

# INTRODUCTION

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Welcome to **Understanding Fractions Book 3**. This book has been designed for Year 3 students, although it may also be helpful in reinforcing fractional concepts for children who are experiencing some difficulties or providing more challenging activities and understandings for younger students.

The activities in this book allow students to explore and play with fractional relationships and to come to their own understandings. Students are encouraged to analyse shapes, relationships and numbers. They are also encouraged to develop their skills in communicating, reasoning and problem solving.

Book 3 begins to build on the basics of fractions. Students are now required to apply the knowledge they have gained into a variety of situations including equations and word problems. Whilst still revisiting simple understandings, students will begin to add, subtract and multiply common fractions with the same denominators. The use of concrete aids is encouraged to assist students in understanding fractional concepts.

Your organisation of students may vary as you continue to use this resource. The tasks have been designed to be completed in small groups or pairs as the student exchange of ideas increases the power of learning as it uncovers a variety of problem solving strategies. You may, however, prefer that some tasks be completed individually. When this is the case, bring the students back together on completion of the task and share understandings and experiences. This will help you identify students who require further assistance and will also reinforce the skills that have been taught. Other students will be ready to expand on the concepts they have understood.

Each activity in **Understanding Fractions Book 3**, focusses on at least one of the curriculum strands of **Space, Number, Measurement** and **Reasoning strategies**. The lessons have been designed to be exploratory and sequentially connected.

Assessment is multifaceted and this resource encourages a range of strategies for assessing students. Each lesson is part of this process. You can gather valuable information by listening to student's explanations, observing their thinking and examining their writing and reflections. These assessment tools are some methods of exploring student progress and modifying instruction to suit the needs of your students.

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**E D U C A T I O N**

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LESSON  
**1**

**FOCUS:** Explore halves of rectangles and squares

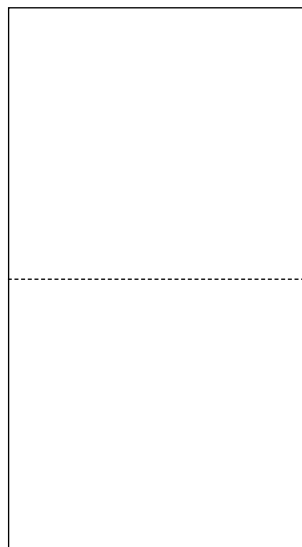
**MATERIALS:** Red, blue, green, and yellow crayons or textas; ruler

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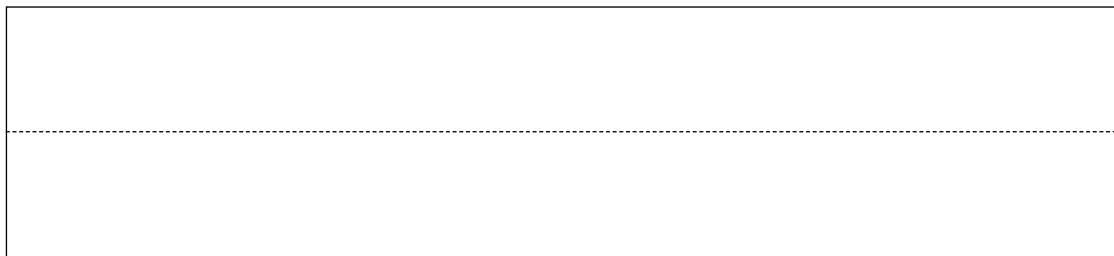
1. Colour  $\frac{1}{2}$  of this **rectangle** red. Colour the other  $\frac{1}{2}$  blue.

Circle the sentence that is true.

- The red part is larger.
- The blue part is larger.
- Each part is the same size.



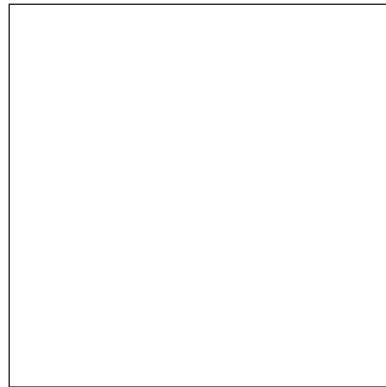
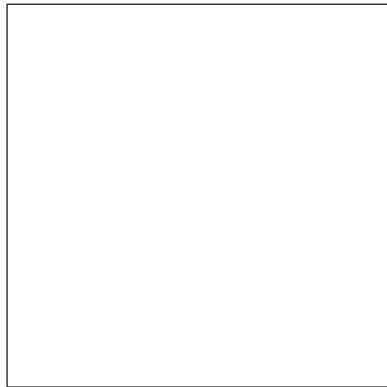
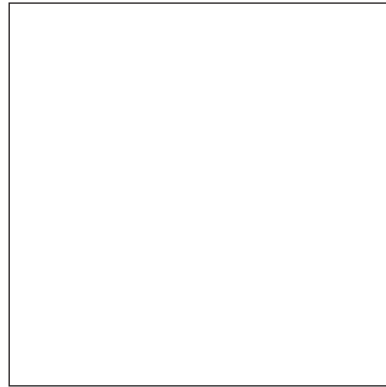
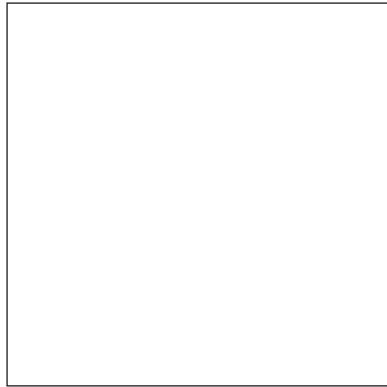
2. Colour the top  $\frac{1}{2}$  of this rectangle green. Colour the bottom  $\frac{1}{2}$  yellow.



Circle the sentence that is true.

- The yellow part is larger.
- The green part is larger.
- Each part is the same size.

- 
3. Shade  $\frac{1}{2}$  of each of these **squares**. Try a different way for each square.  
When you are finished, work with a partner to compare each other's work.



Describe how your work compares. Did you both divide the shapes in the same way? Are your answers different? Are your answers the same? Are all of your answers correct?

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4. Circle the correct answer. How many halves are in a whole figure?

one                      two                      three

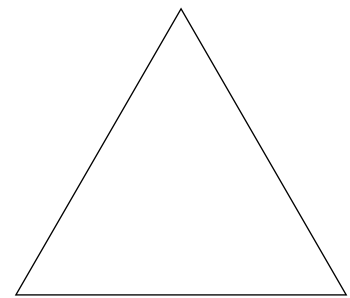
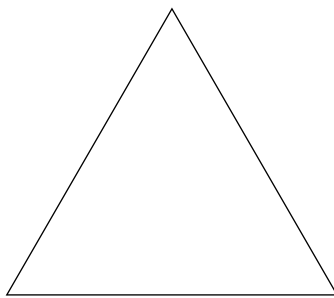
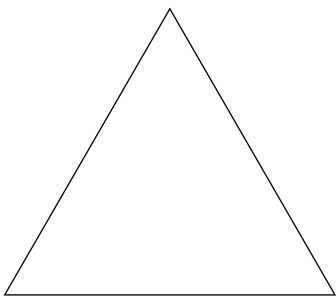
LESSON  
**2**

**FOCUS:** Explore halves of triangles

**MATERIALS:** Crayons or textas, ruler

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1. Colour  $\frac{1}{2}$  of each **triangle**. Try to divide each triangle in a different way. When you are finished, work with a partner to compare each other's work.



Describe how your work compares. Did you both divide the shapes in the same way? Are your answers different? Are your answers the same? Are all of your answers correct?

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2. Circle the correct answer. How many halves are in a whole figure?

one                      two                      three

3. Write a story about how you divided each of the triangles differently. Was it easier to divide the squares in Lesson 1 or the triangles above? Include the answer to this question in your story. You may want to use pictures in your story.

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