

FRACTIONS GAMES & PUZZLES

Play • Think • Solve • Challenge

MAKE FRACTIONS FUN!

A printable collection of fraction games, puzzles, reasoning challenges and real-life activities.

Suggested Age: 10–14 • Grades 5–8

INCLUDED	SKILLS
Games • puzzles • code breakers • challenges	Equivalent fractions • comparing • operations
Real-life tasks • error analysis • answer key	Fractions of quantities • reasoning • problem solving

Name: _____ Date: _____

1. FRACTION MATCH-UP GAME

Match each fraction with an equivalent fraction. Then explain how you know the pair is equivalent.

Fraction	Equivalent fraction	Your reason
$\frac{1}{2}$	$\frac{2}{4}$	_____
$\frac{3}{4}$	$\frac{6}{8}$	_____
$\frac{2}{3}$	$\frac{4}{6}$	_____
$\frac{1}{5}$	$\frac{2}{10}$	_____
$\frac{5}{8}$	$\frac{10}{16}$	_____
$\frac{3}{10}$	$\frac{9}{30}$	_____

Challenge: Find another equivalent fraction for each pair.

2. FRACTION SNAP!

Write a fraction that fits each clue.

Clue	Your fraction
Equivalent to $\frac{2}{3}$	_____
Between $\frac{1}{2}$ and $\frac{3}{4}$	_____
Greater than $\frac{5}{6}$	_____
Less than $\frac{1}{4}$	_____
Equivalent to $\frac{3}{5}$ with denominator 20	_____

3. COMPARE & ORDER FRACTION RACE

Put each set in order from smallest to largest. Use common denominators, benchmark fractions or another strategy.

Set	Fractions	Smallest → Largest
A	$\frac{1}{2}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{1}{4}$	_____
B	$\frac{2}{3}$, $\frac{3}{5}$, $\frac{5}{6}$, $\frac{1}{2}$	_____
C	$\frac{7}{10}$, $\frac{3}{4}$, $\frac{2}{5}$, $\frac{4}{5}$	_____
D	$\frac{5}{12}$, $\frac{1}{3}$, $\frac{7}{12}$, $\frac{1}{2}$	_____
E	$\frac{3}{8}$, $\frac{2}{5}$, $\frac{1}{2}$, $\frac{7}{20}$	_____

Fraction Race: Circle the fraction closest to 1 in each set.

4. TRUE OR FALSE? FRACTION DETECTIVE

Decide whether each statement is true or false. Correct any false statement.

Statement	T/F	Correction / explanation
$\frac{2}{4} = \frac{1}{2}$	_____	_____
$\frac{3}{5} > \frac{2}{3}$	_____	_____
$\frac{4}{8} + \frac{1}{8} = \frac{5}{16}$	_____	_____
$\frac{7}{10} - \frac{2}{10} = \frac{5}{10}$	_____	_____
$\frac{3}{4}$ of 20 = 12	_____	_____
$\frac{5}{6} < \frac{4}{6}$	_____	_____

5. FRACTION CODE BREAKER

Solve each question. Convert the whole-number answer to a letter using 1=A, 2=B, ... 26=Z.

Question	Answer	Letter
1. $\frac{1}{2}$ of 18 = ____	____	____
2. $\frac{3}{4}$ of 20 = ____	____	____
3. $\frac{2}{5}$ of 25 = ____	____	____
4. $\frac{1}{3}$ of 24 = ____	____	____
5. $\frac{5}{6}$ of 18 = ____	____	____
6. $\frac{3}{8}$ of 32 = ____	____	____

Secret message: _____

6. FRACTION OF A NUMBER – PUZZLE PATH

Solve each problem and follow the matching path.

Problem	Answer choices
$\frac{1}{4}$ of 36	9 → B 8 → D 12 → C
$\frac{3}{5}$ of 25	12 → E 15 → C 10 → F
$\frac{2}{3}$ of 30	15 → Finish 20 → E 18 → D
$\frac{5}{8}$ of 40	20 → Finish 25 → F 30 → B

7. FRACTION MYSTERY CASE

Use all the clues to identify the mystery fraction.

Clue	Your reasoning
• I am a proper fraction.	_____
• My denominator is 12.	_____
• I am greater than $\frac{1}{2}$.	_____
• I am less than $\frac{3}{4}$.	_____
• My numerator is even.	_____

Mystery fraction: _____

Create one new clue: _____

8. FRACTION SORTING CHALLENGE

Sort the fractions into the correct category.

Fractions	Less than $\frac{1}{2}$	Equal to $\frac{1}{2}$	Greater than $\frac{1}{2}$
$\frac{2}{5}$, $\frac{4}{8}$, $\frac{5}{6}$, $\frac{3}{7}$, $\frac{6}{12}$, $\frac{7}{10}$			

Bonus: Add one fraction of your own to each category.

9. FRACTION BOARD GAME – ROLL, SOLVE & SCORE

Use two dice. The first roll is the numerator and the second is the denominator. Simplify your fraction when possible.

Round	Roll	Fraction	Simplified / mixed	Points
1	____, ____	_____	_____	_____
2	____, ____	_____	_____	_____
3	____, ____	_____	_____	_____
4	____, ____	_____	_____	_____
5	____, ____	_____	_____	_____
6	____, ____	_____	_____	_____

Scoring idea: 1 point for a correct fraction, 1 for simplification and 1 bonus point for explaining your method.

10. FRACTION OF THE DAY – REAL LIFE

Solve each situation and show your working.

1	A class has 28 students. $\frac{3}{7}$ bring lunch from home. How many students is that?
2	A bottle holds 800 mL. It is $\frac{3}{4}$ full. How much water is in it?
3	A book has 120 pages. Maya has read $\frac{5}{8}$ of it. How many pages has she read?
4	A recipe needs $\frac{2}{3}$ cup of flour for one batch. How much is needed for 3 batches?
5	A runner completes $\frac{3}{4}$ of a 12 km route. How far has the runner travelled?
6	A class spends $\frac{2}{5}$ of its time on a puzzle and $\frac{1}{4}$ on a game. What fraction is that altogether?

11. ADD & SUBTRACT FRACTIONS – PUZZLE CHALLENGE

Calculate. Give answers in simplest form.

Question	Answer
1. $\frac{1}{4} + \frac{2}{4} =$ _____	_____
2. $\frac{5}{6} - \frac{1}{6} =$ _____	_____
3. $\frac{1}{2} + \frac{1}{4} =$ _____	_____
4. $\frac{3}{4} - \frac{1}{8} =$ _____	_____
5. $\frac{2}{3} + \frac{1}{6} =$ _____	_____
6. $\frac{5}{8} - \frac{1}{4} =$ _____	_____
7. $\frac{3}{5} + \frac{1}{10} =$ _____	_____
8. $\frac{7}{10} - \frac{1}{5} =$ _____	_____

Puzzle: Which two answers are equivalent? _____

12. MULTIPLY THE FRACTION

Calculate and simplify.

Question	Answer
1. $\frac{1}{2} \times 8 =$ _____	_____
2. $\frac{3}{4} \times 12 =$ _____	_____
3. $\frac{2}{5} \times 15 =$ _____	_____
4. $\frac{3}{8} \times 16 =$ _____	_____
5. $\frac{2}{3} \times 9 =$ _____	_____
6. $\frac{5}{6} \times 18 =$ _____	_____

13. FRACTION PUZZLE TRAIL

Solve each clue and follow the route.

Box	Clue	Answer	Go to
START	$\frac{1}{2}$ of 14	_____	B
B	Which is greater: $\frac{2}{3}$ or $\frac{3}{5}$?	_____	C
C	$\frac{3}{4}$ of 20	_____	D
D	Which is equivalent to $\frac{4}{6}$?	_____	E
E	$\frac{5}{8} - \frac{1}{8}$	_____	FINISH

My route: START → _____ → _____ → _____ → _____ → **FINISH**

14. WHICH FRACTION DOES NOT BELONG?

Three fractions share a property. Find the one that does not belong and explain why.

Group	Fractions	Odd one out + reason
A	$\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{6}$, $\frac{3}{5}$	_____
B	$\frac{2}{3}$, $\frac{4}{6}$, $\frac{6}{9}$, $\frac{3}{4}$	_____
C	$\frac{1}{4}$, $\frac{2}{8}$, $\frac{3}{12}$, $\frac{2}{6}$	_____
D	$\frac{5}{8}$, $\frac{10}{16}$, $\frac{15}{24}$, $\frac{3}{5}$	_____

15. FRACTIONS IN THE REAL WORLD

Read carefully, choose a strategy and solve.

1	A pizza is cut into 8 equal slices. Leo eats 3 and Sara eats 2. What fraction is left?
2	A school garden is $\frac{3}{5}$ planted with vegetables. If there are 50 equal sections, how many contain vegetables?
3	A water tank is $\frac{7}{10}$ full. Its capacity is 2,000 L. How much water is in it?
4	A runner completes $\frac{3}{4}$ of a 12 km route. How far has the runner travelled?
5	A recipe uses $\frac{3}{4}$ cup of oats. You make half the recipe. How much oats do you need?
6	A class spends $\frac{2}{5}$ of its activity time on a puzzle and $\frac{1}{4}$ on a game. What fraction is that altogether?

16. ERROR ANALYSIS – FIND THE MISTAKE

Identify the error, correct the answer and explain the mistake.

Student's work	What is wrong?	Correct answer
$\frac{2}{3} + \frac{1}{3} = \frac{3}{6}$	_____	_____
$\frac{3}{4}$ of 20 = $\frac{15}{4}$	_____	_____
$\frac{5}{8} - \frac{1}{8} = \frac{4}{16}$	_____	_____
$\frac{1}{2} = \frac{2}{3}$ because both are less than 1	_____	_____

17. FRACTION MASTER CHALLENGE

Show your working. Try to explain your strategy for at least two questions.

#	Challenge	Answer / Working
1	Which is closer to 1: $\frac{7}{8}$ or $\frac{5}{6}$? Explain.	_____
2	Find a fraction equivalent to $\frac{6}{15}$ with denominator 25.	_____
3	A number is $\frac{3}{5}$ of 40. What is the number?	_____
4	Calculate: $\frac{2}{3} + \frac{3}{4}$.	_____
5	Calculate: $\frac{5}{6} - \frac{1}{4}$.	_____
6	A 24-page booklet is $\frac{5}{8}$ completed. How many pages are completed?	_____
7	Write two different fractions between $\frac{1}{3}$ and $\frac{1}{2}$.	_____
8	Write three fractions with denominator 10 that are between $\frac{1}{5}$ and $\frac{1}{2}$.	_____

■ Detective Challenge: Create a fraction mystery with at least four clues. Swap with a partner.

My mystery: _____

18. CREATE YOUR OWN FRACTION GAME

Design a game that helps another student practise fractions.

Game name	_____
Players	_____
Materials needed	_____
Goal of the game	_____
How to play	1. _____ 2. _____ 3. _____
Fraction skill practised	_____
Scoring rules	_____
Challenge rule	_____

Test your game with a partner. What would you change to make it clearer or more fun?

19. ANSWER KEY

1. Match-Up

$1/2=2/4$; $3/4=6/8$; $2/3=4/6$; $1/5=2/10$; $5/8=10/16$; $3/10=9/30$.

2. Snap

Examples: $4/6$; $5/8$; $7/8$; $1/8$; $12/20$. Other valid answers may be accepted.

3. Compare & Order

A: $1/4$, $3/8$, $1/2$, $5/8$. B: $1/2$, $3/5$, $2/3$, $5/6$. C: $2/5$, $7/10$, $3/4$, $4/5$. D: $1/3$, $5/12$, $1/2$, $7/12$. E: $7/20$, $3/8$, $2/5$, $1/2$.

4. True/False

T, F, F, T, T, F. Corrections: $3/5 < 2/3$; $4/8 + 1/8 = 5/8$; $5/6 > 4/6$.

5. Code Breaker

9, 15, 10, 8, 15, 12 $\rightarrow$ I O J H O L.

6. Puzzle Path

$1/4$ of $36=9$; $3/5$ of $25=15$; $2/3$ of $30=20$; $5/8$ of $40=25$.

7. Mystery

$7/12$.

8. Sorting

Less than $1/2$: $2/5$, $3/7$. Equal to $1/2$: $4/8$, $6/12$. Greater than $1/2$: $5/6$, $7/10$.

9. Board Game

Answers depend on dice rolls.

10. Real Life

1) 12 students. 2) 600 mL. 3) 75 pages. 4) 2 cups. 5) 9 km. 6) $13/20$.

11. Add/Subtract

$3/4$, $2/3$, $3/4$, $5/8$, $5/6$, $3/8$, $7/10$, $1/2$.

12. Multiply

4, 9, 6, 6, 6, 15.

13. Puzzle Trail

START $\rightarrow$ B $\rightarrow$ C $\rightarrow$ D $\rightarrow$ E $\rightarrow$ FINISH.

14. Does Not Belong

A: $3/5$. B: $3/4$. C: $2/6$. D: $3/5$.

15. Real World

1) $3/8$ left. 2) 30 sections. 3) 1,400 L. 4) 9 km. 5) $3/8$ cup. 6) $13/20$.

16. Error Analysis

$2/3 + 1/3 = 1$; $3/4$ of $20 = 15$; $5/8 - 1/8 = 1/2$; the final statement is not a valid reason because the fractions are not equal.

17. Master Challenge

1) $7/8$. 2) $10/25$. 3) 24. 4) $17/12 = 1\frac{5}{12}$. 5) $7/12$. 6) 15 pages. 7) Examples $3/8$ and $5/12$. 8) Examples $3/10$, $2/5$, $4/10$.

18. Create a Game

Answers will vary.