Games to Play at Home

from Math for Love

Make It Five

Materials: Just your hands!

This is a super-quick, cooperative game for two people. One person puts forward some number of fingers. The second person puts forward the number of fingers required to "Make It Five." When there are five fingers forward, the two players give each other a "high five."

Example. I put forward 3 fingers. My partner puts forward 2 fingers. That makes 5, so we give each other a "high five" and play again.

Kindergarten and Up

1-2 Nim

Materials: About 10 pennies, or any other object.

This game is extremely simple to learn, but has more strategy than you might think. Place a small pile of pennies between two players. Players take turns removing one or two pennies from the pile. You must take at least one penny on your turn, but you may not take more than two. Whoever takes the last penny is the winner.

You can play 1-2 Nim with anything: pennies, beans, socks, lines on a piece of paper, etc. You can also try 1-2-3 Nim, where you can take 1, 2, or 3 pennies on your turn.

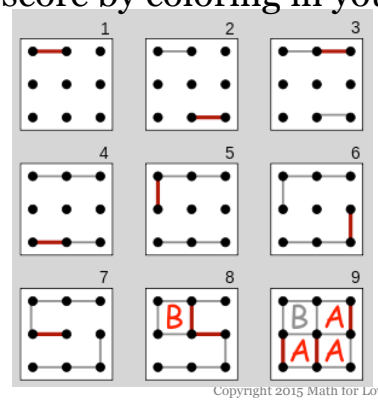
Dots and Boxes

Dots and Boxes is a 2-player game.

On your turn, add a vertical or horizontal edge between dots. If you complete a square, get one point and go again. Keep track of the score by coloring in your square, or writing your initial inside it.

Whoever has the most squares at the end wins.

Example game on a 3 by 3 dot grid:



[Image from Wikipedia]

The “How Many” Game

Materials: None

You can play “How Many” anytime. To play, pick anything, and ask your child to count it. Then they can ask you how many of something there are.

Examples: How many…
—windows are there in the room?
—cups are on the table?
—stairs are there in the staircase?

The more you play, the more you and your kids will start to notice things to count all around you.

Kindergarten and Up

Make It Ten

Materials: Just your hands!

This is a super-quick, cooperative game for two people. One person puts forward some number of fingers. The second person puts forward the number of fingers required to “Make It Ten.” When there are Ten fingers forward, the two players give each other a “high Ten.”

Example. I put forward 3 fingers. My partner puts forward 7 fingers. That makes 10, so we give each other a “high Ten” and play again.

Hidden Pennies

Materials: Pennies

This is a puzzle to help push your child's thinking in a fun way.

Put out 5-10 pennies and let your child count them. Then cover some of them up with up with your hands. Can they figure out how many you covered? Once they guess, you can reveal the pennies, and count them together.

Example. Put out 6 pennies, and count them together. Then quickly cover 2 with your hand. Your child can count the 4 that are still uncovered. How can they guess how many pennies are hidden under your hand?

Guess My Number

Materials: pencil and paper optional

Guess My Number is a classic. Think of a number from 1 - 20. Let your child guess what it is, and tell them whether your number is greater than their guess, or smaller than their guess. See how quickly they can guess your number. Then let them pick a number for you to guess.

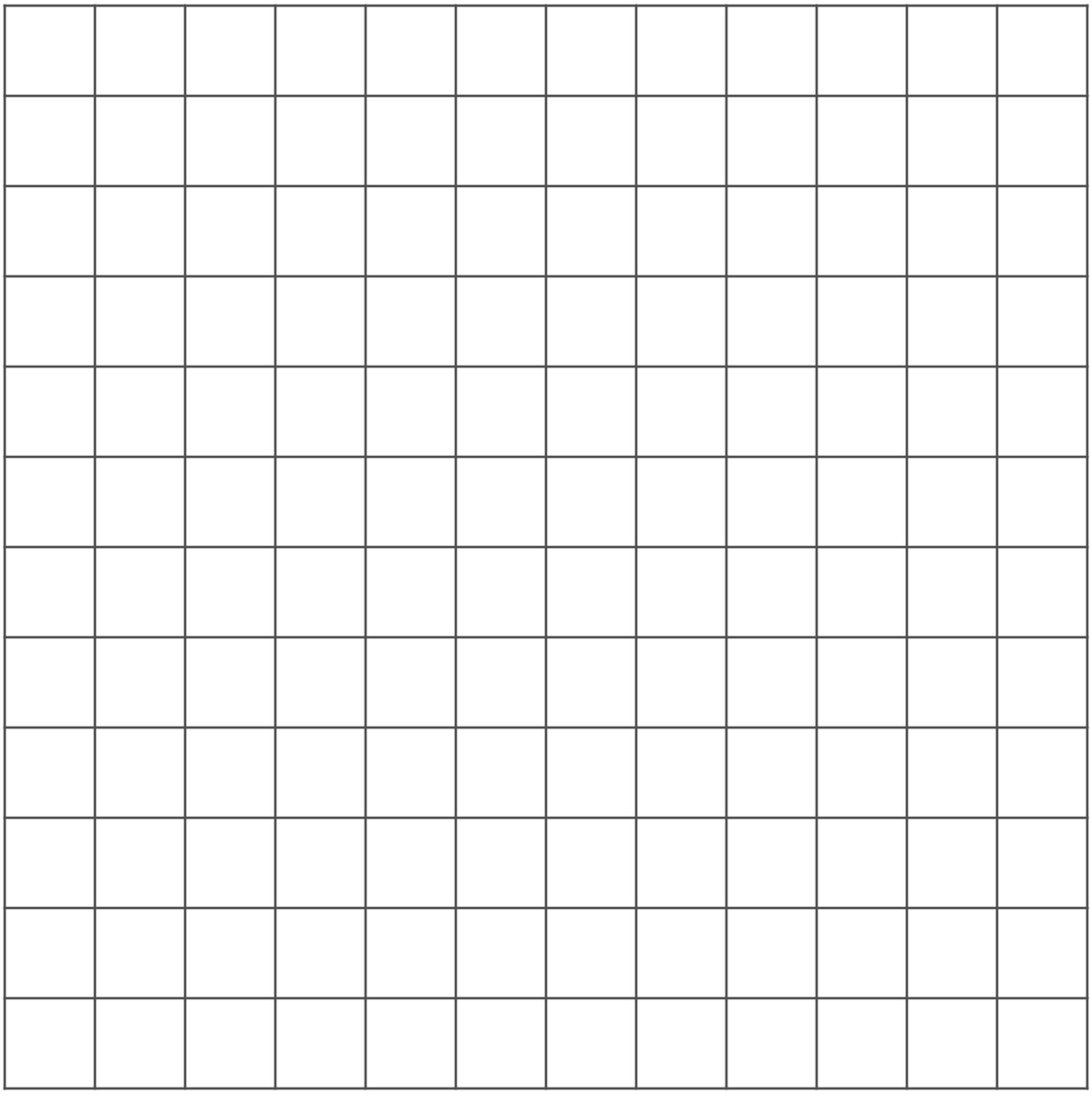
When they're ready, pick a larger range: 1-30, 1-50 or 1-100.

Blockout

Rules. Players take turns rolling two dice, and drawing a rectangle on the game board with side lengths given by the two numbers they rolled. For example, if you rolled a 3 and a 6, you would draw a 3 by 6 rectangle, placed horizontally or vertically on the board.

Your rectangle cannot intersect or be contained in any previously drawn rectangles. If you cannot add a rectangle to the board on your turn, pass the dice to the next player. If all players pass in a row, the game is over. Your first rectangle must start in the indicated corner.

Players get a point for each square they've drawn a rectangle around. For example, a 3 by 4 rectangle is worth 12 points. Whoever boxes the most squares wins.



Pig

2nd Grade and Up

materials: 1 die, pencil and paper

Each turn, you may roll the die as many times as you like, as long as you don't roll a 1. Score points as you roll.

Your turn ends when one of the following happens:

—you "bank" your points, at which point you add them up and get to keep them.
—you roll a 1, in which case you lose all the points you had for that turn.

The first player to score 50 or more points wins.

Example. I roll a 5, then a 6, then a 4, and then I choose to stop. I bank 5 + 6 + 4 = 15 points for that turn.

Next turn, I roll a 6, then a 2, then a 1. I immediately lose the 6 + 2 = 8 points I had for that turn, and my turn ends. The 15 points I banked before are safe.

3rd Grade and Up

Odd Pig Out

materials: 2 dice, pencil and paper

Players take turns rolling the dice as many times as they like. After each roll, they multiply the numbers they rolled together. If the product is even, they add that number to their current points for the turn. If the product is odd, players lose all their points from that turn and their turn is over. A player may choose to end their turn at any time and "bank" their points.

Play to 300.

Damult Dice

3rd Grade and Up

Materials: Three dice. Pencil and paper.

Damult dice can be played with 2-4, but fewer players is usually better. Players take turns rolling three dice on their turn. On your turn, you add two of your rolls together, and multiply by the third. That is your score for the turn.

Basic scorekeeping. At the end of each round, whoever got the highest score wins a point. First to ten points wins.

Advanced scorekeeping. Players record their scores, and add on to them as they go. The round ends after a player reaches 300 points. The highest scorer wins the game.

Example. You roll 3, 5, 6 on your turn. You could add 6 + 3 to get 9, and multiply by 5 to score 45 points on the turn. But wait! If you add 5 + 3 to get 8, and multiply by 6 you can get 48 points! So scoring 48 points is actually the better option.
(You could have gotten 33 points as well--do you see how?)

Horseshoes

3rd Grade and Up

Materials: Pencil & paper, and cards or dice

Remove all face cards and tens from a deck of cards, so the only cards are from 1 to 9.
Pick out two cards to form a two digit number. This is the *target number*.
Pick four more cards. Those are the digits you'll get to use to make the target number.

The goal of the game is to create an equation using only the four digits that were drawn that equals an amount as close as possible to the target. Whoever is closest to the target wins that round. It doesn't matter whether someone goes over or under.

Example Game

You draw a 3 and a 7, and so the target number is 37. Then you draw the four digits 2, 4, 4, and 9. Then everyone writes their attempts and equations down on their own paper.

When a few minutes are up, see who's closest to 37.
Example 1: 49 - 4 - 2 = 43
Example 2: 9 x 4 + 4 - 2 = 38
Example 3: 44 - 9 + 2 = 37 exactly!

Resources for Home

Favorite Math Books

- *Family Math* by Stenmark, Thompson, and Cossey.
  A phenomenal resource for math activities.
- *The Man Who Counted*, by Malba Tahan.
  An absolutely wonderful book for upper elementary kids.
- *Let's Play Math*, by Denise Gaskins.
  One in a series of books with great ideas for games for math at home.

Favorite Math Blocks

- Pattern blocks
- Cuisenaire rods
- Tangrams
- Square Tiles

Favorite Math Games and Puzzles

- SET
- 24
- Prime Climb
- Chocolate Fix
- Tiny Polka Dot
- Math Dice/Math Dice Jr.

Check out companies like ThinkFun, Gigamic, Blue Orange, and Simply Fun for more games.

Favorite Web Resources

- livingmath.net
- naturalmath.com
- zenomath.org/toolbox
- mathforlove.com/lesson-plan