

# MathemaChickens

## Math Game for Kids

(Updated December 30, 2021)

**MathemaChickens** is a simple math game where kids use their equation-making skills to eat their way around the farmyard while avoiding the coyote.



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## **LASERCUT COMPONENTS**

- Farmyard game board (five sections ~17x17 inches)
- Chicken coop (with poop)
- 70 food tiles (20 high protein foods, 50 seed piles)
- 5 chickens
- 1 coyote
- Pair of dice
- Math equations “cheat” sheets.

## **GOAL**

Acting as an omnivorous chicken that eats almost anything, gobble up the most food points to win.

## **SETUP**

1. Assemble the game board.
2. Each player grabs a chicken and places it in the coop.
3. Place the coyote on one of the corner locations.
4. Randomly scatter the large food tiles face up, one per barnyard location (hexagons), excluding the coyote.
5. Randomly scatter the seed tiles face up, one per barnyard location.
6. Place the remaining food tiles face down in a draw pile.



## **GAME PLAY**

Players take turns rolling the dice, but all players move based on the numbers rolled. On each turn ...

1. The current player rolls the dice.
2. Moves the coyote. (See below).
3. Players examine the numbers rolled and think of two or more equations using those numbers. (See below.)
4. The rolling player makes the first move, followed by the remaining player(s) clockwise until all players have made their moves.

## **Equations**

Equations are any mathematical combination of the two numbers rolled. The solution will be the result of one math operation: add, subtract, multiply or divide. Each roll of the dice can form at least three solutions or four when a whole number is the result of division.

## **Making a Move**

1. Upon rolling the dice, move your chicken onto a location where the food supply number matches one of the answers to your equation. The location must be adjacent to, or within a continuous path of five empty spaces from your chicken's current position.
2. Call out the equation for others to verify.
3. Pick up the food item and place it in front of you.

*TIP: Try to find the food that has the highest number.*

## **Special Move:**

If your chicken is on a corner tile, it can move to another corner to eat a matching food item that is either in the corner or on an adjacent space.

## **Rolling Doubles**

A double roll has additional actions that the rolling player must perform before moving:

1. Add new food tiles to a maximum of five empty locations, starting with locations closest to the chicken coop. The new tiles come from the food draw pile.

Afterwards, players can optionally move their chicken to a corner tile.

## **Moving the Coyote**

The coyote should be moved by the rolling player each time. The number of spaces moved depends on both the roll and adjacent spaces.

If the coyote is surrounded by food, the coyote can only move one space in any direction. Otherwise, the coyote can move along empty spaces to a maximum of three spaces.

Upon rolling doubles, the coyote's move is doubled.

The coyote cannot enter the chicken coop.

If the coyote moves next to a chicken, the chicken is scared back into the chicken coop and loses their highest food item which is returned to the bottom of the food draw pile.

## ENDING THE GAME

When there are less than five food tiles remaining, any player can then choose to return to the chicken coop by rolling dice. Once a player enters the chicken coop, the game is over.

Players now tally the food they gathered using the following point system:

Points Earned	Food numbers
<b>1</b>	<b>1-5</b>
<b>2</b>	<b>6-10</b>
<b>3</b>	<b>11, 12, 15, 16, 18</b>
<b>4</b>	<b>20, 24, 25</b>
<b>5</b>	<b>30, 36</b>

The winner will have the most points. In case of a tie, the player with the higher proteins wins.

### Alternate Scoring

With older-mathematically-inclined players, total all your food points instead of using the scoring system above. This requires slightly higher addition skills.

## **ALTERNATIVE GAME FOR YOUNGER KIDS**

For a game without the need to think of all equations, you can use just the numbers 2-12. Remove all tiles higher than 12 and the number 1 tiles. Simply roll dice and add up the die values to move to a matching food item.

## **SOLO GAME**

One child can play alone. Game play is the same. The goal is to get the highest score.

## **FREQUENTLY ASKED QUESTIONS**

- Can a chicken move through the chicken coop? **YES**, it counts as one of your available movements.
- Can a chicken eat a matching food beneath its current location? **YES**, but the chicken does not move afterwards.
- How many answers can be formed from two die numbers” **20**: 1-10,12,15,16,18,20,24,25,30,36.

# Mathematical Die Rolls

Dice Rolls



Equations

$1+1=2 \quad 1\div 1=1$



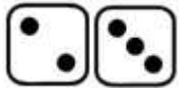
$1+2=3 \quad 2-1=1$

$2\times 1=2$



$1+3=4 \quad 3-1=2$

$3\times 1=3$



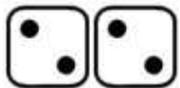
$2+3=5 \quad 3-2=1$

$2\times 3=6$



$2+5=7 \quad 5-2=3$

$2\times 5=10$

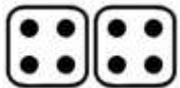


$2\times 2=4 \quad 2\div 2=1$



$3+4=7 \quad 4-3=1$

$3\times 4=12$



$4\times 4=16 \quad 4\div 4=1$

$4+4=8$



$6+4=10 \quad 6-4=2$

$4\times 6=24$



$6-5=1 \quad 5+6=11$

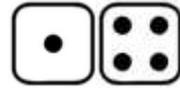
$6\times 5=30$



$6-3=3 \quad 3+6=9$

$6\times 3=18 \quad 6\div 3=2$

Dice Rolls



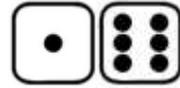
$1+4=5 \quad 4-1=3$

$4\times 1=4$



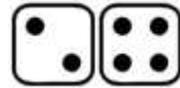
$1+5=6 \quad 5-1=4$

$5\times 1=5$



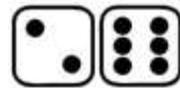
$1\times 6=6 \quad 6-1=5$

$6\times 1=6$



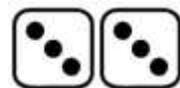
$2+4=6 \quad 4-2=2$

$2\times 4=8$



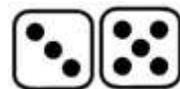
$2+6=8 \quad 6\div 2=3$

$6\times 2=12 \quad 6-2=4$



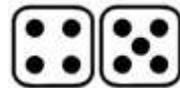
$3\times 3=9 \quad 3\div 3=1$

$3+3=6$



$5-3=2 \quad 3\times 5=15$

$5+3=8$



$4+5=9 \quad 5-4=1$

$4\times 5=20$



$5+5=10 \quad 5\div 5=1$

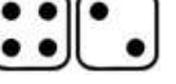
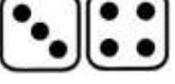
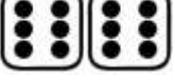
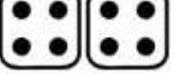
$5\times 5=25$



$6\div 6=1 \quad 6+6=12$

$6\times 6=36$

# Cross Reference: Equation Answer (#) to Dice Pairs

<p><b>1</b></p>	   	   	  	<p><b>11</b></p>	
<p><b>2</b></p>	  	 	 	<p><b>12</b></p>	 
<p><b>3</b></p>	 	 	 	<p><b>15</b></p>	
<p><b>4</b></p>	 	 		<p><b>16</b></p>	
<p><b>5</b></p>	 			<p><b>18</b></p>	
<p><b>6</b></p>	 	 		<p><b>20</b></p>	
<p><b>7</b></p>				<p><b>24</b></p>	

<b>8</b>	   	<b>25</b>	
<b>9</b>	  	<b>30</b>	
<b>10</b>	  	<b>36</b>	

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Die-Tac-Toe | Word-Tac-Toe | Tic Tac Spell | Tic Tac Ten  
Zoo-Tac-Toe | Infinite Tetris | Cryptic Words | SideLinks  
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