

Fractions and Forms Math Kit



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Fractions and Forms Math Kit

The Fractions and Forms Math Kit gives students a hands-on, visual, and multi-representational experience with fractions. The kit combines Fraction Cube Towers, a Measurement Center Set, Pattern Blocks, and Fraction Number Line White Boards to help students explore part-whole relationships, equivalency, operations, measurement, and geometry. Students move from concrete manipulatives to abstract reasoning, making deep connections between math concepts and real-world applications.



Grade Level

2nd - 5th

Group Size

2 - 3 students per group

Time Duration

15 - 40 minutes per activity

Content of Kits

Components

- 15 × Fraction Cube Towers
- 1 × Measurement Center Set
- 1x pattern blocks
- 30x fraction number line white boards



Usage

Getting Started

- 1. Unpack & Introduce Materials** - Show students each kit component and discuss how each tool can represent fractions visually, physically, and abstractly.
- 2. Explore Fraction Towers & Pattern Blocks** - Allow students to explore building fractions with Fraction Cube Towers and Pattern Blocks freely.
- 3. Model Number Line Placement** - Demonstrate placing common fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$) on the Fraction Number Line White Boards.
- 4. Connect Measurement to Fractions** - Use the Measurement Center Set to show how fractions are used in volume or length measurements.
- 5. Explain Rotations & Roles** - If using as stations, assign roles (Builder, Recorder, Checker, Presenter) and encourage student discussion at each activity.

Storage

- Please return all items in an organized manner to the provided storage bin.

Troubleshooting

- **Marker Stains on White Boards** - Use whiteboard cleaner or alcohol wipes to remove stubborn stains.
- **Confused by Number Lines** - Model line placement step by step; start with halves and quarters before introducing smaller denominators.



Activity Guide

Beginner

Visual Fractions with Towers & Blocks

Students build and compare simple fractions ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, etc.) using Fraction Cube Towers and Pattern Blocks. They record fractions on their Fraction Number Line White Boards and explain their models.

Intermediate

Fractions on the Number Line

Students place fractions on their number lines and build matching models with Fraction Cube Towers and Pattern Blocks. They find and explain equivalent fractions and place them correctly on the number line.

Advanced

Fraction Measurement & Real-World Applications

Students use the Measurement Center Set to measure liquid and length in fractional increments. They solve multi-step problems combining fractional amounts and represent their solutions using Fraction Number Line White Boards and fraction equations.

Extension Activities:

Fractions in Art & Design

Students use Pattern Blocks to create geometric designs with specified fractional requirements. They record fraction equations and represent their designs on number lines. Students present their designs and math thinking to the class.



Learning Extensions

STEAM Connections: Math

Learning Objectives:

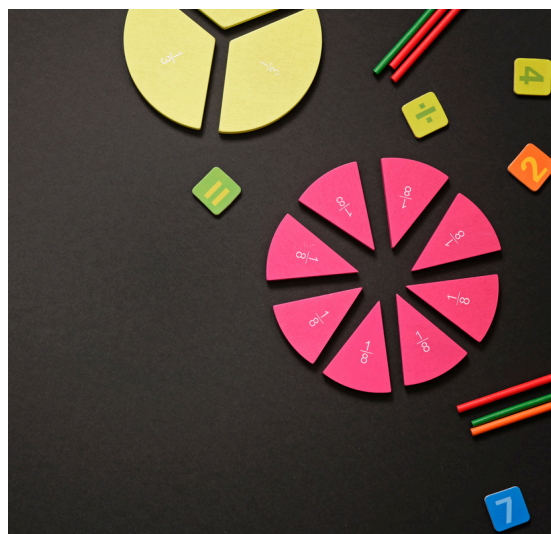
- Understand part-whole relationships and fraction models.
- Compare, order, and place fractions on a number line.
- Identify and create equivalent fractions.
- Perform fraction operations in measurement contexts.
- Apply fractions in geometric, creative, and real-world scenarios.
- Communicate mathematical thinking clearly.

Career Connections:

- **Chef/Baker** - Uses fractions to measure ingredients and adjust recipes.
- **Carpenter/Builder** - Applies fractions when measuring and cutting materials.
- **Engineer** - Uses fractional measurements in technical drawings and materials.
- **Graphic Designer** - Applies fractions in layout and proportional design.
- **Data Analyst** - Interprets fractional and percentage data in charts and reports.

Essential Employability Skills:

- Numeracy
- Problem-Solving
- Critical Thinking
- Communication
- Collaboration





Resources and Accessibility

Safety Guidelines

- Supervise younger students to prevent small pieces (blocks, cubes) from becoming choking hazards.
- Keep liquids in a controlled area when using the Measurement Center to prevent spills.
- Encourage students to handle whiteboards, markers, and blocks gently to extend durability.
- Wipe down all manipulatives regularly to maintain hygiene.

Accessibility

- Use tactile number line overlays for students with visual impairments.
- Allow verbal explanations and partner support for students with fine motor challenges.
- Provide extended time and flexible pacing as needed for all learners.
- Offer opportunities for collaborative builds and verbal discussions alongside written work.

Library Catalog



Library Resources



Feedback

QR to feedback survey

