

Fluency Activities

Grade 4

Fourth Grade Fluency Activities

Math fluency activities in Imagine+ Math help students develop accuracy, efficiency, and flexibility in mathematical thinking. They provide structured practice to strengthen number sense, reinforce foundational skills, and build automaticity with key math concepts. Fluency activities increase student confidence by engaging them in problem-solving, developing a deeper understanding of mathematical relationships, and preparing them for more complex tasks.

Some activities require materials found in your classroom.

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Topic/Concept

Representing Fractions Less Than One

Objective

Students will represent fractions between 0 and 1 on a number line and explain how the numerator and denominator affect their placement and value.

Materials

- Fraction cards (e.g., $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{5}{8}$, $\frac{7}{10}$)
 - If needed, start with fractions with smaller denominators (2, 3, 4, 6) and gradually introduce less familiar denominators (5, 8, 10, 12).
- Number line strips (0–1 marked, with space for students to place fractions)
- Clothespins or sticky notes (optional)

Steps

1. **Introduce:** Give each student or pair of students a set of fraction cards. Review what the numerator and denominator mean.
2. **Place It:** Students take turns placing fraction cards on the number line. Encourage them to justify the placement using benchmark fractions (like $\frac{1}{2}$).
3. **Match:** Ask students to make equivalent fraction cards (e.g., $\frac{2}{4}$). Have them place them on the number line and explain why they're equivalent.
4. **Extension:** Create quick word problems with fractions (e.g., "If you ate $\frac{1}{3}$ of a pizza and your friend ate $\frac{1}{2}$ of the same pizza, who ate more?") to connect to real-world reasoning.

Resource List

- Fraction cards

Fraction Cards

Page 1 of 3

$$\frac{1}{2}$$

$$\frac{1}{3}$$

$$\frac{2}{3}$$

$$\frac{1}{4}$$

$$\frac{2}{4}$$

$$\frac{3}{4}$$

$$\frac{1}{5}$$

$$\frac{2}{5}$$

$$\frac{3}{5}$$

$$\frac{4}{5}$$

$$\frac{1}{6}$$

$$\frac{2}{6}$$

$$\frac{3}{6}$$

$$\frac{4}{6}$$

$$\frac{5}{6}$$

$$\frac{1}{8}$$

Fraction Cards

Page 2 of 3

$$\frac{2}{8}$$

$$\frac{3}{8}$$

$$\frac{4}{8}$$

$$\frac{5}{8}$$

$$\frac{6}{8}$$

$$\frac{7}{8}$$

$$\frac{1}{10}$$

$$\frac{2}{10}$$

$$\frac{3}{10}$$

$$\frac{4}{10}$$

$$\frac{5}{10}$$

$$\frac{6}{10}$$

$$\frac{7}{10}$$

$$\frac{8}{10}$$

$$\frac{9}{10}$$

$$\frac{1}{12}$$

Fraction Cards

Page 3 of 3

$$\frac{2}{12}$$

$$\frac{3}{12}$$

$$\frac{4}{12}$$

$$\frac{5}{12}$$

$$\frac{6}{12}$$

$$\frac{7}{12}$$

$$\frac{8}{12}$$

$$\frac{9}{12}$$

$$\frac{10}{12}$$

$$\frac{11}{12}$$

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Topic/Concept

Applying Rules to Input/Output Tables

Objective

Students will use input/output tables to apply a rule and generate output numbers.

Materials

- Index cards (Rule cards or rules written on index cards)
- Markers
- Input/output tables (pre-drawn)

Steps

1. **Set a Rule:** Give each student a rule card (e.g., " $\times 3$," " $+ 5$ ").
 - If using " $\div 3$," use multiples of 3 as inputs.
 - If using " $\div 4$," use multiples of 4 as inputs.
 - If using " $\div 5$," use multiples of 5 as inputs.
 - If using " $+ 8$, then $\div 2$," use evens as inputs.
2. **Build Together:** Give an input number aloud, students apply their rule, and record the output. Repeat with a new input number (and as many times as preferred).
3. **Extend:** Students work in pairs to create their own rule and challenge a partner to solve.
4. **Challenge:** Ask students to brainstorm multiple rules, use them, and compare the outputs (e.g., How would the outputs for $+ 9$ be different from the outputs for $+ 8$, then $- 1$?).

Resource List

- Rule cards
- Input/Output tables

Rule Cards

Rule:
 $+ 2$

Rule:
 $+ 5$

Rule:
 $+ 9$

Rule:
 $- 3$

Rule:
 $- 6$

Rule:
 $- 10$

Rule:
 $\times 2$

Rule:
 $\times 3$

Rule:
 $\times 4$

Rule:
 $\times 5$

Rule:
 $\times 10$

Rule:
 $\div 2$

Rule:
 $\div 3$

Rule:
 $\div 4$

Rule:
 $+ 12$

Rule:
 $- 15$

Rule:
 $\times 6$

Rule:
 $\div 5$

Rule:
 $\times 2,$
then
 $+ 1$

Rule:
 $\times 3,$
then
 $- 2$

Rule:
 $+ 7,$
then
 $+ 7$

Rule:
 $+ 10,$
then
 $- 4$

Rule:
 $\times 4,$
then
 $+ 5$

Rule:
 $+ 8,$
then
 $\div 2$

Rule:
 $\times 5,$
then
 $- 10$

Input/Output Tables

IN	OUT
Rule: _____	

IN	OUT
Rule: _____	

IN	OUT
Rule: _____	

IN	OUT
Rule: _____	

Activity 3

Angle Detectives

Topic/Concept

Classifying Angles

Objective

Students will classify angles as acute, right, or obtuse and use a protractor to measure and confirm each angle in degrees.

Materials

- Protractors
- Index cards with angle drawings (based on objects in the classroom)
- Objects around the classroom

Steps

1. **The Case:** Each student receives an angle card and must determine what kind of “mystery angle” it is. They first make a prediction (acute, right, or obtuse).
2. **Gathering the Evidence:** Students use protractors to carefully measure the angles and confirm or revise their predictions.
3. **Hunting for Clues:** Students look around the classroom for real-life “clues” — objects with angles that match the ones they measured (e.g., door corners, book edges).
4. **Case Solved:** Students share their findings with the class, classify the angles, and explain the reasoning behind their conclusions.

Resource List

no additional resources needed

Topic/Concept

Creating Stem-and-Leaf Plots

Objective

Students will organize two-digit numbers into a stem-and-leaf plot and use the plot to answer questions about the data.

Materials

- Number cards (10–99), teacher’s choice or used attached cards
- Chart paper
- Marker

Steps

1. Give students cards with two-digit numbers.
2. Work as a class to create a stem-and-leaf plot.
3. Ask questions about the data (e.g., “What’s the greatest number? The mode?”).
4. **Extend:** Have pairs create their own small stem-and-leaf plots and trade with another pair to interpret.

Resource List

- Stem-and-Leaf number cards

Stem-and-Leaf Number Cards

13

16

16

21

22

24

27

27

33

41

42

44

50

52

52

56

58

61

66

68

73

74

80

89

96

Activity 5

Wallet-Wise Game

Topic/Concept

Making Spending Decisions

Objective

Students will make spending, saving, and donating choices and track how each decision changes their balance.

Materials

- Income cards (e.g., \$10 allowance, \$20 birthday money, \$15 for chores)
- Expense cards (e.g., \$5 snack, \$8 toy, \$12 field trip)
- Savings/Donation cards (optional bonus cards with goals like “Save \$10 for a game” or “Donate \$3 to help animals”)
- Envelopes or small bags for “wallets”

Steps

1. **Start with Income:** Each student (or pair) draws an “Income” card and puts the money amount in their “wallet.”
2. **Make a Choice:** Students then draw an “Expense” card. They must decide whether to buy it, save instead, or split their money between saving, spending, and donating.
3. **Record the Decision:** Students write down their choice on a mini-budget sheet (with *Spend*, *Save*, and *Donate* columns) and calculate how much money they have left.
4. **Share the Reasoning:** Volunteers explain their decisions: Why did they choose to save, spend, or give? Did they reach a savings goal or run out of money?
5. **Extension Option:** Add “surprise” cards (e.g., “You find \$5 on the ground” or “Your bike tire costs \$7 to fix”) to introduce unexpected expenses or windfalls.

Resource List

- Income, expense, and savings/donation cards
- “Spend/Save/Donate” charts

Wallet-Wise Game Cards

Instructions for teacher: Make one copy per group, pair, or student.

INCOME \$10 allowance	INCOME \$20 birthday money
INCOME \$15 for chores	EXPENSE \$5 snack
EXPENSE \$8 toy	EXPENSE \$12 field trip
EXPENSE \$6 school fundraiser	EXPENSE \$10 book fair purchase
SAVINGS \$10 for a game	DONATION \$3 to help animals

"Spend/Save/Donate" Charts

SPEND	SAVE	DONATE

SPEND	SAVE	DONATE

