



DIVIDING WITH UNIT FRACTIONS



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TO THE TEACHER

- This product is meant to be a no frills, all action tool for cementing the concept of dividing with unit fractions in preparation for standardized testing.
- Each activity can be completed in a variety of ways to fit your classroom needs.
- It was created with the following standards in mind:
- **TEKS**
 - 5.3I divide whole numbers by unit fractions and unit fractions by whole numbers
- **Common Core**
 - CCSS.MATH.CONTENT.5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.
 - CCSS.MATH.CONTENT.5.NF.B.7.A Interpret division of a unit fraction by a non-zero whole number and compute such quotients. For example, create a story context for $(1/3)/4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3)/4 = 1/12$ because $(1/12) \times 4 = 1/3$
 - CCSS.MATH.CONTENT.5.NF.B.7.B Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.
 - CCSS.MATH.CONTENT.5.NF.B.7.C Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ cup servings are in 2 cups of raisins.

PREP RECOMMENDATIONS

- Each activity is created in black and white to conserve color ink.
 - Using colored paper to differentiate different parts in each activity or the different stations will help students to stay organized.
- If you plan to use the activities for small group or partner activities over time, I would recommend laminating them for durability.

CONTENT VOCABULARY

divide

whole numbers

dividend

equal amount

every

unit fractions

divisor

quotient

divide

whole
numbers

unit
fractions

equal
amount

every

dividend

divisor

quotient

WORD PROBLEMS

Solve each word problem
recording your work and answer.

TEACHER SUGGESTIONS

WORD PROBLEMS

- In this activity students are asked to solve word problems by dividing with fractions
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

Included:

- Word Problem Cards
- Recording Sheet
- Answer Key

Not Included:

- Pencil

1

Drake ran 4 miles. He stopped every $\frac{1}{4}$ of a mile to stretch. How many times did he stop to stretch?

2

A recipe for pie crust calls for $\frac{3}{4}$ cups of sugar. If you have 6 cups of sugar, how many pie crusts can you make?

3

There is $\frac{1}{6}$ of a pie left over from last night.

You and two of your friends are splitting it. How much of the pie will each of you get?

4

Six Flags is 200 miles away from Angela's house. This is $\frac{4}{5}$ of the way to Sea World. How far is it from Angela's house to Sea World?

5

There are 108 fifth graders at Hill Country School. This is only $\frac{4}{9}$ of the total population of the school. How many students are at Hill Country School?

6

Joe has 8 giant cupcakes to share. He splits each cupcake in half. How many pieces of cupcake does he have to share?

7

A bag of cat food has 15 cups of food in it. If a serving of cat food is $\frac{1}{4}$ of a cup, how many servings of cat food are in one bag?

8

Carol has 8 candy bars. She wants to give $\frac{1}{4}$ of a candy bar to each of her friends. How many people will be able to have a piece of the candy bar?

9

Mary has 12 pounds of dog food left. Each day she feeds her dog $\frac{1}{3}$ of a pound of food. How many days worth of food does she have?

10

Alan is running a 5k race. There is a rest stop with a water station every $\frac{1}{2}$ a kilometer. How many water stations are there along the race?

11

A board is 6 feet tall. Boards along the wall are $\frac{1}{4}$ of a foot tall. How many boards can be stacked on the wall?

12

Greg has a travel budget for his trip to Europe. He split his budgets into thirds and plans to spend one third on trains. If he spends \$1200 on trains, what is his total budget?

Name _____

Date _____

WORD PROBLEMS RESPONSE SHEET

Solve each word problem recording your work and answers.

1	2	3
4	5	6

Name _____

Date _____

WORD PROBLEMS RESPONSE SHEET

Solve each word problem recording your work and answers.

7	8	9
10	11	12

WORD PROBLEMS ANSWER KEY

1 16 times	2 8 pie crusts	3 $\frac{1}{18}$ of the pie	4 250 miles
5 243 students	6 14 pieces	7 64 servings	8 32 people
9 36 days	10 10 water stations	11 32 boards	12 \$3600

BOARD GAME

Play a game to add & subtract
rational numbers.

TEACHER SUGGESTIONS

BOARD GAME

- In this activity students are asked to play a board game that requires them to divide fractions.
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

Included:

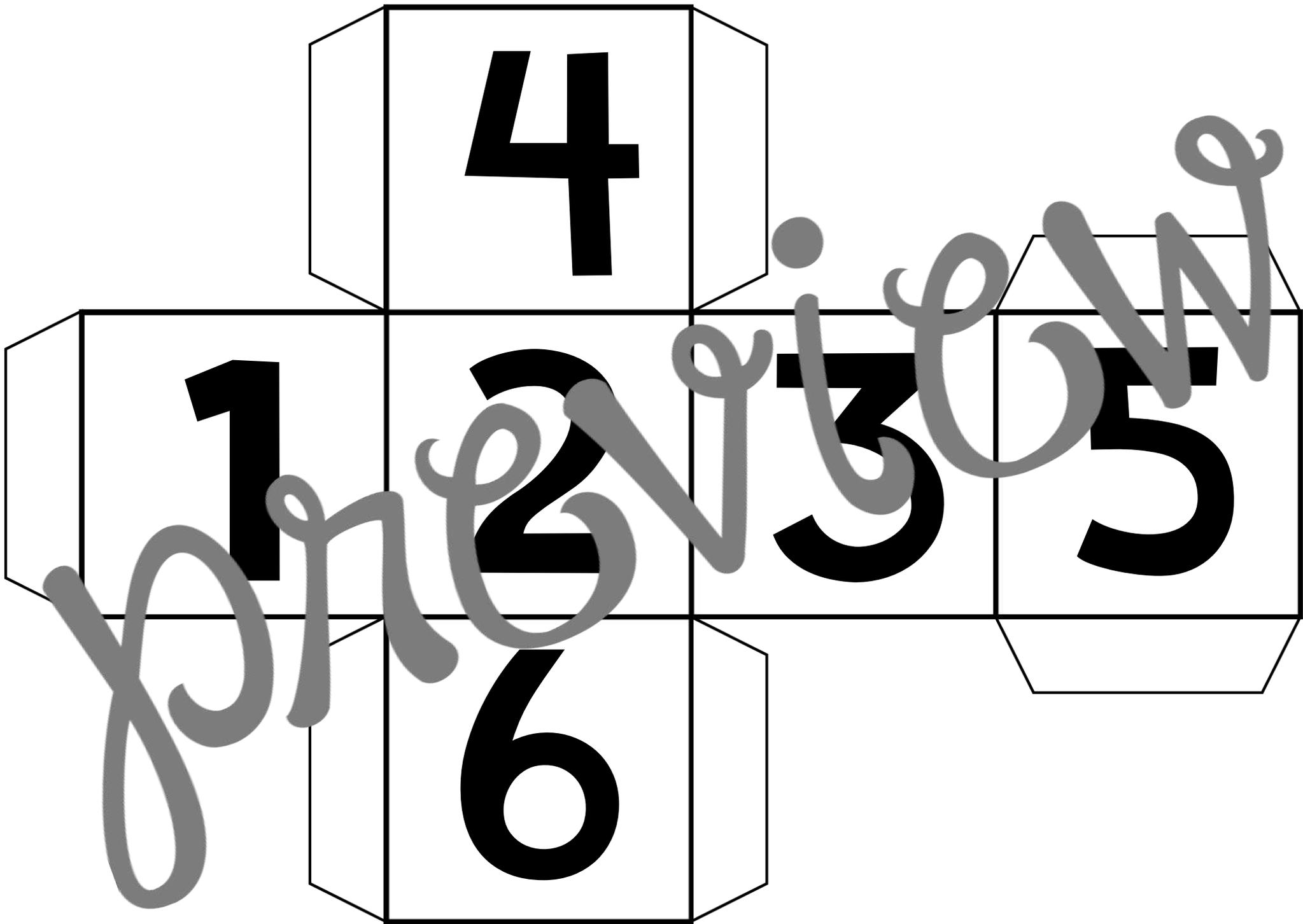
- Game Rules
- Game Board
- Problem Cards
- Die (can use regular die instead)
- Answer Key for Problem Cards

Not Included:

- Pencil

BOARD GAME DIRECTIONS

- Roll the die to determine who goes first
 - The player who rolls the highest number goes first and then rotate clockwise. (To the right)
- Pull a “Problem Card” and solve
 - Another player checks your answer
 - If correct, you roll the die and move forward that many spaces.
 - If incorrect, the next player takes their turn.
- If you land on a special space, follow the directions on the space.
- Continue play until a player reaches the finish.



FINISH

GO BACK
ONE
SPACE

GO BACK
FOUR
SPACES

GO BACK
TWO SPACES

START

GO AHEAD
ONE SPACE

GO BACK
ONE SPACE

GO AHEAD
TWO SPACES

GO AHEAD
TWO SPACES

GO BACK
ONE
SPACE

GO BACK
TWO
SPACES

phonics

1

$5 \div \frac{1}{10}$

2

$6 \div \frac{1}{9}$

3

$9 \div \frac{1}{2}$

4

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

5

$9 \div \frac{1}{4}$

6

$2 \div \frac{1}{5}$

7

$7 \div \frac{1}{6}$

8

$8 \div \frac{1}{7}$

9

$6 \div \frac{1}{7}$

10

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

11

$5 \div \frac{1}{2}$

12

$7 \div \frac{1}{3}$

13

$3 \div \frac{1}{4}$

14

$2 \div \frac{1}{5}$

16

$9 \div \frac{1}{3}$

16

$4 \div \frac{1}{7}$

BOARD GAME PROBLEM CARDS

ANSWER KEY

1 50	2 54	3 18	4 9
5 36	6 10	7 42	8 56
9 12	10 100	11 10	12 21
13 12	14 10	15 27	16 28

QR COODLES

Start at the "START" card and follow the directions to use all cards stopping at the "END" card.

TEACHER SUGGESTIONS

QR CODES

- In this activity students are asked to scan QR codes and follow the directions by dividing with fractions.
- This activity can be used in a variety of ways.
 - ✓ Small group with teacher guidance
 - ✓ Partner activity for practice
 - ✓ Independently to assess

Materials

Included:

- QR Code Cards

Not Included:

- A device capable of scanning QR Codes such as a smartphone or tablet

START

48

12



24

15

64



18



8



36



20



30



16

END

Handwritten text in a cursive script, possibly reading 'The End' or similar, overlaid across the middle of the page.

DIVIDING WITH MODELS

Use the models to complete the division problems.

TEACHER SUGGESTIONS

DIVIDING WITH MODELS

- In this activity students are asked to use models to solve a division problem with fractions
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

Included:

- Model cards
- Question Cards
- Recording Sheet
- Answer Key

Not Included:

- Pencil

1

Joseph has $\frac{1}{2}$ a candy bar to share with three friends. How much should he give himself and each friend?

2

A race is $\frac{3}{4}$ of a mile long. There are 4 water stations along the route. How far apart are the water stations?

3

There is $\frac{2}{3}$ of a cake leftover from a party. If three people are going to split it evenly, how much cake will be in each serving?

4

Brad baked 12 brownies and then split them each in half. How many brownies does he have now?

5

There is $\frac{3}{4}$ of a pie leftover from last night. Six people would like a piece of pie. How much will each person get?

6

A length of ribbon is $\frac{2}{3}$ of a yard long. Jaime cuts the ribbon into 4 equal pieces. How long is each of the pieces?

7

There is $\frac{5}{6}$ of a pizza waiting to feed a group of 10 people. How much of the pizza will each person get?

8

Gracie has read $\frac{4}{5}$ of her book. If she has read 200 pages so far, how many pages are there in the book?

Name _____

Date _____

DIVIDING WITH MODELS RESPONSE SHEET

Create a model to solve each of the division problems.

1

2

3

4

5

6

7

8

DIVIDING WITH MODELS

ANSWER KEY

1 1/8 candy bar	2 3/16 miles apart	3 2/7 of the cake	4 24 brownies
5 1/8 of the pe	6 1/6 yard of ribbon	7 1/12 of the pizza	8 250 pages

EXPLAIN IT

Use your math vocabulary to explain how to solve the division problem.

TEACHER SUGGESTIONS

EXPLAIN IT

- In this activity students are asked to use math vocabulary to explain how they solve a division problem with fractions. This activity can be used in a variety of ways:

- ✓ Small group with teacher guidance
- ✓ A partner activity for practice
- ✓ Independently to assess

Materials

Included:

- Prompt

Not Included:

- Pencil
- Answer Key

Name _____

Date _____

EXPLAIN IT RESPONSE SHEET

Explain the process that you would use to divide 3 by $\frac{1}{2}$ using mathematical language

penelope

PUZZLES

Complete each division problem and match it to its answer to complete the puzzle.

TEACHER SUGGESTIONS

PUZZLE

- In this activity students are asked to solve equations dividing fractions and match them to their quotients to complete a puzzle.

This activity can be used in a variety of ways:

- ✓ In a small group with teacher guidance
- ✓ As a partner activity for practice
- ✓ Independently to assess

Materials

Included:

- Puzzle Pieces
- Work Sheet
- Answer Key

Not Included:

- Pencil

PUZZLE

$2 \div \frac{1}{6}$ 18 $3 \div \frac{1}{5}$ 15	$4 \div \frac{1}{4}$ 16 $5 \div \frac{1}{4}$ 20	$7 \div \frac{1}{4}$ 28 $10 \div \frac{1}{4}$ 40	$9 \div \frac{1}{3}$ 27 $12 \div \frac{1}{5}$ 60
$3 \div \frac{1}{3}$ 9 $6 \div \frac{1}{3}$ 18 $12 \div \frac{1}{5}$ 36	$4 \div \frac{1}{4}$ 16 $6 \div \frac{1}{4}$ 24 $12 \div \frac{1}{5}$ 60	$8 \div \frac{1}{4}$ 32 $10 \div \frac{1}{4}$ 40 $20 \div \frac{1}{2}$ 10	$4 \div \frac{1}{4}$ 16 $6 \div \frac{1}{4}$ 24 $12 \div \frac{1}{5}$ 60
$3 \div \frac{1}{5}$ 15 $6 \div \frac{1}{3}$ 18 $12 \div \frac{1}{5}$ 36	$4 \div \frac{1}{4}$ 16 $6 \div \frac{1}{4}$ 24 $12 \div \frac{1}{5}$ 60	$8 \div \frac{1}{4}$ 32 $10 \div \frac{1}{4}$ 40 $20 \div \frac{1}{2}$ 10	$4 \div \frac{1}{4}$ 16 $6 \div \frac{1}{4}$ 24 $12 \div \frac{1}{5}$ 60
$3 \div \frac{1}{5}$ 15 $6 \div \frac{1}{3}$ 18 $12 \div \frac{1}{5}$ 36	$4 \div \frac{1}{4}$ 16 $6 \div \frac{1}{4}$ 24 $12 \div \frac{1}{5}$ 60	$8 \div \frac{1}{4}$ 32 $10 \div \frac{1}{4}$ 40 $20 \div \frac{1}{2}$ 10	$4 \div \frac{1}{4}$ 16 $6 \div \frac{1}{4}$ 24 $12 \div \frac{1}{5}$ 60

Name _____

Date _____

PUZZLE RESPONSE SHEET 1/3

Use the spaces below to show your work for the puzzle.

previews

Name _____

Date _____

PUZZLE RESPONSE SHEET 2/3

Use the spaces below to show your work for the puzzle.

Interview

Name _____

Date _____

PUZZLE RESPONSE SHEET 3/3

Use the spaces below to show your work for the puzzle.

parent interview

PUZZLE ANSWER KEY

$4 \div \frac{1}{4}$ 16	$6 \div \frac{1}{2}$ 12	$2 \div \frac{1}{2}$ 4	$3 \div \frac{1}{7}$ 21	$24 \div 4$ 6
$5 \div \frac{1}{4}$ 20	48	$10 \div 5$ 2	$24 \div \frac{1}{3}$ 72	
18	$6 \div \frac{1}{4}$ 24	20	$12 \div 5$ 2.4	$9 \div \frac{1}{3}$ 27
$3 \div \frac{1}{2}$ 6	64	18	$6 \div \frac{1}{3}$ 18	$2 \div \frac{1}{4}$ 8
30	$5 \div \frac{1}{5}$ 25	$3 \div \frac{1}{5}$ 15	36	$12 \div \frac{1}{5}$ 60

DIVIDING WITH PICTURES

Use the pictures to complete the division problems.

TEACHER SUGGESTIONS

DIVIDING WITH PICTURES

- In this activity students are asked to solve problems dividing fractions with pictures
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

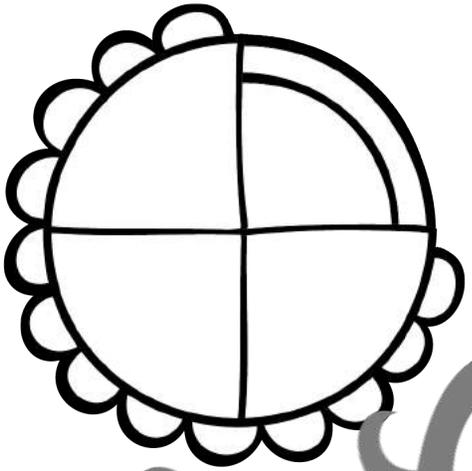
Included:

- Picture and Problem Cards
- Recording Sheet
- Answer Key

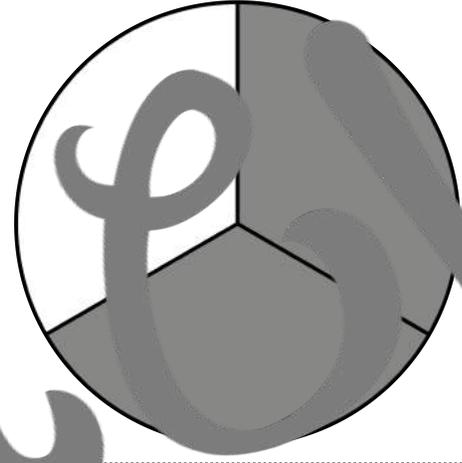
Not Included:

- Pencil

1 There is $\frac{3}{4}$ of a pie leftover after a bake sale. Six friends decide to buy it together. How much of an equal share will each friend get?

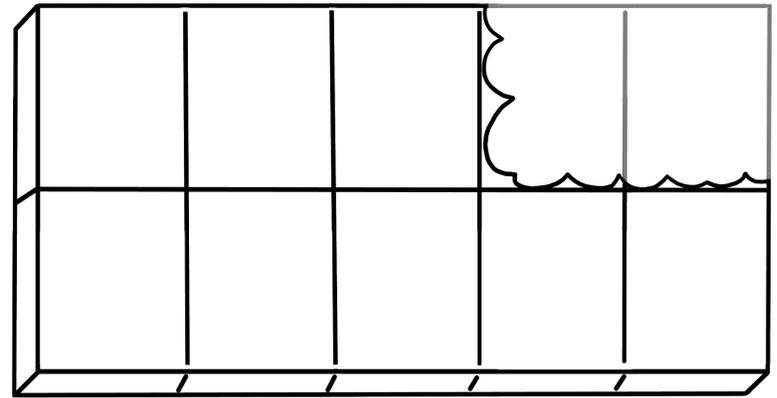
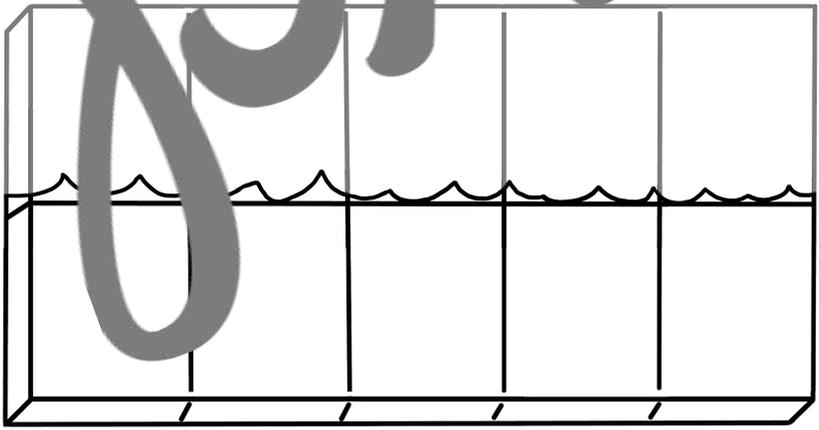


2 $\frac{2}{3}$ of the people in a room have gone on vacation in the last year. If 100 people have gone on vacation, how many people are in the room?

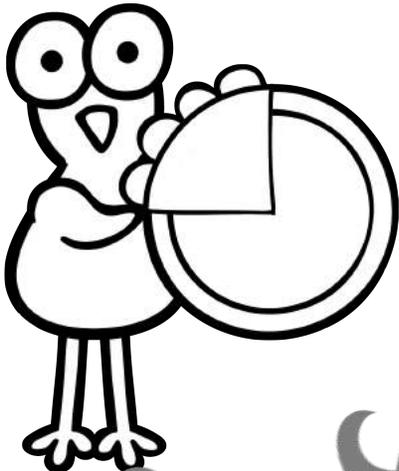


3 Five friends are splitting half of a cake. How much of the cake will each of the five friends get?

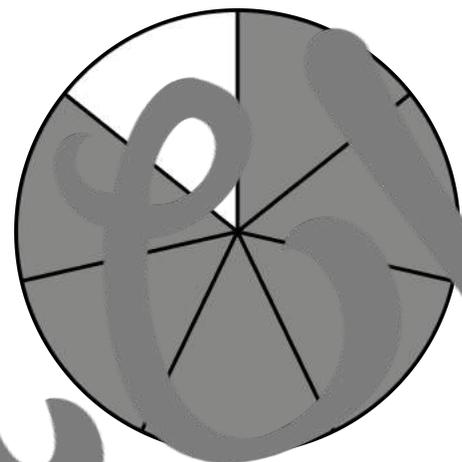
4 There is $\frac{6}{10}$ of a candy bar left. Carrie wants the candy bar to last for four days. How much of the candy bar can she eat each day?



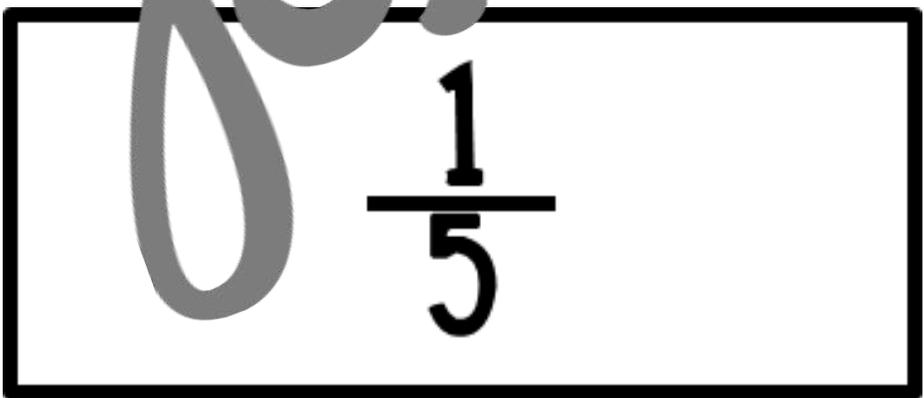
5 There is $\frac{1}{4}$ of a pie left. Three friends are planning on sharing it. How much of the pie is each friend going to get?



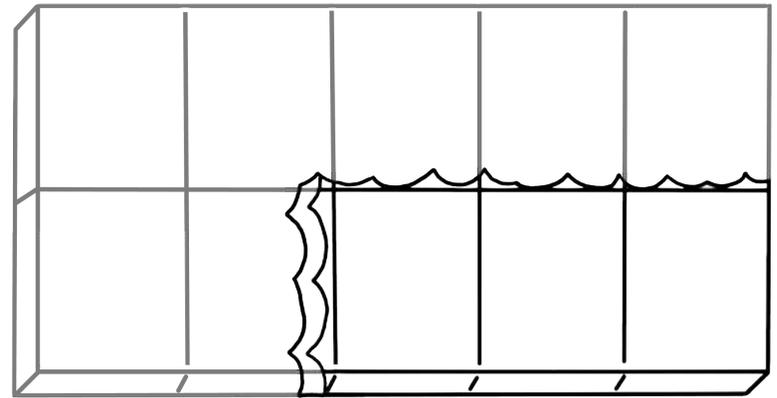
6 A family has completed $\frac{6}{7}$ of their road trip. If they have gone 576 miles, how long is their whole road trip?



7 20 students in the fifth grade have turned in their science fair projects. If that is only one-fifth of the students in the fifth grade, how many students are in fifth grade?



8 A box of chocolates has 3 chocolates left. If the remaining chocolates are $\frac{3}{10}$ of what was originally in the box, how many chocolates were there to start?



Name _____

Date _____

DIVIDING WITH PICTURES RESPONSE SHEET

Use the pictures to help you solve the problems.

1	2
3	4
5	6
7	8

DIVIDING WITH PICTURES ANSWER KEY

1 1/8 of the pie	2 150 people	3 1/10 of the cake	4 2/10 chocolate
5 1/12 of the pie	6 672 miles	7 100 students	8 10 chocolates

MEMORY

Complete each equation and match it to its quotient to complete a game of memory.

TEACHER SUGGESTIONS

MEMORY

- In this activity students are asked to play a game of memory by solving division of fraction problems.
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

Included:

- Division Cards
- Answer Cards
- Answer Key

Not Included:

- Pencil

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

$3 \div \frac{1}{6}$

$6 \div \frac{1}{2}$

$5 \div \frac{1}{4}$

$5 \div \frac{1}{6}$

$16 \div \frac{1}{4}$

$12 \div \frac{1}{4}$

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

$10 \div \frac{1}{4}$

$3 \div \frac{1}{5}$

$3 \div \frac{1}{7}$

$6 \div \frac{1}{9}$

$12 \div \frac{1}{3}$

$8 \div \frac{1}{4}$

$4 \div \frac{1}{6}$

$12 \div \frac{1}{5}$

16

18

12

20

30

64

48

44

40

15

21

54

36

32

24

60

MEMORY ANSWER KEY

16
 $4 \div \frac{1}{4}$

18
 $3 \div \frac{1}{6}$

12
 $6 \div \frac{1}{2}$

20
 $5 \div \frac{1}{4}$

30
 $5 \div \frac{1}{6}$

64
 $16 \div \frac{1}{4}$

48
 $12 \div \frac{1}{4}$

44
 $2 \div \frac{1}{2}$

40
 $10 \div \frac{1}{4}$

15
 $3 \div \frac{1}{5}$

21
 $3 \div \frac{1}{7}$

54
 $6 \div \frac{1}{9}$

36
 $12 \div \frac{1}{3}$

32
 $8 \div \frac{1}{4}$

24
 $4 \div \frac{1}{6}$

60
 $12 \div \frac{1}{5}$

WRITE YOUR OWN

Write and solve your own word problems dividing fractions.

TEACHER SUGGESTIONS

WRITE YOUR OWN

- In this activity students are asked to create and solve their own word problems dividing fractions.
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

Included:

- Recording Sheet
- Not Included:
- Pencil

Name _____

Date _____

WRITE YOUR OWN RESPONSE SHEET (1/2)

Write your own word problems involving dividing fractions, and then solve.

<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<i>problem</i>	<i>solve</i>

Name _____

Date _____

WRITE YOUR OWN RESPONSE SHEET (2/2)

Write your own word problems involving dividing fractions, and then solve.

<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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problem

answer

SPIN & DIVIDE

Spin to find a whole number and
fraction and then divide.

TEACHER SUGGESTIONS

SPIN & DIVIDE

- In this activity students are asked to spin to determine a whole number and fraction and then divide.
- This activity can be used in a variety of ways:
 - ✓ Small group with teacher guidance
 - ✓ A partner activity for practice
 - ✓ Independently to assess

Materials

Included:

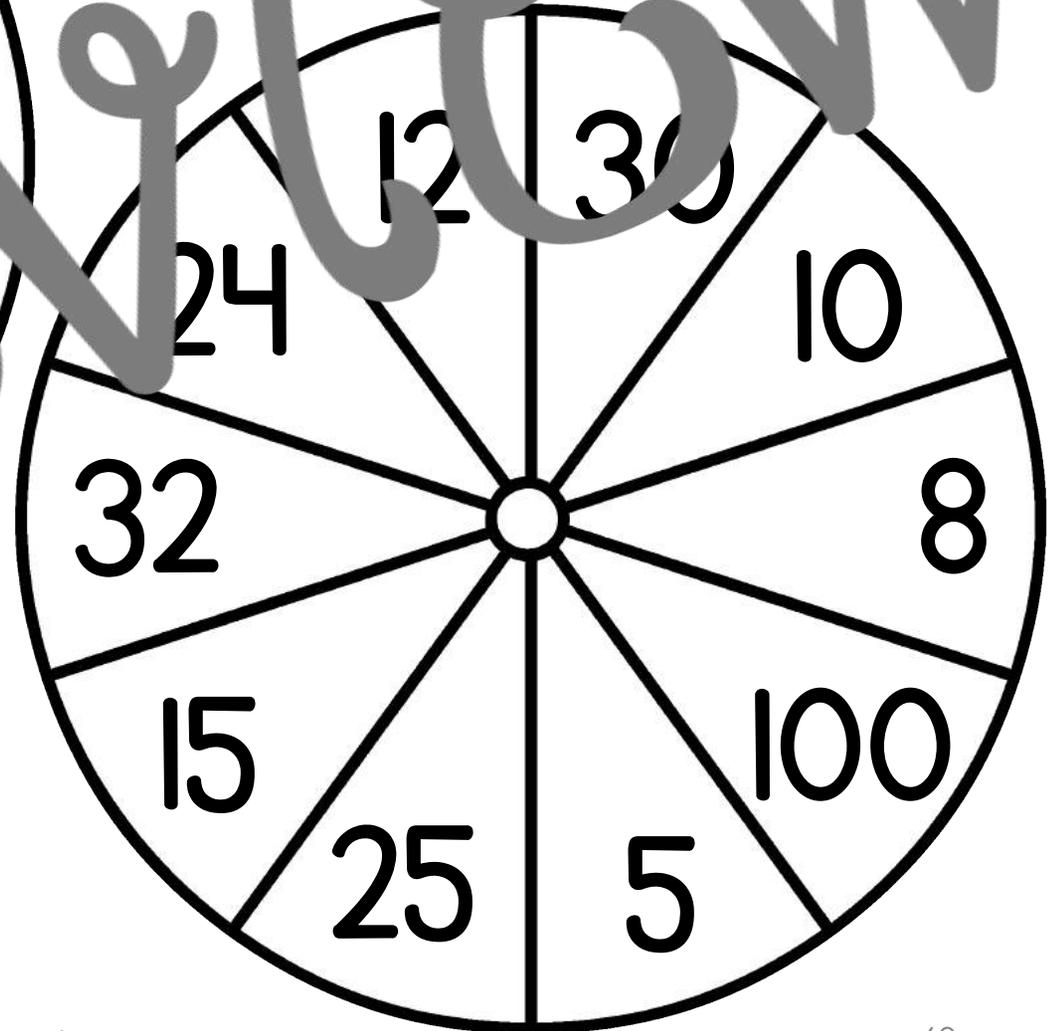
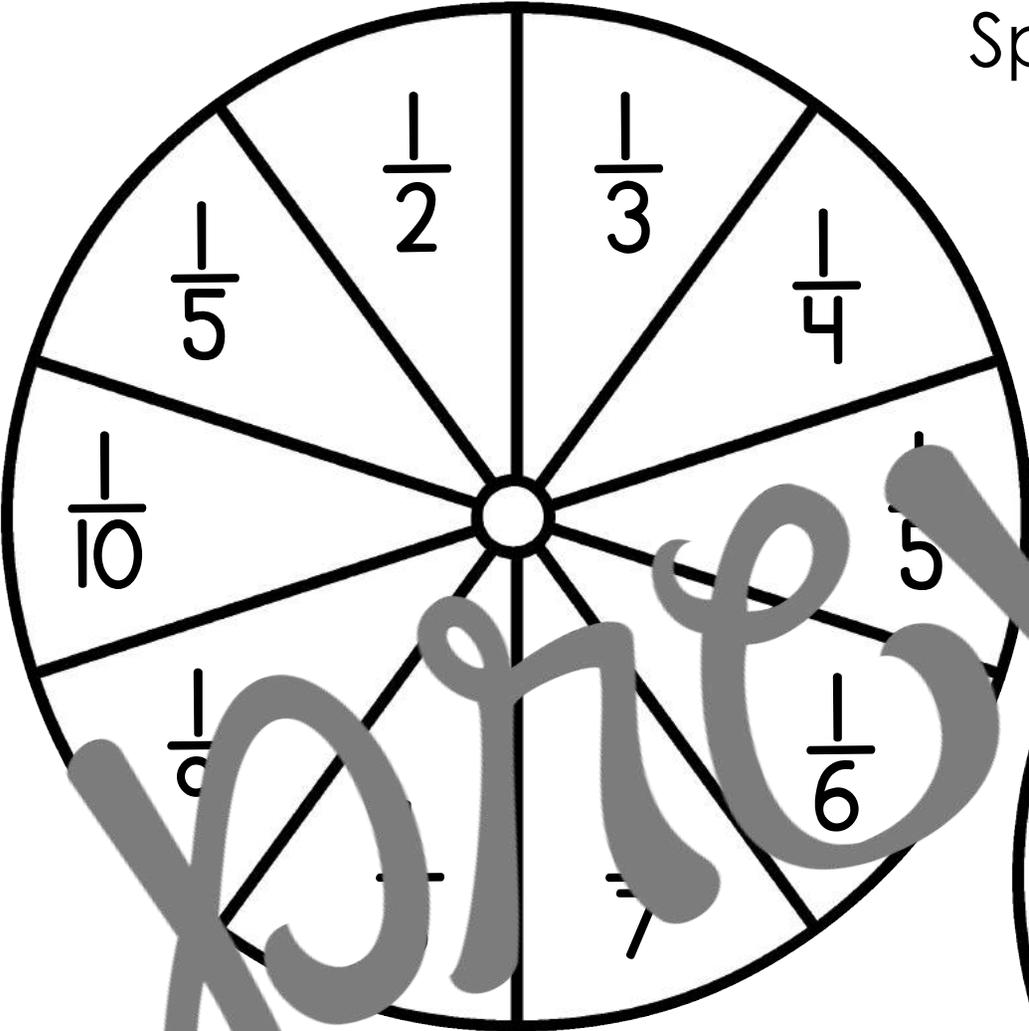
- Whole Number Spinner
- Fraction Spinner
- Recording Sheet

Not Included:

- Pencil
- Answer Key

SPIN & DIVIDE

Spin both spinners then divide the whole number by the fraction and record your answer.



Name _____

Date _____

SPIN AND DIVIDE RESPONSE SHEET

Spin both spinners and divide the whole number by the fraction.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Name _____ # _____ Date _____

TEST BRIDGE QUESTIONS

1. Meredith had 15 cups of flour to make cakes. She needs $\frac{1}{5}$ cup of flour for each cake. How many cakes can she make?

- a. 75 cakes
- b. 3 cakes
- c. 30 cakes
- d. 33 cakes

3. There is one-fourth of a cake leftover after a birthday party. If four friends split the leftovers, how much of the original cake will they each get?

- a. $\frac{1}{4}$ of the cake
- b. $\frac{1}{8}$ of the cake
- c. $\frac{1}{12}$ of the cake
- d. $\frac{1}{16}$ of the cake

2. Derek bought a 20 pound bag of dog food. He feeds his dog $\frac{1}{5}$ pound of food each day. How long will the bag of dog food last?

- a. 20 days
- b. 10 days
- c. 50 days
- d. 15 days

4. After dinner there is $\frac{1}{6}$ of a lasagna leftover. If Angela wants to bring it for lunch for the next two days, how much of the original lasagna will she have for lunch each day?

- a. $\frac{1}{12}$
- b. $\frac{1}{6}$
- c. $\frac{1}{8}$
- d. $\frac{1}{4}$

TEST BRIDGE ANSWER KEY

1. Meredith had 15 cups of flour to make cakes. She needs $\frac{1}{5}$ cup of flour for each cake. How many cakes can she make?

- a. 75 cakes
- b. 3 cakes
- c. 30 cakes
- d. 33 cakes

3. There is one-fourth of a cake leftover after a birthday party. If four friends split the leftovers, how much of the original cake will they each get?

- a. $\frac{1}{4}$ of the cake
- b. $\frac{1}{8}$ of the cake
- c. $\frac{1}{12}$ of the cake
- d. $\frac{1}{16}$ of the cake

2. Derek bought a 20 pound bag of dog food. He feeds his dog $\frac{1}{5}$ pound of food each day. How long will the bag of dog food last?

- a. 20 days
- b. 10 days
- c. 50 days
- d. 15 days

4. After dinner there is $\frac{1}{6}$ of a lasagna leftover. If Angela wants to bring it for lunch for the next two days, how much of the original lasagna will she have for lunch each day?

- a. $\frac{1}{12}$
- b. $\frac{1}{6}$
- c. $\frac{1}{8}$
- d. $\frac{1}{4}$

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