



## Summer is a great time to enjoy Math: games reverse the Math 'Summer-Slide'



Children enjoy a long summer vacation and play a lot of internet games on their own and with others. Since the Covid-19 pandemic has drawn many to the screens and particularly our youngsters are very proficient with technology we included more online options this year: see the list of our Favorite Apps.

Let's not forget our kids still crave the **fun of playing cards and board games with other kids or adults.**

**Did you know kids lose on average 10 weeks of math knowledge over the summer?** Usually referred to as the '**Math Slide**'. There are many fun-filled math summer camps that focus on math concepts using games and riddles instead of math facts. You can take action at home too: keep the **patterns, shapes, and numbers** going to make sure kids love math. Enjoy playing board games, card games, dice, and domino games. Kids love to discuss their best strategies and to keep score, a math activity in itself.

Hands-on board games are a great way to introduce younger kids to patterns and numbers. You can adapt the games to make sure all kids can participate, consider starting with counting and sorting everyday objects. For best math learning, in general **do not emphasize speed** before the math facts are memorized and easily retrieved (automatized), better **ask what they think** and **share your strategies.**

Children **enjoy making their own playing cards** from note cards. Let them be creative with colored markers making **dot patterns, shapes, numbers, money notations etc.** use stickers etc. there are endless options, that all will add to the fun. You can use self made cards with dots or numbers or store-bought playing cards to learn patterns, numbers, counting, and calculating while playing a game:

1. make stacks **counting backward** from a number;
2. stack cards with **one more and one less**, like with 'Blink';
3. turn cards and make **rows** that add up to **five, ten, another number** etc.
4. **guess a card** (dots, shapes, numbers, money) by asking yes/no questions
5. **add/subtr./multiply/divide** two consecutive cards to play war;
6. play '**go fish**' or '**spoons**' with your own cards
7. play **memory** (turn over the cards to find pairs - like equivalent fractions in pictures)
8. start a **pattern** with **colors, shapes, or numbers** and try to find the next card



When you go for store-bought games, below are some suggestions for visual perception and math. Visual perception activities go first as that is a favorite of many children, while unfortunately this important aspect of math tends to be on the backburner during the school year. You can print **mazes, symmetry,** and '**find the difference**' pictures galore from the internet in the level your child can handle.

### ❖ **Visual perception, patterns, and concentration**

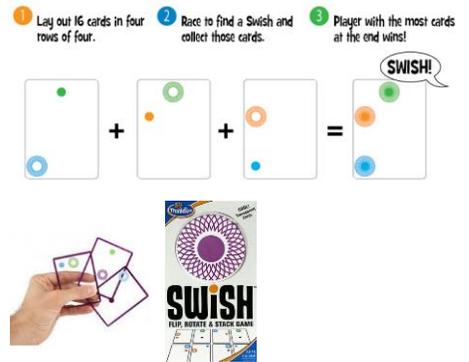
**SET** is an award-winning family game of **visual perception**, using colors, patterns, and shapes, no numbers designed by Marsha Falco. There is also Set Junior from age 3. You're in for hours of brain training fun! There is a daily online version at

<https://www.setgame.com/set/puzzle>



**IOTA** has cute cards in a small tin, great as travel game. Search and combine patterns, colors, and shapes, for 2 - 4 players, from age 8. The kids sharpen their brain without realizing it. (from Gamewright)

**SWISH** has funny transparent cards and is about location: without realizing the kids understand slides, turns, and flips (translation, rotation, reflection) and combinations. For older elementary till adults for younger children try SWISH Junior.



**Q-BITZ, VISUAL DEXTERITY CUBED** this is an enticing game where you place colored cubes in a frame to match the Cue card, several levels, for 2 – 4 players or solitaire as puzzle

**CONNECT FOUR** is another classic that many kids enjoy and that develops spatial thinking and strategy.

❖ **SUBITIZING (recognize a small quantity without counting), PATTERNS, AND NUMBERS**

**BLINK** has game suggestions and the cards can be used to play all sorts of games with younger kids, who do not read numbers yet, like 'one more' and 'one less'. A fun way to practice number patterns to five.



**BOOM goes the DYNAMITE**, this fun game with an explosive twist takes 3 minutes to learn and 15 minutes to play: find and ignite matches using math, memory, and a little bit of luck



**RATUKI** has cards using different symbols to show 1 to 5, several sets with different colors. So they can be used for sorting by younger kids as well. The original rules say you need to make stacks (as many stacks simultaneously as there are players) with increasing numbers, using your own draw pile and 'junk' pile with at most 3 cards in your hands. Sounds easy, but the stacks are always changing: enjoy!



**PHASE 10** is a card sorting game, the cards do not look 'cluttered' and can be used for other Math games too. And obviously you can play with **UNO cards** too, be creative!

**EVEN STEVEN'S ODD MATH GAME** to learn the faces of the dice by subitizing instead of counting, during play with fast repeated rolling of the dice to get the combination on a game card. (by Smilemakers).



**DOMINOES** is an age-old strategy game that children as young as 4 years of age can play by using pictures or colored dots. The visual patterns are great to learn doubles and number bonds. Try the 9 dots dominoes, see the picture. There are numerous **domino games** for math too: **fraction domino**, **equivalency domino** etc., both as store bought games or downloadable from educational websites.

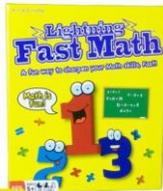
❖ **MATH FACT PRACTICE WITH A TWIST**

Construction play with blocks, CONNEX and LEGO give hours of great fun, also helping work out recipes!

With **RACKO**, a real classic, 2-4 players place 10 cards in their rack and try to get a correct numerical order by drawing and discarding cards with numbers 1 – 60.



**LIGHTNING FAST MATH** for **addition, subtraction, multiplication, and division** to combine cards of the same color and operation; starting from age 5 and up for 3 -



5 players. For younger players hold off on the multiplication and division cards. Emphasize correctness over speed, let a player call 'add' or 'take away' first, then give time to work it out. (by Continuum Games)

**SMATH** is a family game for max. 4 players like Scrabble, but with numbers. Choose addition, subtraction, multiplication, division or all, for younger players stick to add and subtract only, older can include brackets (by Pressman)



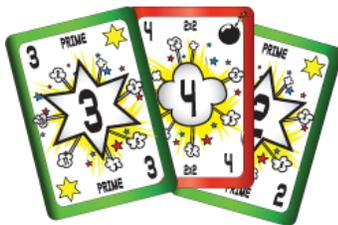
**MANCALA** for Kids comes in various types with child friendly counters

**MAKE 7** is a game with a standing frame to drop numbered disks in that add up to seven, kids love to see the disks drop through the round openings in the standing frame! (by Pressman)



**SHUT THE BOX GAME** is a strategy game adding the numbers on two dice, there's a larger version for 4 players too

**HEXHIVE** is a nice puzzle for one using visual spatial skills to practice adding up numbers to seven by placing different transparent shapes in your hive

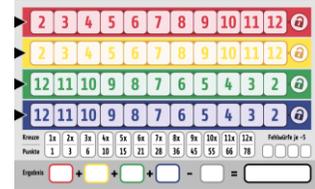


**PRIME BOMB** (American Educational Prime Bomb Card game) became an instant hit with kids learning multiplication and division as well as prime factorization: use strategy to decide which combination of cards to keep in your hand to catch the next green prime number card with red composite number cards (till 50) and vice versa, see the demo at youtube: <https://www.youtube.com/watch?v=VZ5UCu2Fp5I> another great game from this author is **Pyramath** for addition and multiplication



**TEN FRAME TOWERS** Ten frames are widely used in math and chances are your PreK -2<sup>nd</sup> grade children already know them. Since there are **no written numbers involved**, you can use this game with 4 and 5 year olds. The Ten Frame Towers game shows the ten bonds with stacking manipulatives. Also great for younger kids to do sorting games, learning odd and even or **pressing number patterns in play-dough**.

**QWIXX** is a versatile game with six dice, that is easy to learn. The color of the dice helps to decide your strategy to score the most points. There is no 'downtime' between rolls, you can play on every turn. For 2-5 players age 8 and up, takes 15 - 20 minutes, by GameWright



### ❖ WAR

**MATH WAR** There are many variations of this game: from addition and subtraction to multiplication and division war. You can use home made or any type regular playing cards or use these specially designed cards for addition and subtraction or multiplication and division.

Always **keep it fun**, try to resist the urge to use the cards as 'traditional flash cards'! That may send the wrong message that math is mainly about speed and rote memory. Do you know **random math facts speeds drills are associated with math anxiety from first grade**? We want our kids to like math, take the time to think about numbers and learn to reason: use a math fact they already know to find out about a related fact that is still (relatively) new to them. Playing cards can spark a conversation about how they arrived at the answer and how the opponent checked it. You can chime in pointing out a strategy that applies to that calculations. Don't forget to **praise the thinking over getting it fast!**



### ❖ BOARD GAMES

The very best games are the games you and your children design yourself! There are many free templates to download; making game cards involving patterns, numbers, money etc. is learning math too!

**SNAKES AND LADDERS** is an all-time favorite; you can download many templates or make your own



**MONOPOLY** comes in a great number of formats, related to sports clubs, cities, your family's experience or make your own game board (empty template at [www.printablee.com](http://www.printablee.com)) try the fast card version DEAL



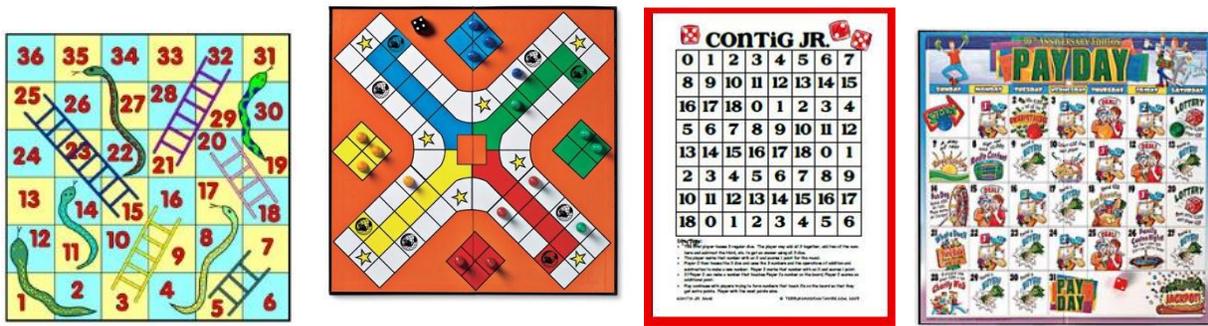
**CANDY LAND** many children will be enticed to play this well-known board game

**LIFE** and **PAY DAY** are well-known great family games about managing money

**ALLOWANCE** is a fun way to use real life examples to practice calculating and planning with your allowance money.



Below is just a small selection of the large number of board games from the internet either ready to play or that you can (let your children) personalize or make your own **shapes or number Bingo** or **Memory**.



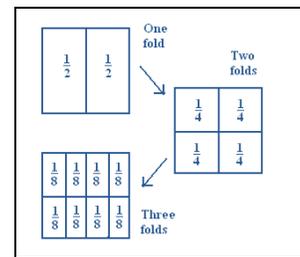
### CONTIG GAME AND CONTIG JUNIOR GAME

An addition strategy game for three dice, game board free download at [www.mathwire.com](http://www.mathwire.com), select Topics - Games - Number Sense Games - Contig. Try their **TRIBULATION GAME** too!

#### ❖ FRACTION GAMES

To make your own 'pizza fractions', consider folding and cutting **cake doilies** or use **origami paper** for square fraction models, and don't forget cutting a real pizza!

- ❖ several activities are possible like how many ways are there to make a whole pizza/doily/origami paper square etc.
- ❖ identify and match equivalent fractions
- ❖ using double sided pizza pieces can show addition of fractions



**PIZZA FRACTION FUN** games are available from several producers such as Learning Resources or Scholastic

**FRACTION FORTRESS** combining and stacking reveals the equivalent fractions (Junior Learning)



**FRACTION WAR** is a game to learn equivalent fractions. The equivalent fractions are printed under colorful strip models. You can make your own rules to accommodate younger kids.



**FRACTION FORMULA GAME** is a real hit! For students who already have a basic understanding of fractions and can/learn add fractions with unlike denominators. The fractions make noise sliding into the test tube adds to the suspense: is it going to fit or are you bust?



❖ **MORE MATH AND THINKING GAMES**

**THE 24 GAME** by Suntex International is more complex and will appeal to older students and adults; it has several variations to make 24, the dots in the corner indicate level 1, 2, or 3, showing the points you get when you can solve that card. You can have your high schooler using a three-point card playing a younger sibling using a one- or two-point card. For ages 11 and up

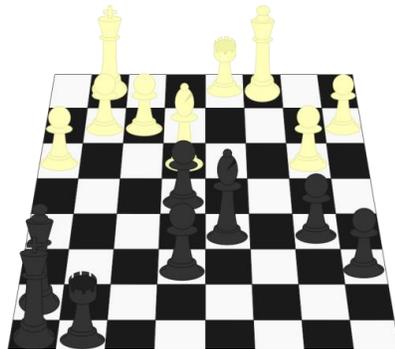


- ❖ Original 24 game with whole numbers
- ❖ 24 game with fractions / decimals
- ❖ 24 game with double digits

You can play the 24 game online <https://www.coolmathgames.com/0-make-24>



There are many many other interesting math and thinking games, check out **Rush Hour** and other hands-on games from ThinkFun, and don't overlook our classic thinking games: **MANCALA, BACKGAMMON, CHECKERS, CHESS, GO, TANGRAM, MASTERMIND** etc. and look for the kids version



Please visit our website <http://www.DyscalculiaServices.com> for a list of favorite Math apps <https://dyscalculiaservices.com/my-favorite-apps-for-dyscalculia/> and our free downloadable math activities but most of all keep it light, **ENJOY MATH AND BE INSPIRED BY IT!!**

