

## Board Games: Reinforcing Math Skills at Home

Commercial games reinforce mathematical concepts and skills. The following list of games is ordered from foundational concepts learned in kindergarten through concepts typically learned in the upper elementary grades. Challenge your child to explain why he/she made a choice of a move or ask him/her to help you with your move. Most importantly, have fun, sit back, and quietly observe your child thinking through important mathematical concepts.

**Set** - This is a matching game that can be played solo or with any sized group to reinforce patterning. The rules are relatively simple. The cards each have a certain number of shapes on them of a particular color and pattern. A set is three cards which all have the same type of an attribute or mismatch an attribute. Perhaps a set is three cards all have ovals with a striped pattern on them but each card has a different number of shapes (1, 2, and 3) and different colored (purple, green and red). Challenge older students to prove why there isn't a set!

**Tiny Polka Dot** – This game, produced in 2017, is an ideal game to reinforce math in kindergarten and the lower elementary classrooms. Using the six distinct card designs, players need to figure out how the cards are communicating the values 0 through 10.

**Shut the Box** – This is a dice game for one or more players to reinforce combinations of numbers. During the game, each player plays in turn. A player begins his or her turn by throwing or rolling the die or dice into the box. If 1 is the only tile still open, the player may roll only one die. Otherwise, the player must roll both dice. After throwing, the player adds up the pips (dots) on the dice and then "shuts" (closes, covers) one of any combination of open numbers that equals the total number of dots showing on the dice. The player continues throwing the dice and shutting numbers until reaching a point at which, given the results produced by the dice, the player cannot shut any more numbers. At that point, the player scores the sum of the numbers that are still uncovered. Play then passes to the next player.

**Double Shutter** is similar to Shut the Box - adding additional challenge for older students.

**20 Express** – This game is great for consecutive numbering/counting. Each player has a train of 20 cars to fill with numbers. The goal is to create the longest ascending series possible. Twenty numbered tiles are randomly drawn. With every draw, every player must place the number on the game board – similar to Bingo. Players are encouraged to compare their thinking with the other players.

**Rummikub** – This is a 2-4 player classic game with lots of tiles to play with and sort while reinforcing patterns and addition. While this game is also about color/number matching, it is more advanced than Set because you can re-organize the board. The matching rules are similar to Set, but now all the collections of tiles stay out on the table and you can steal from already created collections to make a new one.

**Even Steven's Odd!** - In this fast-paced dice game, players complete addition and subtraction challenges while reinforcing odd and even numbers. Complete 10 challenges and grab Steven for the win!

**7 Ate 9** - 7 Ate 9 is a quick-playing card game in everyone wants to rid themselves of cards as quickly as possible — but you can't play just any card you want! Each card features a large numeral (1-10) as well as a smaller numeral in the corner ( $\pm 1$ ,  $\pm 2$ , or  $\pm 3$ ). Players race to add the next card to the central pile.

**Sumoku** – Sumoku is a game for 1-8 players. Players add to the existing tile layout based on a specific mathematical goal. For example, every row must add to a multiple of 3. This is a great game to support a young mathematical thinker because along with practicing basic computational skills, the player is also planning and matching. There is no element of speed, so young players may take as long as necessary to check their math before they place their tiles.

**24 Game** – Practice multiplication, division, addition, and subtraction skills as you work to make the number 24. Each card has four single-digit numbers. Using a combination of all four operations (addition, subtraction, multiplication, and division), players need to figure out how to reach the target number of 24.

**4-Way Countdown** - Players use their addition, subtraction, multiplication, and division skills to flip up numbers 1 – 10.

**Prime Climb** – This game is a great way to explore mathematical structure in multiplication, division, and prime numbers. Players take turns rolling the dice and adding, subtracting, multiplying, and dividing their way to the center of the board. Along the way, they pick up Prime cards and bump other players back to start. Inspire deeper mathematical understanding while mastering basic facts!

**Fraction Formula** – Players draw fraction cards and drop the matching cylinders in their tubes to get as close to 1 inch as possible without going over.

The following games all reinforce problem solving and spatial awareness, making them great games for car rides as most can be played individually.

- **Rush Hour**: The board is small and packed with vehicles which have set directions that they can move. The goal is to move the vehicles in a particular order to get the little red car out of the traffic jam.
- **Brain Teaser 3D Jigsaw Puzzle Lando Cubes**
- **Brick Logic Board Game**
- **Shape Logic Board Game**
- **Block by Block/Shape by Shape**
- **Connect 4** (multi player game)
- **Blokus** (multi player game)