## **Multiplication Tetris**

#### **Directions**:

Have students play in groups of 2 or 3. Each group needs two dice and each player needs a blank grid that is 15 units by 15 units.

On each player's turn she rolls two dice. The numbers of the dice become the height and width of a rectangle that she will draw onto her grid paper. If a player rolls a 2 and a 5, she decides if the rectangle she draws on the grid will be  $2 \times 5$  or  $5 \times 2$ . After the rectangle is drawn, the player writes the factors she used inside the rectangle on the grid.

Each player stops playing as soon as she can no longer draw a rectangle that matches the dice rolled. Rectangles must not overlap and cannot be broken up into smaller rectangles.

The winner of the game is the person who ends up with the fewest unused unit spaces.



# **Division BUMP**

2 Player Division Game

### <u>Materials:</u>

 $\Box$  1 Division BUMP Game Board (choose from ÷2, ÷3, ÷4, ÷5, ÷6, ÷7, ÷8, ÷9, ÷10)

□ 10 chips or clear counters of one color for each player (Example: 10 red & 10 yellow)

#### □ Die/Dice - Choose ONE option:

 $\Box$  1 ten-sided die (use for facts 1–10). Use ONLY the bold circles on the game board for play.

 $\square$  2 six-sided dice (use for facts 1-12). Use all circles on the game board for play.

#### Rules:

Objective: The first player to get rid of all 10 counters wins!

#### **Basic Rules:**

□ Roll dice. Place a clear counter on the expression with the matching quotient.

□ If the number is already covered by another player's counter, BUMP it!

□ If the number is already covered by YOUR counter, put an additional counter on top to "crown" it and that number becomes closed and un-bump-able!

□ If a player rolls doubles he gets to roll again.

□ If all possible circles (expressions) are closed, the player loses a turn.

#### Variations:

□ Level 1: Put your counter on the circle containing the expression that matches the quotient on your dice.

□ Level 2: Put your counter on the circle containing the expression that matches the quotient, or choose two other expressions that total that quotient and cover each with a counter.

□ Level 3: BUMP Unlimited. Put your counter on the circle containing expression that matches the quotient, or determine a combinations of unlimited numbers that total the quotient and cover each with a counter.



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## Relating Multiplication & Division

Directions: Complete each row. Explain your reasoning.

Situation	Drawing or Diagram	Multiplication Equation	Division Equation
Jeffrey has 18 stickers in an album. Each page in the album holds 3 stickers.			18 ÷ 3 =
Five boxes contain a total of 25 granola bars. Each box holds the same number of granola bars.			
Susie baked 6 cookies. She put the cookies into 2 rows. Each row has the same number of cookies.		2 x ? = 6	
Mila has 20 colored pencils. Each box holds 4 colored pencils.			20 ÷ 4 =



Directions: Solve each problem by decomposing the teen number to multiply. Show your answer with a drawing and how you solved.



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Name: \_\_\_\_

Directions: Solve each problem by decomposing the teen number and putting into the area model to solve. Show how you solved.



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# 4 in a Row: Multiples of 10

Materials: two crayons (one color for player 1 and another color for player 2) and a die

### **Directions:**

- Player 1 rolls the die. Find the column with the matching number shown on the die. Start at the bottom of that column and if player 1 correctly answers the first multiplication problem in that column he/she can color in that box.
- 2. If the problem was answered incorrectly he/she cannot color in that box.
- 3. Player 2: Repeat step 1–2. If a box is already colored in the column you rolled move to the box above it.

9 x 80 =	8 x 70 =	4 × 40 =	20 × 3 =	50 x 8 =	10 x 5 =
30 x 2 =	60 x 5 =	20 × 3 =	9 x 40 =	2 × 60 =	30 x 4 =
4 × 40 =	10 x 3 =	9 x 20 =	90 x 7 =	7 x 80 =	20 x 6 =
30 x 2 =	20 x 4 =	90 x 7 =	60 x 2 =	9 × 10 =	80 x 2 =
3 x 60 =	4 × 90 =	60 x 2 =	3 x 30 =	30 x 7 =	60 x 8 =
5 x 40 =	60 x 4 =	4 × 70 =	60 x 5 =	10 × 8 =	20 x 5 =
50 x 6 =	3 x 50 =	5 x 50 =	3 x 70 =	50 x 7 =	3 × 40 =

4. Continue playing until one player has 4 in a row!

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# Close To 100

Materials: 2 sets of number cards 0-9 (cut out)

#### Directions:

. . . . .

- 1. Work with a partner. Cut the bottom portion of this sheet in half so each player can record their answers. Place the number cards face down. Each player draws 4 cards.
- 2. Each player chooses 2 cards to complete the expression to make a value as close to 100 as possible. Write the 2-digits and the product.

≫

3. The player closest to 100 wins.

Level 1: Player 1		L	evel 1: Player 2	2	
Round 1	× 1 =		Round 1	× 1 =	
Round 2	× 1 =		Round 2	× 1 =	
Round 3	× 1 =		Round 3	× 1 =	
Round 4	× 1 =		Round 4	× 1 =	
Round 5	× 1 =		Round 5	× 1 =	······
L	.evel 2: Player	1	Level 2: Player 2		
Round 1	x 2 =		Round 1	× 2 =	
Round 2	x 2 =		Round 2	× 2 =	
Round 3	× 2 =		Round 3	× 2 =	
Round 4	x 2 =		Round 4	x 2 =	
Round 5	x 2 =		Round 5	x 2 =	





Kegan collected 35 apples at the apple orchard. He wanted to put them into 5 bags. How many apples would be in each bag?

Sentence F	orm:
------------	------

Visual Model	Computation



## My Step-by-Step VISUAL MODELS for Word Problem Checklist

Steps	Directions	1
1	Read entire problem put in "chunks" ( )	
2	Rewrite the question in sentence form with a blank space for the answer	
3	Determine who and/or what is involved in the problem	
4	Draw the unit bar(s)	
5	Go back to the "chunks" ( ) and check (✔) when each part is added into the adjusted unit bars, put in question mark	
6	Correctly compute and solve the problem	
7	Write the answer in the sentence, and make sure the answer make sense	

# Representing Division

Directions: Complete each row. Draw out base ten blocks to represent the problem then solve.

Problem	Base Ten Drawing	Answer
48 ÷ 4		
66 ÷ 6		
36÷3		
70 ÷ 5		

Directions: Use the multiplying-up strategy to divide.



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# Estimate & Compare Quotients

Materials: expression cards (cut out), recording sheet (below)

### **Directions:**

- 1. Shuffle the cards and place them face down.
- 2. Player 1 draws two cards. Come up with an estimate for each expression shown on the cards and determine which of the two has the greatest value. Record your answers on the sheet below.
- 3. Player 2 gives feedback. If correct, player 1 keeps the cards, otherwise the player must return the cards.
- 4. Take turns and continue steps 2-3 until no cards are left.
- 5. The player with the most cards wins

Card 1 Estimate	Card 2 Estimate	Which expression is greater?	Card 1 Estimate	Card 2 Estimate	Which expression is greater?

#### Player 1

Player 2

92÷4	52 ÷ 13
100 ÷ 25	100 ÷ 20
66 ÷ 22	84÷7
65 ÷ 5	84 ÷ 12

72 ÷ 18	45 ÷ 15
63÷3	88 ÷ 22
72÷3	69 ÷ 3
96 ÷ 24	78 ÷ 6



# Reading and Writing Fractions

**Directions:** Label each part of the pictures and practice reading the fraction.





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# Fraction Strips

### Materials:

- fraction strip template
- scissors
- crayons or markers
- envelopes

### **Directions:**

- 1. Label the longest strip as one whole,  $\frac{1}{1}$ . Color the strip red.
- 2. Label the parts of each strip with the correct unit fraction. Color them the following colors:  $\frac{1}{2}$  yellow,  $\frac{1}{3}$  green,  $\frac{1}{4}$  blue,  $\frac{1}{6}$  orange,  $\frac{1}{8}$  white.
- 3. Cut out and order the fraction strips from the largest to the smallest sized pieces. What do you notice about the numerators? What do you notice about the denominators? Record your observations below.
- 4. Write your name on the back of each fraction strip and store them in an envelope.

What do you notice about the numerators?:\_\_\_\_\_

What do you notice about the denominators?:\_\_\_\_\_



# Fraction Match Up

**Directions:** Cut out all the cards. Scatter the cards facedown in two piles, one with the fraction cards and one with the shape cards. With 2 players take turns flipping over 2 cards, one from each pile, trying to make a match. If you don't make a match flip both cards over and it's the other players turn. The player with the most pair of matches wins!







### Materials:

- SECRET fraction cards cut out
- UNIT fraction cards cut out
- game board for each player

### **Directions:**

- 1. Place the SECRET fraction cards face down in a pile. Place the UNIT fraction cards place down in a pile.
- 2. Each player draws 1 SECRET fraction card. This will be the fraction you will try to build with the UNIT fraction cards.
- 3. On your turn draw a UNIT fraction card or trade in your SECRET fraction card for a new one.
- 4. When you have enough unit fractions to make your secret fraction fill in your secret fraction on the game board.



$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{3}$
$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	

$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{3}$
$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	

Secret Fraction	Secret Fraction 2	Secret Fraction 3	Secret Fraction 2
2	3	3	4
Secret Fraction	Secret Fraction 4	Secret Fraction 2	Secret Fraction 4
4	4	6	6
Secret Fraction 5	Secret Fraction	Secret Fraction 3	Secret Fraction 5
6	8	8	8

### Player 1 Gameboard

1 whole														
			<u>1</u> 2				:				$\frac{1}{2}$			
		1 3		:			13			:		13		
	$\frac{1}{4}$		:		$\frac{1}{4}$		:		$\frac{1}{4}$		:		$\frac{1}{4}$	
$\frac{1}{6}$		:	$\frac{1}{6}$	:		<u>1</u> 6	:	$\frac{1}{6}$		:	$\frac{1}{6}$			1 6
18	:	<u>1</u> 8	:	<u>1</u> 8	:	1 8	:	1 8	:	<u>1</u> 8	:	1 8	:	1 8
1 whole														
			<u>1</u> 2				:				$\frac{1}{2}$			
		13					1 3			:		1		
	$\frac{1}{4}$		:		$\frac{1}{4}$		:		$\frac{1}{4}$				$\frac{1}{4}$	
$\frac{1}{6}$		:	$\frac{1}{6}$			<u>1</u> 6	ł	$\frac{1}{6}$		:	$\frac{1}{6}$			<u>1</u> 6
1 8	÷	<u>1</u> 8	:	$\frac{1}{8}$	÷	1 8	ł	<u>1</u> 8	÷	<u>1</u> 8	:	<u>1</u> 8	:	<u>1</u> 8

### Player 2 Gameboard

1 whole								
<u>1</u> 2			1/2					
1 17	1	i i	Iw					
14	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$					
1 6 1 6	1 6	1 6	1 16					
1 1 1 8 8	$\frac{1}{8}$	$\frac{1}{8}$ $\frac{1}{8}$	1 18					
1 whole								
<u>1</u> 2			1/2					
1 3	1		[m					
14	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$					
1 6 1 6	$\frac{1}{6}$	$\frac{1}{6}$	1 6 1 6					
1 1 1 8 8 8	$\frac{1}{8}$	$\frac{1}{8}$ $\frac{1}{8}$	1 18					

# Cut, Fold, Label

### **Directions:**

- 1. Cut out all 5 number lines.
- 2. Fold the first number line into halves. Draw tick marks to show the halves. Label the number  $\frac{1}{2}$ .
- **3.** Fold the next number line into thirds. Draw tick marks to show the thirds. Label the number  $\frac{1}{3}$ .
- 4. Continue with fourths, sixths, and eighths.

C	)	
·····		
C	) )	
C	1	
·····		
C	)	
C	)	

# Locate the Fraction

**Directions:** Partition each number line. Locate and label each fraction.

