challenge

- 1 Set Z is the set of numbers between 1 and 99 that have a zero as their last digit. Write the members of this set.

Set Z =

- 2 a Set N is the set of numbers between 20 and 99 that have a five as their last digit. Write the members of this set.

Set N =

- b Describe another set of numbers that is equivalent to Set N.

What I have learned

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



- 2 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

- 3 Use the sets from question 2.

a Complete: Set is equivalent to set because

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

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

$$\boxed{} + \boxed{} = \boxed{}$$

- 5 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.

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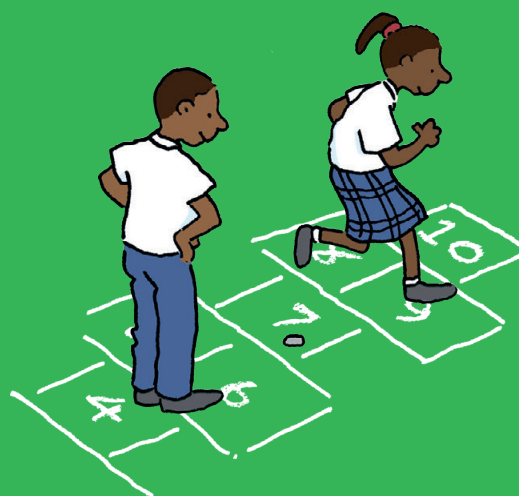
Grade

3

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