


# LESSON PLAN

## Year 5: Fractions

 45 MINS

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 Mathletics

### General Outcome:

- Solve problems using concrete objects and pictorial representations, including those involving numbers, quantities and measures.

### Specific Outcomes:

- Recognise equivalent fractions
- Create equivalent fractions using concrete resources
- Compare fractions with like and unlike denominators

## Introduction

 10 MINS

Play Mathletics video "**Pattern Blocks #1**" from Lesson "**Year 5: Fractions**" to introduce pattern blocks and discussion about fractions and equivalent fractions. Pause during the questions asked in the video. Discuss responses.

Hand out pattern blocks to students, as a manipulative to begin thinking about how they could create a shape that is one half yellow. Display "**Pattern Blocks**" in Concept Search for an additional visual.

**Demonstrations**> **Concept Search**> **Search Pattern Blocks**

Ask students to begin to search for solutions using pattern blocks. Listen to student discussions and share approaches and starting points. Select children to share their thinking with the class.

To support Learning, ask students:

- Put down one yellow block. How could you use only red with the yellow to show one half? What about only green?
- Could there more than one yellow block? How would that change your original answer?
- Once you have a correct answer, does moving a block to a new location always result in another correct answer?

To extend learning, ask students:

- Why might someone who uses one yellow and two reds be correct? In what way is it not one half yellow? Why might someone who uses one yellow and one green be correct? In what way is it not one half yellow?
- What is the fewest number of blocks possible? Why that number?



### ITEMS NEEDED

- ✓ Interactive whiteboard
- ✓ Mathletics teacher and student logins
- ✓ Mathletics eBooks
- ✓ Teacher notes from "Pattern Blocks #1"
- ✓ Student worksheet for "Pattern Blocks #1"
- ✓ Pattern Blocks
- ✓ Computers/Laptops



### ASSESSMENTS

- ✓ Observation and participation
- ✓ Reviewing completed "Pattern Blocks #1" student worksheet
- ✓ Reporting results within the Teacher Console of Mathletics for curriculum



### ACCOMMODATIONS/ MODIFICATIONS

- ✓ Provide manipulatives.
- ✓ Encourage students to click on "Something Easier" and "Something Harder" within Mathletics curriculum activities.
- ✓ Teacher can work with a small group of students.



### EXTENSION OF LEARNING

- ✓ Concept Search "number lines" and "fractions". Show students how to use a number line to represent and compare fractions.
- ✓ Curriculum activities
- ✓ Live Maths Level 4 and 5.

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### The Lesson

 30 MINS

#### eBooks: Pattern Blocks #1

- Provide students with the "Pattern Blocks #1" student handout in Lessons > Pattern Blocks #1 Printable Resource. Students can use physical shapes or the teacher can provide drawing paper. Ask the students come up with as many possible solutions as possible. If students need help with ways to solve this problem, teachers can review the Problem Solving booklets within eBooks. The strategies discussed in the Problem Solving eBooks are; Read, plan, work and check; Draw a diagram; Look for patterns; Act it out; Trial and error; Make a list; Estimation; Work backwards; and open ended.
- Display the "Pattern Blocks #1" interactive on the interactive whiteboard. Drag shapes in to the main screen and line them up with the triangles in the background to help students to estimate and visualize. Ask students to use the interactive to show solutions they have found. Ensure to include shapes created by overlapping blocks and those without overlapping blocks. Discuss how there are various solutions and how this links to equivalent fractions.

Ask students:

- What would happen if we could only use red and yellow blocks?
  - How could we represent  $\frac{1}{2}$  using the fewest blocks?
  - What different colour combinations could you use?
- Reinforcement: Using computers or mobile devices, students complete curriculum activities in the Student Console. Suggested activities: Equivalent Fractions, Equivalents Fractions 1, Equivalent Fractions on a Number Line 1, Compare Fractions 1b, Compare Fractions 2, Ordering Fractions.
  - Extension activity/cross-curriculum activity: Ask students to create fractional art. Ask students to represent a fractional amount and show an equivalent fraction. Students can represent their fraction using paper and glue, drawing pattern blocks, using multilink cubes, constructing two real-life objects, etc.



### Plenary

 5 MINS

- Play a game of Live Maths as a whole class. Log in to your Teacher Console and click on Demonstrations > Live Maths > Level 6 > World > Go. Level 6 includes fraction questions.
- Ask students: What did you learn about fractions? How do you best represent fractions? Share your learning.



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