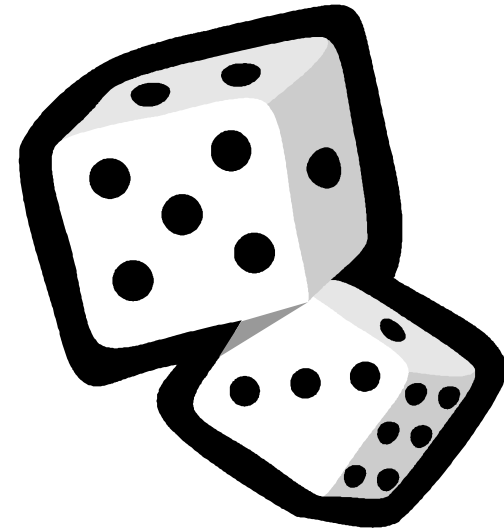


Multiplication/Division Chart

| x/÷ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| 11 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | 121 | 132 |
| 12 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |

Games to Play with a Pair of Dice



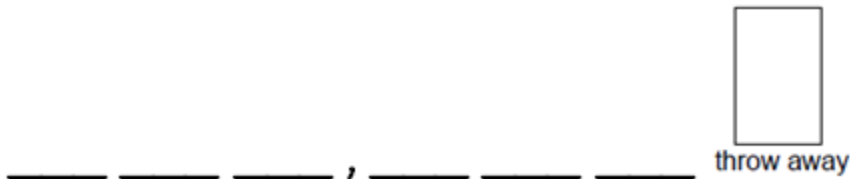
BUILD THE BIGGEST

Players: 2

Materials: 2 dice, scratch paper

Object: Build the biggest number possible

How to Play: Players each draw a game board like the one shown. Each player rolls their dice and decides where to place the digit in their number. **Once placed, a digit cannot be moved.** The throw away box is used to discard a digit that a player doesn't want to use to build their number. Players continue rolling the dice and placing digits until their game board is filled. Both players read their numbers out loud and the largest number wins.



Variations:

- Use more or less digits
- Try to build the smallest number possible

Addition/Subtraction Chart

| +/- | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|-----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

MORE FAMILY MATH GAMES

Check out these websites for additional math activities.

Activity Village: http://www.activityvillage.co.uk/dice_games.htm

Instructions and printable score sheets for over 15 games using dice, adaptable for kids of all ages. Includes tips for parents on how to manage dice games.

MathWire.com: Games using one die

(<http://www.mathwire.com/data/dicetoss1.html>)

and two dice (<http://www.mathwire.com/data/dicetoss2.html>).

Many include printable game boards.

Mixing In Math:

<http://mixinginmath.terc.edu/materials/athomewithmath.cfm>

Ten math activities for parents and kids (English and Spanish)

US Department of Education, Helping Your Child Learn Mathematics:

<http://www2.ed.gov/parents/academic/help/math/index.html>

A 43-page booklet made up of fun activities that parents can use with children from preschool age through grade 5 to strengthen their math skills and build strong positive attitudes toward math (English and Spanish)



CONTAIN THE FUN!

Try this great tip for using dice! Put them in a small plastic container. Kids shake the dice in the container and read the numbers rolled through the plastic.

MAKE 10

Players: 2

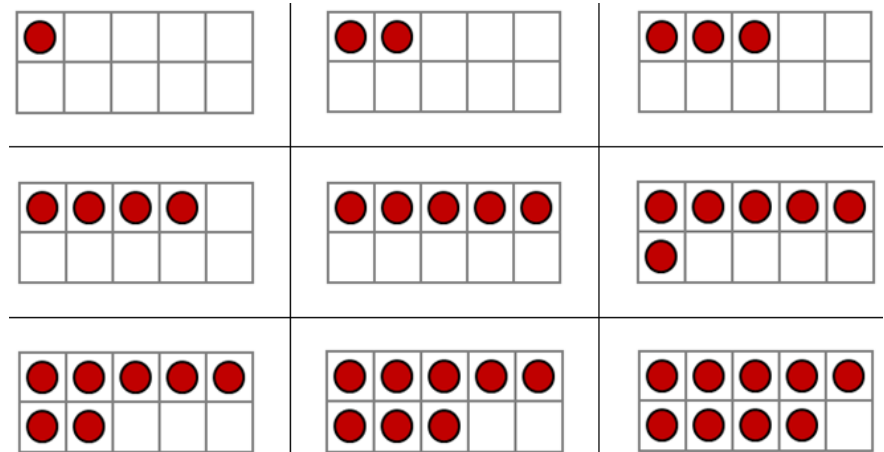
Materials: 1 or 2 dice, scratch paper (for keeping score)

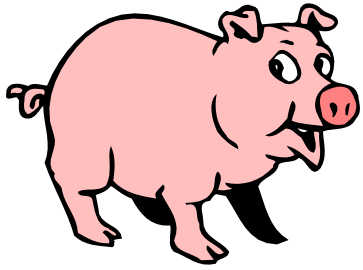
Object: Make a 10 from the number rolled

One Die Version: One die is rolled. Players try to be the first player to shout what number needs to be added to the number on the die to make a ten. The number needed to make ten becomes the player's score for that round. For example, if a 3 is rolled, players would shout 7, because 3 and 7 make 10. The first player to answer correctly earns 7 points.

Two Die Version: Two dice are rolled. Players must now add or subtract to make ten. For example, if two 6s are rolled, players would shout 2, because $6 + 6 = 12$ and $12 - 2 = 10$.

Players can use the ten-frames below for additional support.





PIG

- Players:** 2
- Materials:** 1 or 2 dice, 120 chart (optional)
- Object:** Be the first player to reach 100

One Die Version: On a turn, a player can roll repeatedly until one of two things happens (1) the player rolls a 1 or (2) the player chooses to hold (stop rolling). Each number rolled is added to the player's total. If a 1 is rolled, all points for that turn are lost!

Scoring examples:

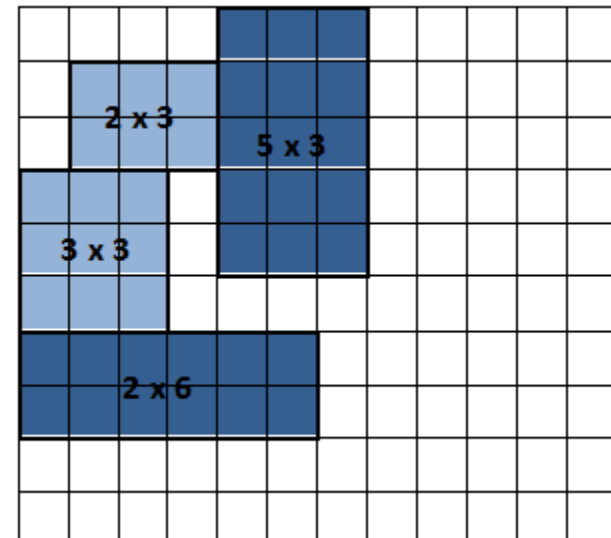
1. Suzy rolls a 4 and decides to continue. She then rolls 5 more times (3, 4, 2, 6, 1). Because she rolled a 1, her turn ends and she receives no points for the numbers rolled.
2. Marcus rolls a 6 and decides to continue. He rolls 3 more times (4, 3, 5) and decides to hold. His score for the round is 18 ($6 + 4 + 3 + 5 = 18$).

Two Dice Version: Two dice are rolled. If a single 1 is rolled on either dice, the turn ends and all points are lost. If two 1s are rolled on a single turn, the player scores 25 points. Doubles, for example a 2 and a 2, are worth double points ($4 \times 2 = 8$).

BLOCK OUT

- Players:** 2
- Materials:** 2 dice, graph paper, a colored pencil or crayon for each player, scratch paper (for totaling scores)
- Object:** Cover the largest area by placing rectangles on graph paper

How to Play: Alternate turns. On a turn, a player rolls two dice and draws a rectangle using the numbers rolled as the length and width on graph paper. For example, if the numbers rolled are 2 and 3, the player draws a 2 by 3 array.



Play continues until a player can't place a rectangle. Both players add the areas of all of their rectangles, and the highest score wins.

CLOSEST TO 100

- Players:** 2
- Materials:** 2 dice, 120 chart (optional), scratch paper for keeping score
- Object:** Score as close to 100 as possible after 5 rounds

How to Play: Roll two dice and create a 2-digit number. For example, if a 3 and 5 are rolled, you can make 35 or 53. Mentally calculate the difference between the 2-digit number and 100.

One way to find the difference is to count up. For example, if the number rolled is 53, count up by 10s and then add the 1s needed to get to 100. So, in the example below, the difference is 47.

$$\begin{array}{r} +10 +10 +10 +10 +7 \\ 53, 63, 73, 83, 93, 100 \end{array}$$

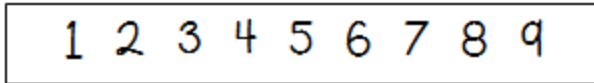
Scoring: Play 5 rounds. For each round, players calculate their score as the difference from 100. The player with a score closet to 100 after 5 rounds wins. This introduces the element of strategy as players decide how to combine their numbers rolled to create a difference that gets their total score as close to 100 as possible!

120 Chart

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 |
| 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |

CROSS OUT

- Players:** 2
- Materials:** 2 dice, scratch paper
- Object:** Have the smallest score
- How to Play:** Players each write the digits from 1 to 9 on a piece of paper.



Alternate turns. On a turn, a player rolls two dice, adds the numbers together, and crosses off one number or a combination of numbers to equal the sum of the numbers rolled.

Example: A player rolls a 4 and a 5, for a sum of 9. On their board, they can cross out any combination of numbers that equal 9, such as 3 + 6, 1 + 2 + 6, 4 + 5, 9, 4 + 3 + 2, etc.

Play continues. When a player rolls a sum that can't be crossed out, they are done rolling for the round. The other player continues to roll and cross out until they can no longer cross out a sum.

When both players have reached the point that they can no longer cross out a sum, each player adds the uncovered digits on their boards and the smallest sum wins.

ODD SQUAD

- Players:** 2
- Materials:** 2 dice, scratch paper
- Object:** Have the largest score after 5 rounds

How to Play: Alternate turns. On a turn, a player rolls both dice. If the number rolled is even, it is used at face value. If the number rolled is odd, it is multiplied by 10. Both numbers are then multiplied together, and the product is the player's score for that round.

Examples:

1. A player rolls a 2 and a 3. The 2, which is even, is used at face value. The 3, which is odd, is multiplied by 10 to get 30. The player then multiplies 2 x 30 for a total of 60 on the round.
2. A player rolls a 3 and a 5. The player would multiply 30 x 50 for a total of 1,500 for the round.
3. A player rolls a 4 and a 4. The player would multiply 4 x 4 for a 16 on the round.

Play continues for 5 rounds, and the player with the highest score wins.

Variation: Play by multiplying even numbers by 10 and odd numbers by 100.