

Fluency Activities

Grade 7

Seventh 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.

Contents

Activity 1	Integer Operations Relay	3
	Integer Operation Cards	4
Activity 2	Discount Dash	5
	Task Cards with Percent Problems	6
Activity 3	Equation Match-Up	7
	Scenario and Equation Cards	8
Activity 4	Circle Challenge: Discovering Pi	10
Activity 5	Budget Breakdown: Life on a Paycheck	11
	Budget Breakdown Cards	12



Activity 1

Integer Operations Relay

Topic/Concept

Solving Integer Operations

Objective

Students will solve integer operation problems fluently and check answers for accuracy.

Materials

- Deck of integer operation cards (with problems like $-8 + 5$, $12 \div -3$)
- Whiteboards or paper for each team

Steps

1. Divide students into teams of 3–4.
2. Each team receives a card with a rational number operation.
3. One member solves and shows the answer; the teacher or team members check quickly.
4. If correct, they pass the whiteboard or paper, and the next teammate solves a new problem until all cards are solved.

Resource List

- Deck of integer operation cards

Answer Key:

$$-8 + 5 = -3$$

$$12 + (-3) = 9$$

$$-6 + (-7) = -13$$

$$9 - 14 = -5$$

$$-11 - 4 = -15$$

$$15 - (-6) = 21$$

$$(-4) \times 3 = -12$$

$$(-7) \times (-2) = 14$$

$$6 \times (-5) = -30$$

$$-24 \div 6 = -4$$

$$35 \div (-7) = -5$$

$$-81 \div (-9) = 9$$

$$-18 + 7 \times (-3) = -18 + (-21) = -39$$

$$32 - (-4) \times 6 = 32 - (-24) = 56$$

$$(-48 \div 8) - (-5) \times 3 = (-6) - (-15) = 9$$

Integer Operation Cards

$$-8 + 5$$

$$12 + (-3)$$

$$-6 + (-7)$$

$$9 - 14$$

$$-11 - 4$$

$$15 - (-6)$$

$$(-4) \times 3$$

$$(-7) \times (-2)$$

$$6 \times (-5)$$

$$-24 \div 6$$

$$35 \div (-7)$$

$$-81 \div (-9)$$

$$-18 + 7 \times (-3)$$

$$32 - (-4) \times 6$$

$$(-48 \div 8) - (-5) \times 3$$

Topic/Concept

Solving Percent Problems

Objective

Students will solve percent problems to find the discount amount and the final price.

Materials

- Task cards with percent problems (e.g., “Original price \$40, discount 25%”)
- Calculator (optional for checking)

Steps

1. Place task cards around the room.
2. Students work in pairs, moving to each card to solve.
3. They record the sale price and show their reasoning.
4. After 5–6 rounds, gather to compare strategies for percent calculations.

Resource List

- Task cards with percent problems

Answer Key (discount amount → **sale price**):

25% of \$40 = \$10.00 → **\$30.00**

10% of \$60 = \$6.00 → **\$54.00**

50% of \$28 = \$14.00 → **\$14.00**

20% of \$75 = \$15.00 → **\$60.00**

15% of \$30 = \$4.50 → **\$25.50**

30% of \$90 = \$27.00 → **\$63.00**

10% of \$48 = \$4.80 → **\$43.20**

35% of \$120 = \$42.00 → **\$78.00**

20% of \$18 = \$3.60 → **\$14.40**

40% of \$60 = \$24.00 → **\$36.00**

Task Cards with Percent Problems

Original price \$40

discount 25%

Original price \$60

discount 10%

Original price \$28

discount 50%

Original price \$75

discount 20%

Original price \$30

discount 15%

Original price \$90

discount 30%

Original price \$48

discount 10%

Original price \$120

discount 35%

Original price \$18

discount 20%

Original price \$60

discount 40%



Activity 3

Equation Match-Up

Topic/Concept

Identifying Equations Given a Context

Objective

Students will match everyday situations to the equations that represent them.

Materials

- Index cards with real-world scenarios (e.g., “Rideshare Rate: \$10 plus \$2 per mile”)
- Matching equation cards (for example, $y = 2x + 10$)

Steps

1. Scatter cards among the desk/table.
2. Students match each scenario card with its matching equation card.
3. Once matched, they graph one pair and discuss slope/intercept meaning.
4. **Extend:** Have students create their own real-world scenario and matching equation card.

Resource List

- Everyday scenario cards with matching equations

Answer Key	
Scenario:	Equation:
Rideshare fare: \$10 start fee plus \$2 per mile	$y = 2x + 10$
Movie tickets: You pay \$5 for popcorn, plus \$8 for each ticket	$y = 8x + 5$
Gym membership: \$25 sign-up fee plus \$15 each month	$y = 15x + 25$
Saving money: You already have \$12, and you save \$3 each week	$y = 3x + 12$
Bike rental: \$6 to rent the bike plus \$4 per hour	$y = 4x + 6$
Online game coins: You start with 100 coins and earn 20 coins per level	$y = 20x + 100$
Phone plan: \$30 each month plus \$5 for each GB of extra data	$y = 5x + 30$
Car wash fundraiser: \$50 goal already collected, plus \$10 per car washed	$y = 10x + 50$
Taxi meter: \$3 start fee plus \$1.50 per mile	$y = 1.5x + 3$
Streaming service: \$12 per month plus a one-time \$8 set-up fee	$y = 12x + 8$



Scenario and Equation Cards

Page 1 of 2

RIDESHARE FARE

\$10 start fee plus **\$2** per mile

MOVIE TICKETS

You pay **\$5** for popcorn, plus
\$8 for each ticket

GYM MEMBERSHIP

\$25 sign-up fee plus
\$15 each month

SAVING MONEY

You already have **\$12**, and you
save **\$3** each week

BIKE RENTAL

\$6 to rent the bike plus
\$4 per hour

ONLINE GAME COINS

You start with **100** coins
and earn **20** coins per level

PHONE PLAN

\$30 each month plus
\$5 for each GB of extra data

CAR WASH FUNDRAISER

\$50 goal already collected,
plus **\$10** per car washed

TAXI METER

\$3 start fee plus **\$1.50** per mile

STREAMING SERVICE

\$12 per month plus a
one-time **\$8** set-up fee



Scenario and Equation Cards

Page 2 of 2

$$y = 2x + 10$$

$$y = 8x + 5$$

$$y = 15x + 25$$

$$y = 3x + 12$$

$$y = 4x + 6$$

$$y = 20x + 100$$

$$y = 5x + 30$$

$$y = 10x + 50$$

$$y = 1.5x + 3$$

$$y = 12x + 8$$

Activity 4

Circle Challenge: Discovering Pi

Topic/Concept

Identifying Pi

Objective

Students will collect measurement data from circular objects and use it to estimate the value of pi.

Materials

- Circular objects of different sizes (jar lids, plates, cans, clock face, etc.)
- String or flexible measuring tape
- Rulers or meter sticks
- Chart paper or notebook paper

Steps

1. **Introduce:** Ask students, “How are the diameter and circumference of a circle related?” Let students predict.
2. **Measure:** In groups, students measure the diameter and circumference of 5–6 different objects.
3. **Record Data:** Create a class table with diameter and circumference pairs.
4. **Calculate Ratios:** For each object, students divide the circumference by the diameter.
5. **Compare Results:** Groups share their ratios. They should all cluster around 3.14, regardless of the circle’s size.
6. **Reveal Pi:** Highlight that this constant ratio is called π , a mathematical constant.
7. **Extend:** Use π to calculate circumference ($C = \pi d$) or area ($A = \pi r^2$) of one of their circles and check against measurements.

Resource List

no additional resources needed

Activity 5

Budget Breakdown: Life on a Paycheck

Topic/Concept

Applying Financial Decisions

Objective

Students will calculate net income and create a budget by prioritizing needs, savings, and wants, then adjust their plan for an unexpected expense.

Materials

- Job cards with hourly wage and hours per week (e.g., Babysitter: \$12/hr, 10 hrs/wk; Fast food: \$9/hr, 15 hrs/wk)
- Expense cards divided into “Needs” (rent, food, phone, transportation) and “Wants” (entertainment, shopping, eating out)
- “Life Happens” cards with unexpected expenses (car repair \$150, phone replacement \$100, birthday gift \$30)
- Calculators or paper/pencil

Steps

1. **Choose a Job:** Each student (or pair) picks a job card and calculates gross monthly income.
2. **Apply Deductions:** Subtract 20% for taxes to find net income.
3. **Budget Basics:** Students receive expense cards and must decide which expenses to include while staying within their net income. Savings is required (minimum 10%).
4. **Life Happens:** After budgets are complete, give each student a “Life Happens” card. They must adjust their budget to handle the expense, making decisions about what to cut or reduce.
5. **Reflect:** Groups share how they managed their money, discussing tough choices and what they learned about balancing needs, wants, and savings.

Resource List

- Budget Breakdown cards (1 set per group)

Budget Breakdown Cards

Page 1 of 2

Instructions for teacher: Make one copy of the set for each group.

JOB

BABYSITTER

\$12 per hour, **10** hrs/week

NEED

RENT/ROOM AT HOME

\$450 per month

JOB

FAST FOOD CREW MEMBER

\$9 per hour, **15** hrs/week

NEED

GROCERIES

\$180 per month

JOB

PET SITTER/DOG WALKER

\$11 per hour, **8** hrs/week

NEED

PHONE BILL

\$40 per month

JOB

GROCERY STORE BAGGER

\$10 per hour, **12** hrs/week

NEED

TRANSPORTATION

(bus fare/gas)

\$60 per month

JOB

LAWN/YARD HELPER

\$13 per hour, **7** hrs/week

NEED

UTILITIES (electricity/water)

\$90 per month



Budget Breakdown Cards

Page 2 of 2

Instructions for teacher: Make one copy of the set for each group.

———— <i>WANT</i> ———— STREAMING SUBSCRIPTION \$12 per month	———— <i>“LIFE HAPPENS”</i> ———— CAR REPAIR \$150 (one-time)
———— <i>WANT</i> ———— EATING OUT \$35 per month	———— <i>“LIFE HAPPENS”</i> ———— PHONE REPLACEMENT \$100 (one-time)
———— <i>WANT</i> ———— NEW CLOTHES/SHOES \$50 per month	———— <i>“LIFE HAPPENS”</i> ———— MEDICAL COPAY \$40 (one-time)
———— <i>WANT</i> ———— ENTERTAINMENT (movies/bowling) \$25 per month	———— <i>“LIFE HAPPENS”</i> ———— CLASS FEE/FIELD TRIP \$25 (one-time)
———— <i>WANT</i> ———— HOBBIES/GAMES \$20 per month	———— <i>“LIFE HAPPENS”</i> ———— BIRTHDAY GIFT \$30 (one-time)

