

Raging Rectangles

Building Fluency: products of whole numbers and their relationship to rectangular arrays; relate area to operations of multiplication.

Materials: gameboard, pair of dice, 1 crayon - different color per player

Number of Players: 2

Directions:

1. Each player takes a turn rolling the dice to get two factors.
2. The player outlines and colors a rectangle on the gameboard to match the pair of factors. Example: a roll of 6 and 3 is colored as a 6×3 rectangle or a 3×6 rectangle.
3. The player writes the equation (area) inside the rectangle.
4. A player loses a turn when the rectangle cannot be drawn on the gameboard.
5. The winner is the player with the most area colored.

Variation/Extension: Students can add the two numbers on the dice for the first factor and then use 2, 5 or 10 as the second factor.

A full-page sheet of white graph paper featuring a uniform grid of thin black lines. The grid consists of 20 columns and 20 rows of small squares, creating a clean workspace for drawing or calculations.

Four Quotients

Building Fluency: division within 100

Materials: gameboard, pair of dice, division grid, 15 game markers - different color for each player,

Number of Players: 2

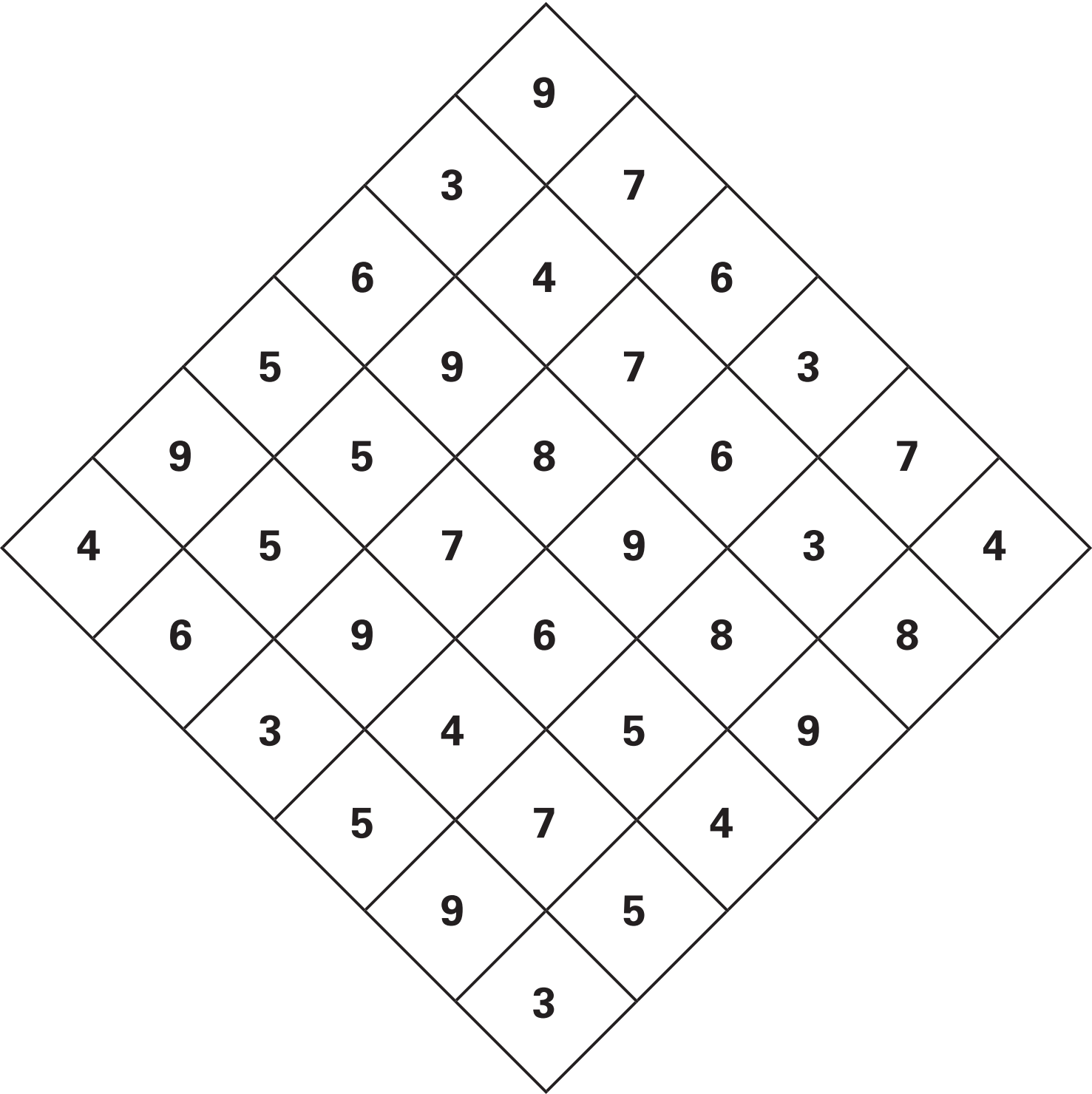
Directions:

1. Player rolls the pair of dice and locates the spaces on the grid named by them.
Example: A roll of a 3 and a 5 could be space (3,5) or space (5,3).
2. The player answers the division problem and places a game marker on that number on the gameboard.
3. The first player to get 4 spaces in a row is the winner.

Variation/Extension: Players could pick a space on the gameboard and give a division fact to match it in order to place a marker on the board. Example: I pick 7. $42 \div 6 = 7$. The winner could fill an entire row.

	1	2	3	4	5	6
1	$8 \overline{)48}$	$8 \overline{)24}$	$6 \overline{)36}$	$6 \overline{)54}$	$6 \overline{)24}$	$9 \overline{)45}$
2	$4 \overline{)32}$	$6 \overline{)42}$	$9 \overline{)63}$	$6 \overline{)30}$	$7 \overline{)56}$	$7 \overline{)28}$
3	$3 \overline{)24}$	$7 \overline{)35}$	$9 \overline{)81}$	$4 \overline{)24}$	$8 \overline{)64}$	$8 \overline{)32}$
4	$9 \overline{)36}$	$8 \overline{)72}$	$5 \overline{)30}$	$7 \overline{)49}$	$5 \overline{)35}$	$7 \overline{)42}$
5	$9 \overline{)54}$	$8 \overline{)56}$	$5 \overline{)40}$	$4 \overline{)28}$	$9 \overline{)72}$	$4 \overline{)36}$
6	$9 \overline{)27}$	$8 \overline{)40}$	$6 \overline{)48}$	$7 \overline{)63}$	$3 \overline{)27}$	$5 \overline{)45}$

Four Quotients



Order up

Building Fluency: review place value - compare multi-digit numbers

Materials: recording sheet, digit cards (or 0-9 die)

Number of Players: 2-4

Directions:

1. The first player selects 4 digit cards and makes the largest possible four-digit number with those digits.
Example: cards show these digits: 6, 4, 3, 3, this order makes the largest possible number for those digits.
2. The player writes that number on line 1.
3. The second player selects 4 digit cards and makes the smallest possible number for those digits.
4. The player writes that number on line 10.
5. The next player selects 4 digit cards and must make a number that falls between the other two. They can choose any line to place that number on.
6. The next player selects 4 digit cards and makes a number using those digits that could be placed on an empty line between any two existing numbers.
7. Game continues until a number is correctly placed on each line. (All 10 lines contain a number and they are in the correct order), OR players cannot place a number correctly on any of the empty lines.

Variation/Extension: Once students understand the game they can create their own recording sheet in their math notebook. Teacher can modify this game by changing the number of digits or number of lines.

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

0**1****2****3****4****5****6****7****8****9****0****1****2****3****4****5****6****7****8****9**

Race to 300

Building Fluency: multiply one-digit whole numbers by multiples of ten

Materials: a die, recording sheet

Number of Players: 1-4

Directions:

1. Each player rolls a die in turn. The player multiplies that number by 10 and records the answer.
2. Add the numbers after each turn.
3. The first player to reach or pass 300 wins.

Variation/Extension: Once students understand how to play the game they can record their work in their math notebook. Students could play 10 rounds and see who has the lowest score. Students change the goal number and make it a higher or lower.

Example:

NUMBER ROLLED	NUMBER X 10	TOTAL SUM
3	3 x 10= 30	30
6	6 x 10= 60	30 + 60=90
4	4 x 10= 40	90 + 40= 130
5	5 x 10= 50	130 + 50= 180
2	2 x 10 = 20	180 + 20=200
6	6 x 10= 60	200 + 60= 260
5	5 x 10= 50	260 + 50= 310 – GOAL REACHED

[illegible][illegible]

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Three in a Row Gameboard

Building Fluency: understand fractions

Materials: gameboard, game cards, nine game markers per player.

Number of Players: 2-6

Directions:

1. Choose an answer board for each round.
2. Shuffle the Three-In-A-Row game cards and place them face down.
3. Turn over the top card.
4. All players cover the fraction with a game marker if it appears on their board.
5. Three in a row is a winner, horizontally, vertically or diagonally.

Variation/Extension: Players play using the same gameboard but take turns turning cards with only one player marking the play for each turn. Players could cover the entire board.

$\frac{1}{6}$	$\frac{3}{4}$	$\frac{5}{6}$
$\frac{1}{2}$	$\frac{3}{3}$	$\frac{3}{8}$
$\frac{3}{5}$	$\frac{7}{8}$	$\frac{1}{4}$

$\frac{1}{6}$	$\frac{3}{4}$	$\frac{5}{6}$
$\frac{1}{2}$	$\frac{3}{3}$	$\frac{3}{8}$
$\frac{3}{5}$	$\frac{7}{8}$	$\frac{1}{4}$

$\frac{5}{8}$	$\frac{2}{3}$	$\frac{1}{4}$
$\frac{3}{4}$	$\frac{2}{5}$	$\frac{2}{8}$
$\frac{3}{3}$	$\frac{1}{2}$	$\frac{5}{6}$

$\frac{5}{8}$	$\frac{1}{2}$	$\frac{3}{6}$
$\frac{2}{3}$	$\frac{3}{8}$	$\frac{4}{4}$
$\frac{7}{8}$	$\frac{2}{5}$	$\frac{1}{3}$

$\frac{4}{8}$	$\frac{5}{6}$	$\frac{1}{2}$
$\frac{1}{6}$	$\frac{3}{5}$	$\frac{2}{8}$
$\frac{2}{3}$	$\frac{6}{6}$	$\frac{1}{4}$

$\frac{2}{8}$	$\frac{1}{3}$	$\frac{5}{6}$
$\frac{2}{5}$	$\frac{4}{4}$	$\frac{2}{3}$
$\frac{1}{2}$	$\frac{7}{8}$	$\frac{1}{4}$

$\frac{1}{2}$	$\frac{3}{5}$	$\frac{6}{6}$
$\frac{2}{3}$	$\frac{1}{8}$	$\frac{3}{4}$
$\frac{4}{6}$	$\frac{1}{3}$	$\frac{4}{8}$
