

Place Value Top-It

Objectives:

Build and compare numbers using place value.

Materials:

2–7 dice per player, 6 or 10-sided dice.



Directions:

1. Players roll their dice and arrange them as digits to make the largest number possible (or smallest).
For decimals, use a counter or dot drawn on a sticky note to represent the decimal point.
2. Players read their numbers out loud, and partners compare them.
3. The player with the largest number wins a point.

Support Suggestions:

- Practice with fewer digits first.
- Arrange dice on place value mats or place value charts drawn on whiteboards.

Extension Ideas:

- Record number in expanded or word form.
- Round the number to a certain place.
- Find 10, 100, .1, etc. more or less than the number.
- Add or subtract the two numbers after comparing.



Roll and Multiply!

Objectives:

Strengthen multiplication fact fluency by using dice as factors.

Materials:

- 2 dice per player, 6 or 10-sided
- Recording sheet



Directions:

1. Roll two dice and multiply. State the product and partner confirms or contradicts.
2. Record facts.

Support Suggestions:

- Provide multiplication charts.
- Use counters to make arrays.



Helpful Additions!

Two-Color Counters
&
Multiplication Tables 1-12

Extension Ideas:

- Roll three dice and find the product of all 3.
- Turn into a race: Add the products of each roll – who can reach 100 points first?



Roll to 1,000

Objectives:

Practice multi-digit addition using dice as digits.



Materials:

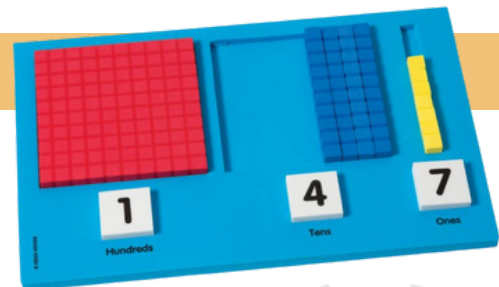
- 4 dice per player, 6 or 10-sided
- Paper and pencil or whiteboard materials.

Directions:

1. Roll 4 dice, pair dice to make two 2-digit numbers.
2. Add the numbers and write down the total.
3. Keep a running sum of totals.
4. First to reach 1,000 wins.
5. Record each step to reinforce cumulative addition.

Support Suggestions:

- Use base-ten blocks or place value charts to add.
- Use a calculator to find running total only.



Extension Ideas:

- Get to 0: Subtract from 1000 (start with 1000 and work backwards).
- Get to 1: Add decimals, use a counter or dot drawn on a sticky note to represent the decimal point.

Helpful Addition!

Base Ten Value Frame

Perimeter & Area Roll

Objectives:

Explore perimeter and area using dice.

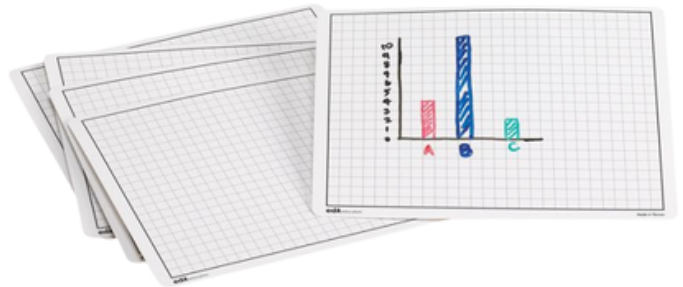
Materials:

- 2 dice per player, 6 or 10-sided
- Graph paper
- Two colored pencils



Directions:

1. Player 1 rolls two dice (e.g., 3 and 5), draws a rectangle with those dimensions.
2. Calculate the perimeter.
3. Alternate turns until the paper is full.
4. At the end, calculate the area of each player's shapes. Highest total wins.



Helpful Addition!

Write-On/Wipe-Off
Graphing Mats

Support Suggestions:

- Provide perimeter/area formulas and examples.

Extension Ideas:

- Find all the different areas for a specified perimeter, using various rectangles.

Fraction Top-It

Objectives:

Build, compare, and order fractions.

Materials:

- 2 dice (different colors) per player, 6–20 sides
- Number line or fraction strips



Directions:

1. Roll two dice—use one as numerator, one as denominator.
2. Record and simplify the fraction.
3. Repeat to build a 2nd fraction and compare them. The largest fraction gets a point.
4. Repeat to build a 3rd fraction and order from least to greatest.



Helpful Addition!

Interlocking Fraction Cubes

Support Suggestions:

- Use visual fraction models.
- Provide a chart of common equivalents.

Extension Ideas:

- Convert fractions to decimals or percents.
- Add, subtract, or multiply the two rolled fractions.



Roll to 1,000

Roll	Previous Sum		Number 1		Number 2		Sum
1	0	+		+		=	
2		+		+		=	
3		+		+		=	
4		+		+		=	
5		+		+		=	
6		+		+		=	
7		+		+		=	
8		+		+		=	
9		+		+		=	
10		+		+		=	
11		+		+		=	
12		+		+		=	
13		+		+		=	
14		+		+		=	
15		+		+		=	