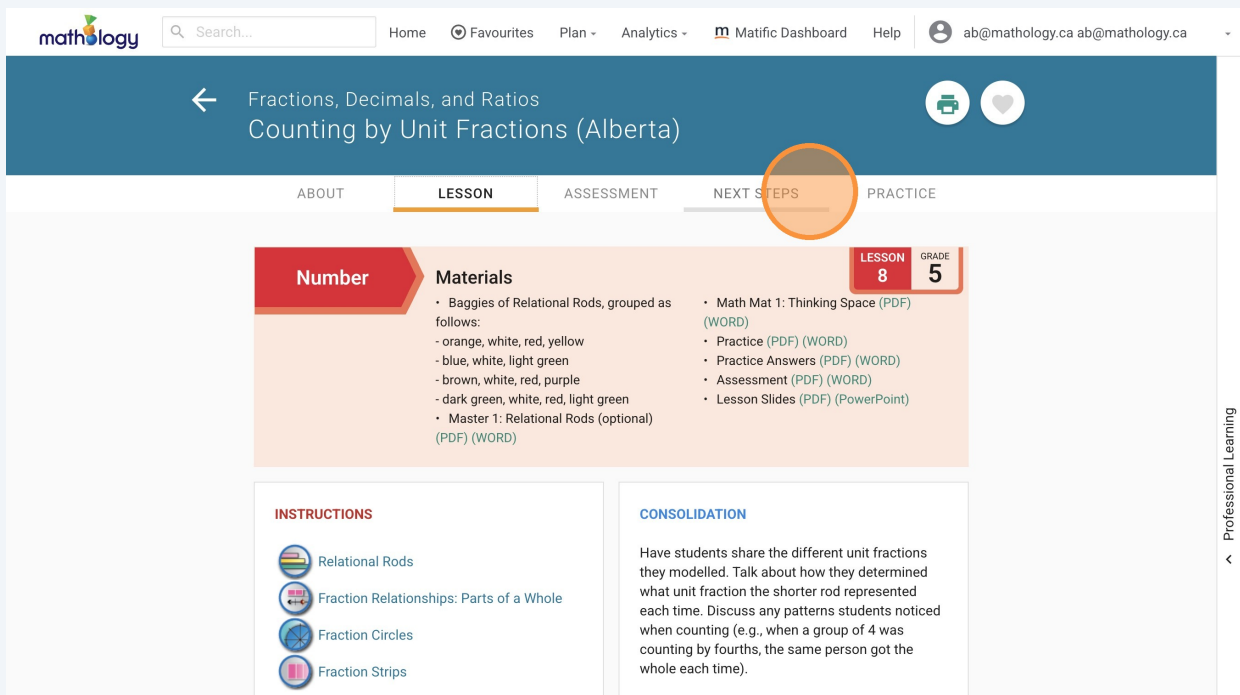


Differentiation: Using Next Steps Mini Lessons Gr 4-6

This guide shows you how to navigate the Mathology to locate specific intervention and extension activities .

1 Click "Next Steps"



The screenshot shows the Mathology website interface. At the top, there is a navigation bar with the Mathology logo, a search bar, and links for Home, Favourites, Plan, Analytics, Matific Dashboard, and Help. The user's email address is displayed as ab@mathology.ca. Below the navigation bar, the page title is "Fractions, Decimals, and Ratios" and the specific lesson is "Counting by Unit Fractions (Alberta)". The "NEXT STEPS" tab is highlighted in orange. The main content area is divided into sections: "Number" (highlighted in red), "Materials", "INSTRUCTIONS", and "CONSOLIDATION". The "Materials" section lists various resources like "Baggies of Relational Rods" and "Math Mat 1: Thinking Space (PDF)". The "INSTRUCTIONS" section lists "Relational Rods", "Fraction Relationships: Parts of a Whole", "Fraction Circles", and "Fraction Strips". The "CONSOLIDATION" section provides a paragraph of text for students to share their work. A vertical sidebar on the right side of the page is labeled "Professional Learning".

mathology Search... Home Favourites Plan Analytics Matific Dashboard Help ab@mathology.ca ab@mathology.ca

Fractions, Decimals, and Ratios
Counting by Unit Fractions (Alberta)

ABOUT LESSON ASSESSMENT NEXT STEPS PRACTICE

Number

Materials

• Baggies of Relational Rods, grouped as follows:
- orange, white, red, yellow
- blue, white, light green
- brown, white, red, purple
- dark green, white, red, light green
• Master 1: Relational Rods (optional) (PDF) (WORD)

• Math Mat 1: Thinking Space (PDF) (WORD)
• Practice (PDF) (WORD)
• Practice Answers (PDF) (WORD)
• Assessment (PDF) (WORD)
• Lesson Slides (PDF) (PowerPoint)

LESSON 8 GRADE 5

INSTRUCTIONS

Relational Rods
Fraction Relationships: Parts of a Whole
Fraction Circles
Fraction Strips

CONSOLIDATION

Have students share the different unit fractions they modelled. Talk about how they determined what unit fraction the shorter rod represented each time. Discuss any patterns students noticed when counting (e.g., when a group of 4 was counting by fourths, the same person got the whole each time).

Professional Learning

2 Click Intervention or Extension to find additional activities

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Fractions, Decimals, and Ratios
Counting by Unit Fractions (Alberta)

ABOUT LESSON ASSESSMENT **NEXT STEPS** PRACTICE

Mini-Lessons

Intervention: Students having difficulty counting beyond the whole >

Extension: Students are ready to represent fractions in many ways >

(small group)
Materials: Ruler
Math Mat 22: Open Number Lines (PDF) (WORD)

Have students label 0, 1, 2, and 3 on the open number line. Ensure the spacing is equal. Select a unit fraction to count by (e.g., fourths). Using the ruler, decompose the number line into equal parts. Label the top with proper and improper fractions and the bottom with mixed numbers.

Repeat with a second number line selecting a different unit fraction to count by.

Professional Learning

3 Click for Possible Misconceptions

mathology

Mini-Lessons

Intervention: Students having difficulty counting beyond the whole >

Extension: Students are ready to represent fractions in many ways >

Possible Misconceptions

Student thinks they can count when parts are not the same size. >

What to Do
Using a Colour Tile Grid (Master 2) (PDF) (WORD), have student create rectangles with either 2, 3, 4, 5, 6, 8, or 10 parts. Ask: "If there are 2 equal parts, what should we count by (halves)? If there are three equal parts (thirds)?" Count the fractional part each time you place one colour tile on the rectangle until it is full (e.g., 1 one-half, 2 one-halves).
Repeat using a different size rectangle.

After The Lesson

Professional Learning

4

Click Next Steps In Class or Next Steps at Home for additional Ideas

Possible Misconceptions

Student thinks they can count when parts are not the same size.

After The Lesson

Next Steps In Class

Relational Rods

- Use the Relational Rods tool to explore the relationship between the different rods. Students record the fractions that they demonstrate and can screen capture their models to share. When sharing models, have students count by unit fractions to show their understanding.
- Count by unit fractions using a variety of different manipulatives and models. Use Pattern Blocks by defining the whole (e.g., whole = red trapezoid) then count by unit fractions such as $\frac{1}{3}$ (green triangle). Students could use fraction strips, number lines, and set models from materials around the class. Highlight the unit fraction and the whole each time it is reached.
- Have students use different manipulatives and models to skip-count by different fractions (e.g., by $\frac{2}{3}$ or $\frac{3}{4}$).

Professional Learning

5

Click words to find definitions to use on a word wall or copy and make a digital copy.

After The Lesson

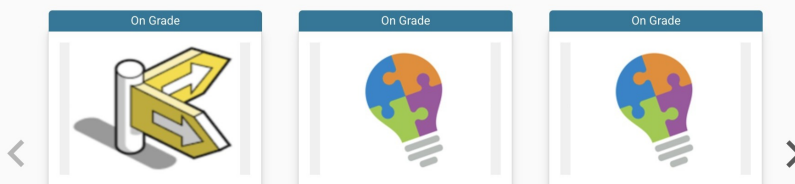
Next Steps In Class

Next Steps At Home

Word Wall

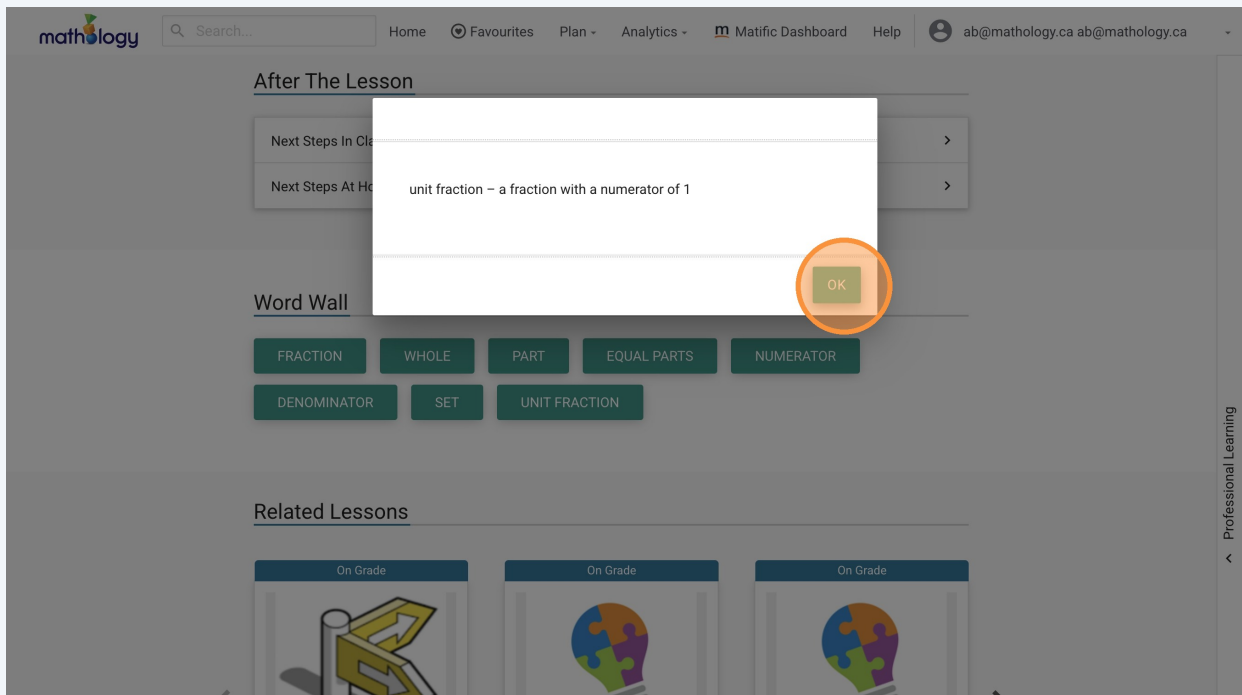
FRACTION WHOLE PART EQUAL PARTS NUMERATOR
DENOMINATOR SET UNIT FRACTION

Related Lessons



Professional Learning

6 Click "OK"



7 Click on each lesson for "Related Lessons"

