

# Big Ideas in Number Resource Information

Big Ideas in Number Focus Area: **Multiplicative Thinking**

Name of Game or Activity: Multiplication Bump Game

## **Instructions:**

Students collect their materials and play with a partner; preferably, one who has a similar Times Tables focus. Students decide who is going first and roll the dice. Students match the number rolled with the times tables equation on the side. Once they have answered the equation they need to find the answer on the grid and place a counter on the board. It is then the other partner's turn, if they roll on a number that has already been rolled by their partner they can bump them off and place one of their counters down. The player to get 4 in a row is the winner.

## **Resources:**

Bump Board Game. Student's focus on a times table suited to their ability. Students require a minimum of 10 counters of the same colour counters each and 12 sided die.

## **BlIN Micro Content**

<b>Cyclical pattern of 100-10-1 is repeated from ones to thousands</b>	
<b>Cyclical pattern of 100-10-1 is repeated beyond 100s to millions</b>	
<b>Ten times multiplicative relationship exists between places</b>	
<b>The multiplicative relationship extends to numbers less than one, that is to the right of the decimal point</b>	
<b>There is symmetry in the place value number system based around the ones place so that the patten in naming wholes is reflected in naming decimals</b>	
<b>Double count by representing one group (e.g. hold up 4 fingers) and counting repetitions of that group, simultaneously keeping track of the number of groups and the number in each group</b>	
<b>The multiplicative relationship between quantities is expressed as 'times as many' and 'how many times larger or smaller' a number is than another number</b>	
<b>Numbers move a place each time they are multiplied or divided by 10</b>	
<b>Basic number facts to 10x10 are recalled and patterns in number facts are investigated</b>	

## Big Ideas in Number Resource Information

<b>Number facts can be extended by powers of 10</b>	
<b>Multiplicative situations can be represented as equal-groups problems, comparison problems, combinations (Cartesian) problems and area/array problems</b>	
<b>The multiplicative situation is understood (factor X factor = multiple) with the meanings of the terms clearly understood.</b>	
<b>Multiplication arrays are used to visualise and represent multiplication situations</b>	
<b>Division and multiplication are known as the inverse of one another</b>	
<b>The commutative property of multiplication is understood and can be shown to be linked to arrays</b>	
<b>Partition division involves finding the size of each group and quotient division involves finding the number of groups and can be also expressed in terms of factors and multiple</b>	
<b>Quotient division can be considered in terms of fractions so that a quantity can be split by 'halving', 'thirthing', 'fifthing' etc.</b>	
<b>Prime and composite numbers can be linked to multiplicative arrays – prime numbers can be made only with a single row array</b>	
<b>Distributive property of multiplication over addition is applied and shown by a multiplicative array</b>	
<b>Multiplicative arrays are linked to the concepts of area and volume</b>	
<b>Measurement units have the same multiplicative relationship as the Base 10 system</b>	
<b>Cartesian products can be represented symbolically and in tree diagrams</b>	

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# BUMP GAME DIRECTIONS

**Materials:** Each player needs about ten markers of one color and one copy of the game board (with optional answer key).

**Number of Players:** 2

**Objective:** To have the most squares covered by the end of the game

**Directions:**

1. Roll a pair of dice, and determine the sum of the numbers rolled.
2. Find the number that matches the sum of the numbers you rolled.
3. Answer or solve the task.
4. Find the answer or solution in one of the square.
5. Place your marker on the square

**Other Important Information:**

1. If another player rolls the same sum as you and gets the answer correct, he or she may "bump" your marker and place his or her marker on the square.
2. You can protect your circle by rolling the same sum again and placing another marker on top of the existing one. Two markers on the same square by the same player will protect that player from being bumped.

## Big Ideas in Number Resource Information

**Multiplication: 2s & 3s**

<b>2</b>	$2 \times 6 =$
<b>3</b>	$3 \times 4 =$
<b>4</b>	$2 \times 2 =$
<b>5</b>	$3 \times 7 =$
<b>6</b>	$2 \times 7 =$
<b>7</b>	$3 \times 8 =$
<b>8</b>	$2 \times 5 =$
<b>9</b>	$2 \times 8 =$
<b>10</b>	$3 \times 5 =$
<b>11</b>	$2 \times 3 =$
<b>12</b>	$3 \times 9 =$

# BUMP GAME

**Directions:** Solve each equation.

12	6	21	15
16	14	4	12
24	4	16	24
14	10	10	27

## Big Ideas in Number Resource Information

Multiplication: 4s & 5s

# BUMP GAME

Directions: Solve each equation.

2  $4 \times 5 =$

3  $5 \times 7 =$

4  $5 \times 9 =$

5  $4 \times 6 =$

6  $4 \times 3 =$

7  $5 \times 8 =$

8  $5 \times 6 =$

9  $4 \times 4 =$

10  $5 \times 11 =$

11  $4 \times 9 =$

12  $4 \times 12 =$

40	48	20	12
35	40	45	30
30	24	24	16
12	16	55	36

## Big Ideas in Number Resource Information

Multiplication: 6s & 7s

2	$6 \times 7 =$
3	$6 \times 5 =$
4	$7 \times 9 =$
5	$7 \times 7 =$
6	$6 \times 9 =$
7	$7 \times 8 =$
8	$7 \times 4 =$
9	$6 \times 6 =$
10	$6 \times 4 =$
11	$7 \times 3 =$
12	$7 \times 2 =$

# BUMPGAME

**Directions:** Solve each equation.

28	63	56	42
49	54	24	21
30	36	28	56
14	36	49	54

## Big Ideas in Number Resource Information

**Multiplication: 8s & 9s**

2	$8 \times 4 =$
3	$9 \times 3 =$
4	$8 \times 5 =$
5	$8 \times 9 =$
6	$9 \times 6 =$
7	$8 \times 8 =$
8	$9 \times 7 =$
9	$9 \times 5 =$
10	$9 \times 9 =$
11	$8 \times 6 =$
12	$8 \times 7 =$

# BUMP GAME

**Directions:** Solve each equation.

32	81	64	54
64	40	40	63
63	54	48	27
72	45	45	56

## Big Ideas in Number Resource Information

Multiplication 10s, 11s & 12s

# BUMP GAME

Directions: Solve each equation.

2	$10 \times 4 =$
3	$12 \times 3 =$
<b>4</b>	$11 \times 7 =$
5	$10 \times 6 =$
<b>6</b>	$11 \times 9 =$
7	$12 \times 7 =$
<b>8</b>	$12 \times 8 =$
9	$10 \times 9 =$
<b>10</b>	$11 \times 3 =$
<b>11</b>	$12 \times 5 =$
<b>12</b>	$12 \times 6 =$

60	72	96	40
99	33	36	60
77	33	90	99
96	84	90	84

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<b>6</b>	$2 \times 7 =$
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<b>8</b>	$2 \times 5 =$
<b>9</b>	$2 \times 8 =$
<b>10</b>	$3 \times 5 =$
<b>11</b>	$2 \times 3 =$
<b>12</b>	$3 \times 9 =$

# BUMPGAME

**Directions:** Solve each equation.

12	6	21	15
16	14	4	12
24	4	16	24
14	10	10	27