THIRD SPACE LEARNING

26 Whole Class Math Games

26 whole class math games to engage all students

Pre K - 8th Grade

How to use this resource

Use these fun whole class math games to provide students with engaging, low-stakes opportunities to practice new math skills and consolidate the skills they've already learnt.

Math games and math problems are a useful resource for any math teacher to have up their sleeve. When a class is losing focus a fun math game can help to shake things up. Math games can also be a great way to start a lesson and end a lesson.

The math games in this resource are designed to be versatile and allow for adaptations to different topics and different levels of ability. Feel free to adapt the games to the needs of your class.

All games are simple to carry out and require few resources. We hope your students enjoy these math games.

Clap and count

This is a great no prep and quick whole class math game to get students engaged and moving!

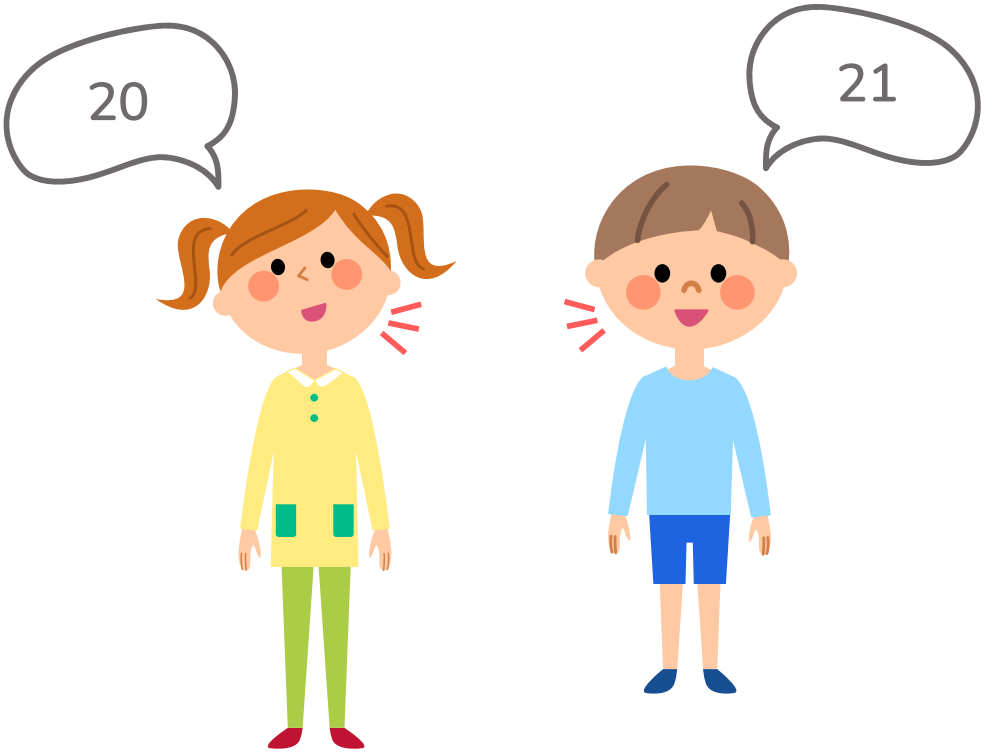
Grade level:
○ Pre K-3

How to play:
Either the math teacher or selected student picks a number and says it aloud or writes it on the whiteboard. The class is then expected to clap and count up to that number.
This game helps students practice their number sense.

Ideas to adapt:
You can adapt this to include exercising, as well! (Example: the number 5 is selected, so students have to do 5 push ups).

This game can be used to count in varying increments e.g. 2s, 5s, 10s.

21



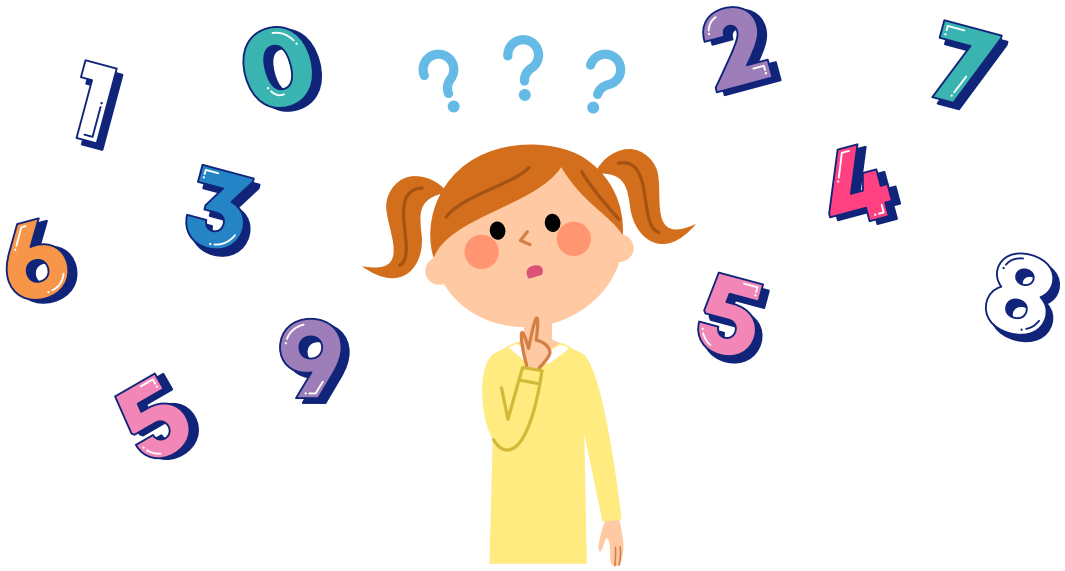
Another quick, no-prep whole class math game that gets students to collaborate and strategize! This is a great game to play if you have a few extra minutes at the end of class or the students need a brain break.

Grade level:
○ Grades 3-8

How to play:
In this game, students must work together to count to 21. If two or more students say the same number, start over from 1. For example, Child A: 1, Child B: 2, Child C and D: 3 - start again. Students must take it in turns, the same student cannot say two numbers in a row.

Ideas to adapt:
You can change the number depending on the number of students you have in your class.
Have students close their eyes to make it more challenging!

Mystery Number



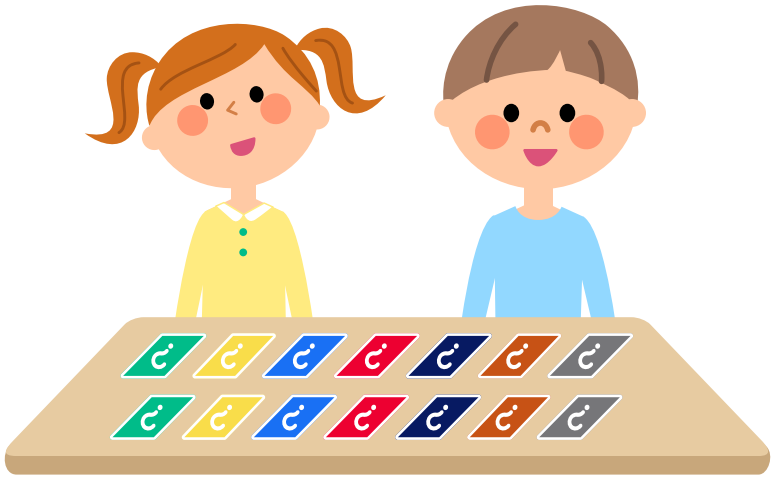
This activity reinforces math fluency and vocabulary. Play as a whole class math game or have students buddy up.

Grade level:
○ Grades 1-4

How to play:
One person in the group thinks of a number and gives the other person hints about what the number is. For example, a hint can be, “The number is bigger than 3, but less than 17.”

Ideas to adapt:
You can have students write down their number on a mini dry erase board or their notebook so they do not forget it.

War



War is a simple yet effective card game to get students to compare two quantities.

Grade level:
○ Grades 1-8

How to play:
Typically, this game is played with a deck of cards that is split into two even piles.
The cards are face down and students pick the top card to compare with their partner.
Whoever has the greater card value gets to keep both cards.
If the two cards have the same value, the students place 3 cards face down and flip over the fourth one.
The student with the greater value card gets to keep all of the cards.
In order to win the game, students must collect all of the cards in the pile.

Ideas to adapt:
This game is easily adaptable to each grade level. You can make and print out cards with the concept that you are learning. For example, you can create 52 cards with integers on them, or fractions and decimals.

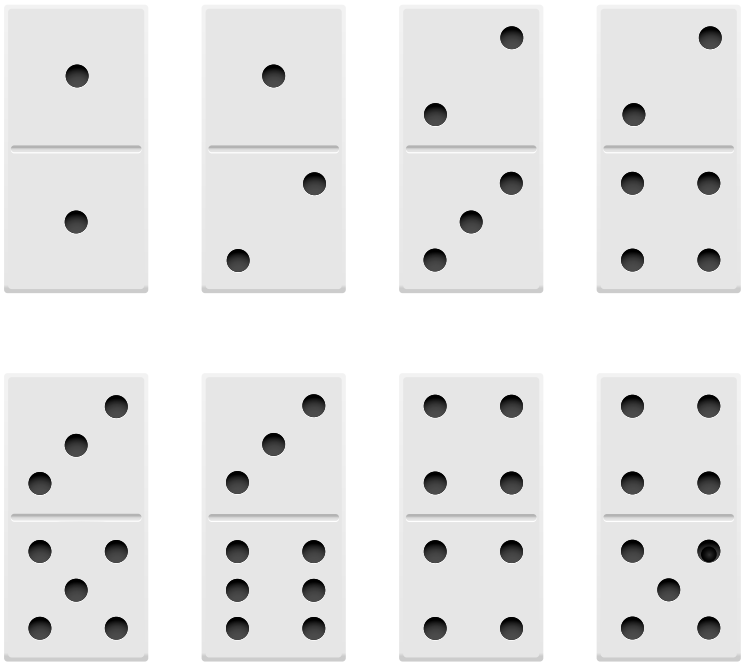
24 Game

Another no-prep card game to quickly engage students and get them practicing number bonds and math fluency. 24 lays the groundwork for computational thinking.

Grade level:
○ Grades 1-9

How to play:
In 24, students are in groups of 2-4 and are asked to make the number 24 using all four numbers on the card and any operation.
The student who is able to make the number 24 first wins the cards.
The student with the most cards at the end wins.

Dominoes



There are so many variations of dominoes that you can use with your students!

Grade level:
○ Grades 1-4

How to play:
One way to play is to have all the dominoes flipped over and each student picks a domino, writes down each side as an addend and adds them together.

You can also use the domino to create addition fact families to help with fluency in numbers and operations, categorizing into even and odd numbers, or sorting them by the sum.

Another way to adapt dominoes is to lay them down so that you have a row that adds up to be 10. The dominoes are face down to begin with. Each player takes turns picking up a tile and making a new row or putting it at the end of a row to make 10. In this game, the student with the most rows of 10 at the end wins. This helps to support students' conceptual and computational growth.

Ideas to adapt:
Creating magic squares is another way to use dominoes to engage students in learning and enhance their math fact fluency.

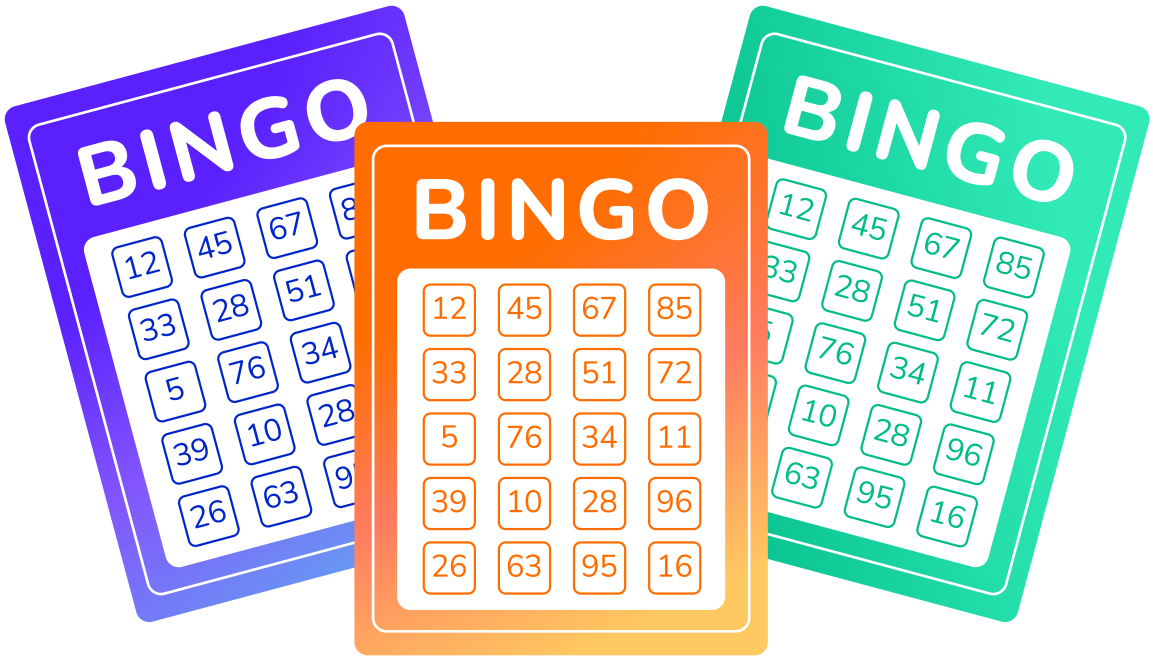
Jeopardy

Jeopardy is a classic game that teachers typically use as a unit review.

Grade level:
○ Grades K-8

How to play:
Students are split up into 4 teams and must answer the questions on the board.
Questions are separated into 5 categories and given a dollar amount.
The higher the dollar amount, the more difficult the question is. If the question is answered correctly, students are awarded the value of the question.
The group with the highest dollar amount at the end of the game wins.

BINGO



This is a great game that can be played in person or virtually.

Grade level:
○ Grades K-8

How to play:
Give students a blank BINGO board and have all the potential answers on the front board.
Ask students to write down the answers in their board wherever they want.
Make sure they know to write down each answer only once.

Once all BINGO boards have been created, pick a question for the students to answer. You can do this by creating a powerpoint with all the questions on separate slides and asking students to pick a number. When you click on that number the question will be presented to the students to answer. Students will mark off the answer on their BINGO cards and the first student to get 5 in a row wins!

Trashketball

Trashketball is another engaging review game.

Grade level:
○ Grades K-8

How to play:
This game works best if there are about 6 single-sided pages printed in a packet for each student to complete. Students work on the first page, check their answers with the teacher. If they get all their answers correct, they can crumble their piece of paper into a ball and stand at the 2 or 3 point line to attempt a basket.

You can use the recycling can on top of a desk as the basket and put tape on the ground to mark off where the 2 and 3 point lines are. The student with the most points at the end of class wins.

Ideas to adapt:
If a student has an incorrect answer, you can tell them which question was wrong or tell them, “2 problems on this page are incorrect.” This allows them to conduct error analysis on their own work.

Scavenger hunt

Many premade scavenger hunt worksheets can be found online. You can also create your own and adapt it to be for whatever your class is learning at that time!

Grade level:
○ Grades K-8

How to play:
For this, students will need paper or a recording sheet to show their work, a pencil, and a clipboard.

You will need to hang up the question/answer pages around the room. On these pages, the top half should have the answer to the previous problem and the bottom half should have the next question to be answered.

The goal is to have students practice as many questions as possible to review the material.

SCOOT

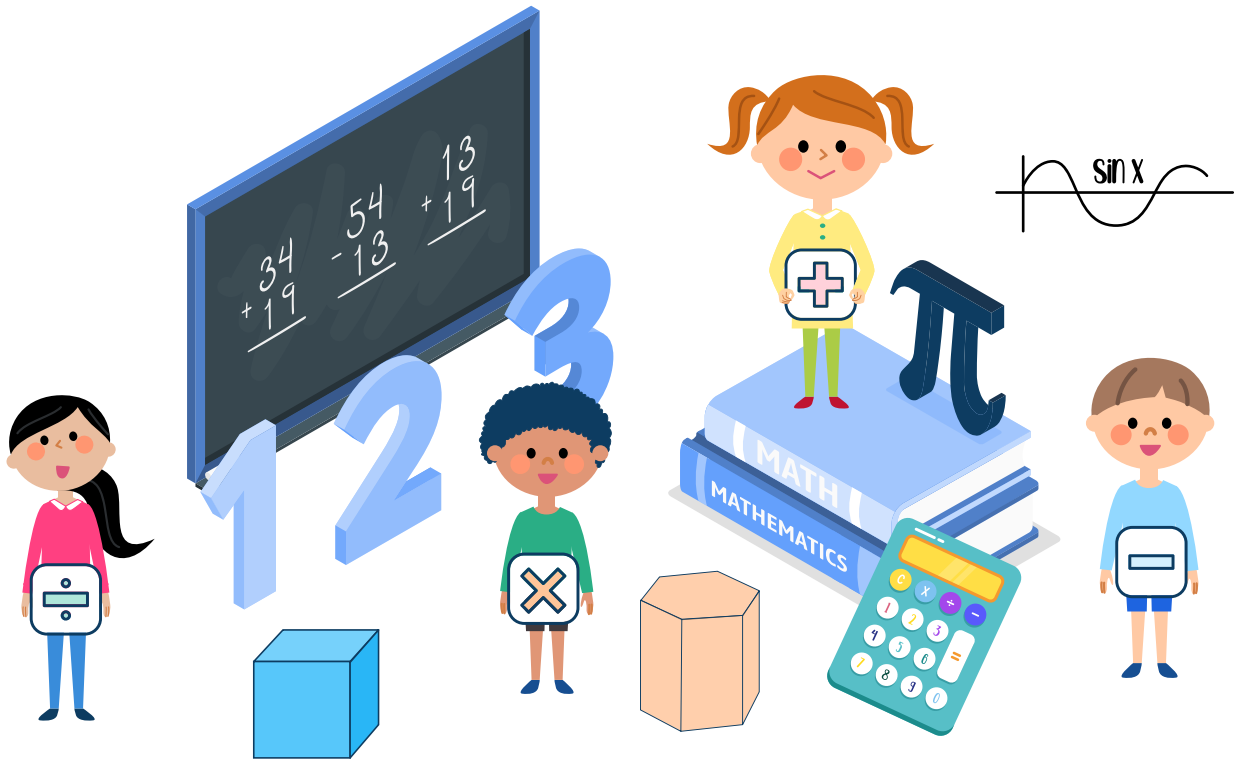
This whole class math game is similar to the scavenger hunt.

Grade level:
○ Grades K-8

How to play:
Question pages should be posted around the room and students will need a recording sheet, pencil, and clipboard to lean on. Students are given a set amount of time to work on the page in front of them (for example, students have 30 seconds to simplify the algebraic expression).
After 30 seconds, the math teacher will say “scoot” and students will shift to the next question page, have 30 seconds to complete the problem before moving on to the next one.

The goal is to have students practice fast math facts and fluency.

Whodunit



A "Whodunit" activity is a mystery-solving game where participants work together to uncover clues, solve puzzles, and ultimately identify the culprit behind a fictional crime. This activity does involve a lot of set up but is a great way to get students to buy in to the material and actively participate in their learning experience.

Grade level:
○ Grades K-8

How to play:

Small groups will work together to solve math problems and be rewarded with clues to identify the culprit. You can find many pre-made downloadable options online to reduce planning time.

Relay race

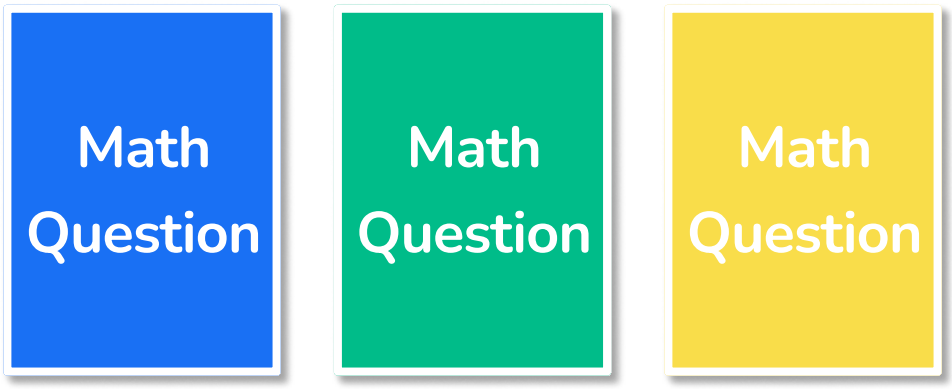
Playing a relay race in math can be a fun and engaging way to review concepts or practice mathematical skills.

Grade level:
○ Grades K-8

How to play:
Divide the class into equal size teams and setup stations. Students will take turns sending one team member at a time to the task station which could include solving equations, completing math puzzles, answering word problems, or performing mental math calculations.

After the race it would be beneficial to gather the students to review the tasks and discuss any challenges or interesting strategies used during the relay. You can also review the correct answers to the math problems to ensure understanding.

Quiz, quiz, trade



"Quiz, Quiz, Trade" is a cooperative learning strategy that promotes formative assessment, active engagement and peer-to-peer teaching. It's particularly effective for reviewing math concepts in a fun and interactive way.

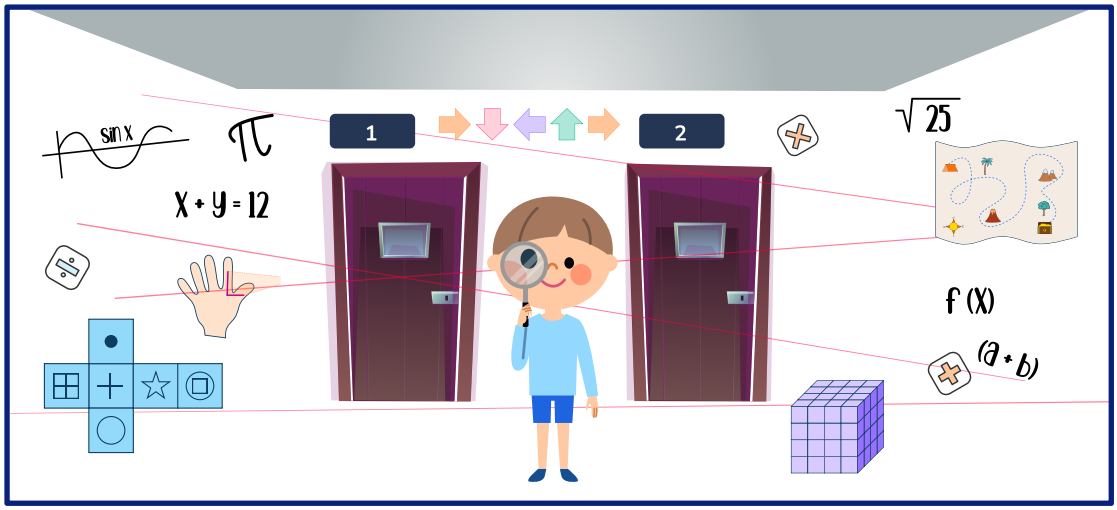
Grade level:
○ Grades K-8

How to play:
Prepare a set of question cards related to the math concepts you want to review. Each student should have a card and each card should have a math problem or a question on one side and the answer on the other. Arrange students into pairs or small groups around the room and distribute one question card to each student, ensuring that each student has a different question.

Then have students hold their cards up with the question side facing out. Each student quizzes their partner with the question on their card. They can read the question aloud or show it to their partner. The partner tries to answer the question without looking at the back of the card. If they answer correctly, they receive praise and encouragement from their partner.

After both partners have quizzed each other, they trade cards, find a new partner, and repeat the process. "Quiz, Quiz, Trade" is an effective way to review math concepts while promoting active engagement, collaboration, and peer teaching among students. It's adaptable to various grade levels and can be customized to focus on specific math topics or skills.

Escape room



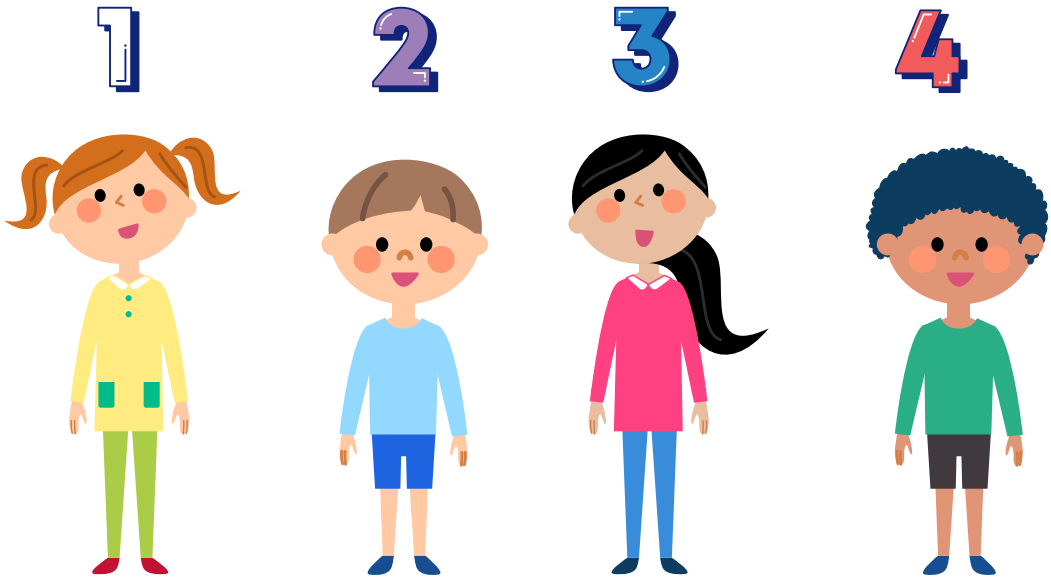
Creating an educational escape room in math is a fantastic way to engage students in problem-solving, critical thinking, and collaboration while reinforcing mathematical concepts.

Grade level:
○ Grades K-8

How to play:

There are many escape rooms online for teachers to use. Breakoutedu is a great resource to build physical escape rooms to review mathematical concepts or assign virtual escape rooms for students to complete as a class, with a small group or partner, or individually.

Human number line

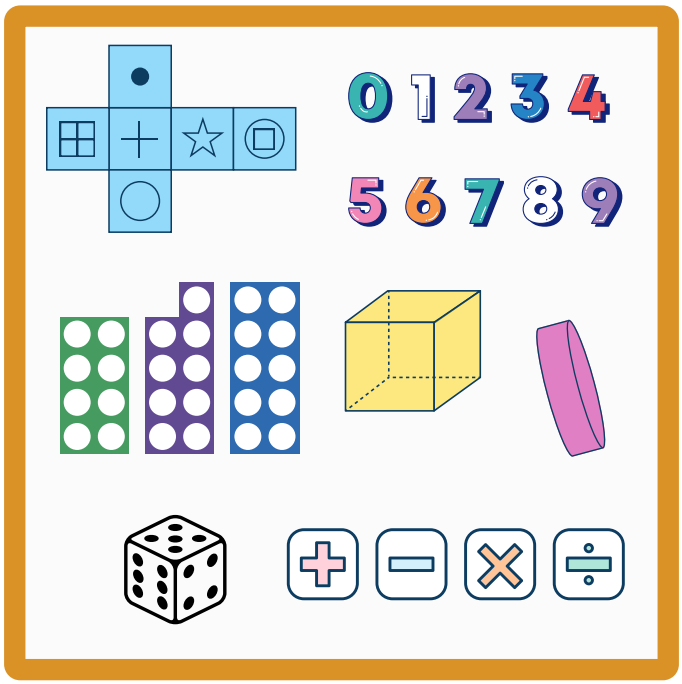


A human number line activity is an interactive and kinesthetic way to teach or reinforce concepts related to numbers, number sense, and mathematical operations.

Grade level:
○ Grades K-7

How to play:
In this activity, students physically represent numbers along a designated line or axis, allowing them to visualize numerical relationships and engage in hands-on learning.

Guess who



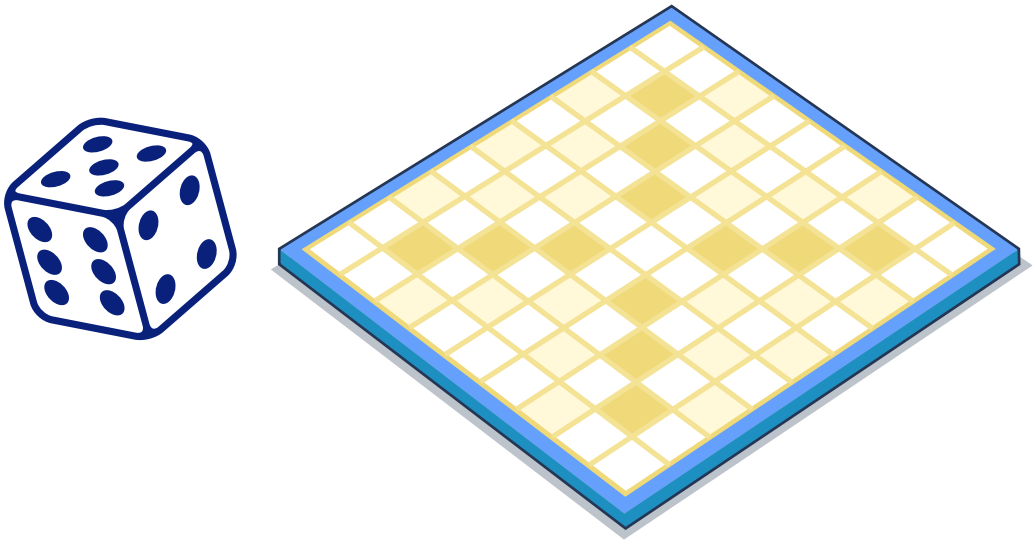
Playing "Guess Who?" in math is a creative way to reinforce mathematical concepts such as properties, characteristics, or attributes of numbers, shapes, or other mathematical objects.

Grade level:
○ Grades K-8

How to play:
Create or print out game boards featuring various mathematical objects or concepts.
For example, you could have boards with numbers, geometric shapes, mathematical operations, or math-related images.

Players engage in critical thinking as they analyze mathematical properties and make educated guesses based on the information they gather. Also, players practice using mathematical vocabulary and describing mathematical properties in a clear and concise manner. The game promotes active engagement and participation as players interact with each other and work towards solving the mystery.

4 in a row



Ideal for intervention groups or students developing fluency in adding 9, 10, or 11 and place value. Suitable for math workshops or stations to enhance fluency.

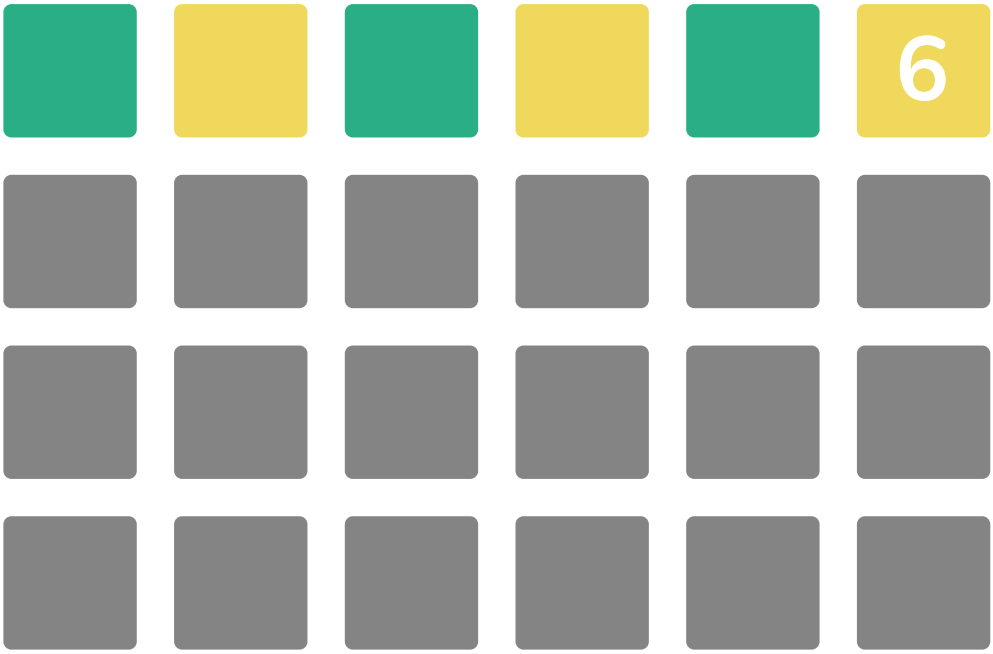
Grade level:
○ Grades 1-4

How to play:
In this game, pairs of students share one game board. Laminate the board or use a photocopy with counters or markers. The first player rolls a die and adds 10 (or 11 or 9!) to cover a spot. The next student rolls the die and adds 10 (or 11 or 9).

The goal is to achieve 4 in a row strategically, considering available numbers.

Ideas to adapt:
You can use base 10 blocks or other “hands on” manipulatives to show students how adding 10 impacts the tens place and adding 11 impacts both the tens and the ones. Adding 9 is tricky for some students, so you can show them by adding 10 and then taking away one cube.

Nerdle



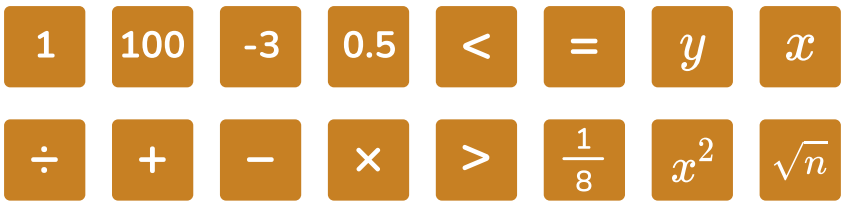
Nerdle is a daily math puzzle inspired by The New York Times' word puzzle, Wordle. Nerdle challenges players to guess a randomly selected calculation within six attempts.

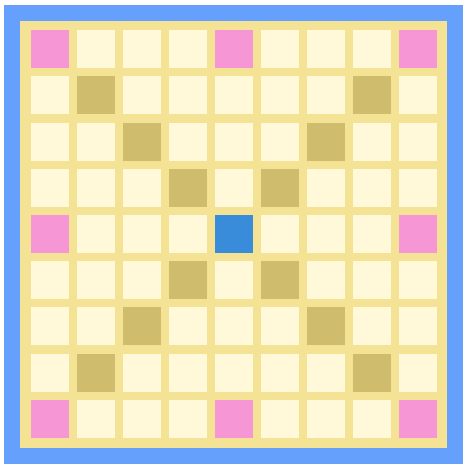
Grade level:
○ Grade 5 -8

How to play:
After each guess, players receive feedback on the tiles: green for correct tiles in the correct position, yellow for correct tiles in the wrong position, and gray for incorrect tiles.

Players refine their guesses using this feedback, aiming to correctly guess the calculation or exhaust their attempts within the allotted six tries. Nerdle offers a fun and intellectually stimulating way to exercise math and deduction skills while enjoying a guessing challenge.

Equation scrabble





Equation scrabble is a versatile math centered game for 1-4 players to sharpen math facts and number sense, or delve into specific skills like fractions, decimals, large numbers, negatives, variables, and exponents.

Grade level:
○ Grades 3-8

How to play:
Similar to Scrabble but with numbers and variables, students form addition, subtraction, multiplication, and division equations, earning points based on the complexity of their equations. You can find printable versions online, or make your own.

Ideas to adapt:
Adjust the game by removing pieces to tailor it to focus on a single operation or skill, offering a flexible and engaging math activity for diverse learning needs.

Multiplication baseball

9×6	18×2	90×3	125×8
8×5	22×3	84×7	657×4

Multiplication baseball infuses the excitement of baseball with multiplication practice.

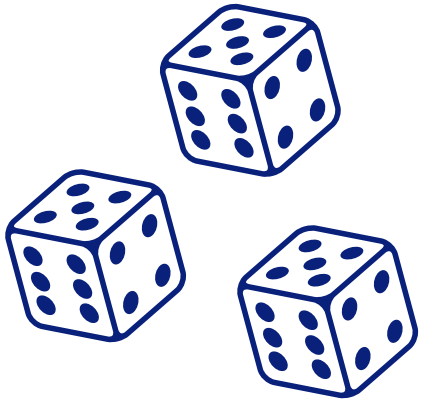
Grade level:

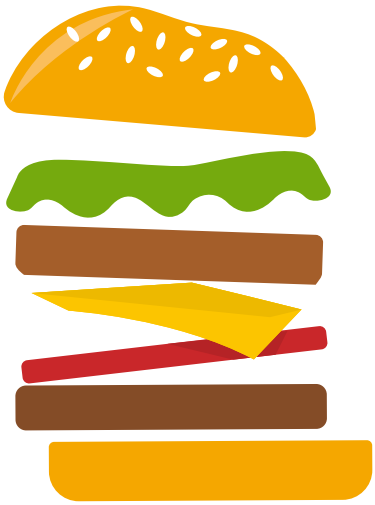
- Grades 3-4

How to play:
Players form two teams, one batting and the other fielding. The batting team's players take turns answering multiplication flashcards to advance around the bases, scoring runs for correct answers and accumulating outs for incorrect ones.

This game not only sharpens multiplication fluency and mental math skills but also fosters strategic thinking and teamwork as players strategize to score runs and defend against the opposing team. It's a dynamic way to reinforce multiplication skills while enjoying the spirit of competition on the "field."

Hamburger dice game





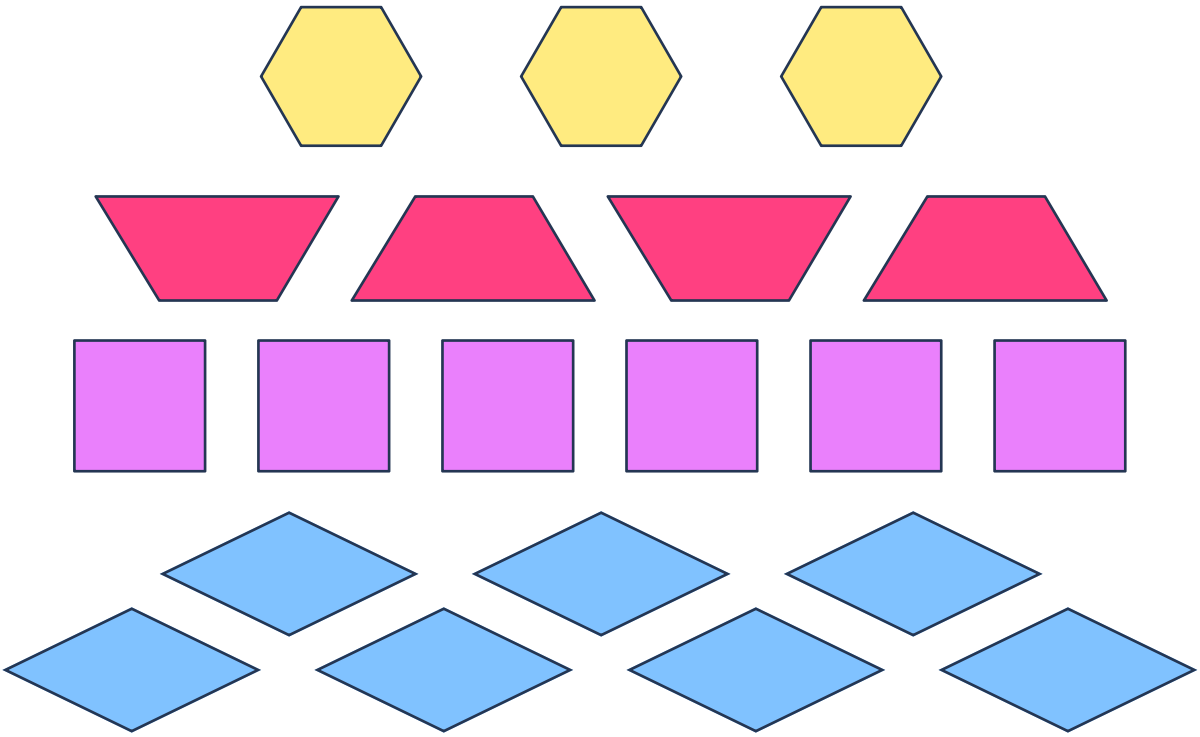
In this engaging activity, students utilize problem-solving strategies and mental math skills as they collaborate to construct a hamburger.

Grade level:
○ Grades 4-9

How to play:
Working in small groups or pairs, students are equipped with three dice and a burger building sheet. Taking turns, they roll the dice and creatively manipulate the numbers rolled to match the desired ingredients for their burgers.

However, there's a twist—the burger assembly must commence with the bottom bun equivalent to 12 and conclude with the top bun equivalent to 10, allowing flexibility in arranging the toppings between. The objective is clear: the first student to successfully assemble their burger according to the given criteria emerges as the winner, blending mathematical thinking with culinary creativity in a fun and competitive manner.

Pattern blocks



Pattern blocks are versatile mathematical manipulatives that students can use to explore various mathematical concepts and develop important skills. These colorful blocks, typically available in shapes such as triangles, squares, rhombuses, trapezoids, and hexagons, allow students to engage in hands-on learning experiences.

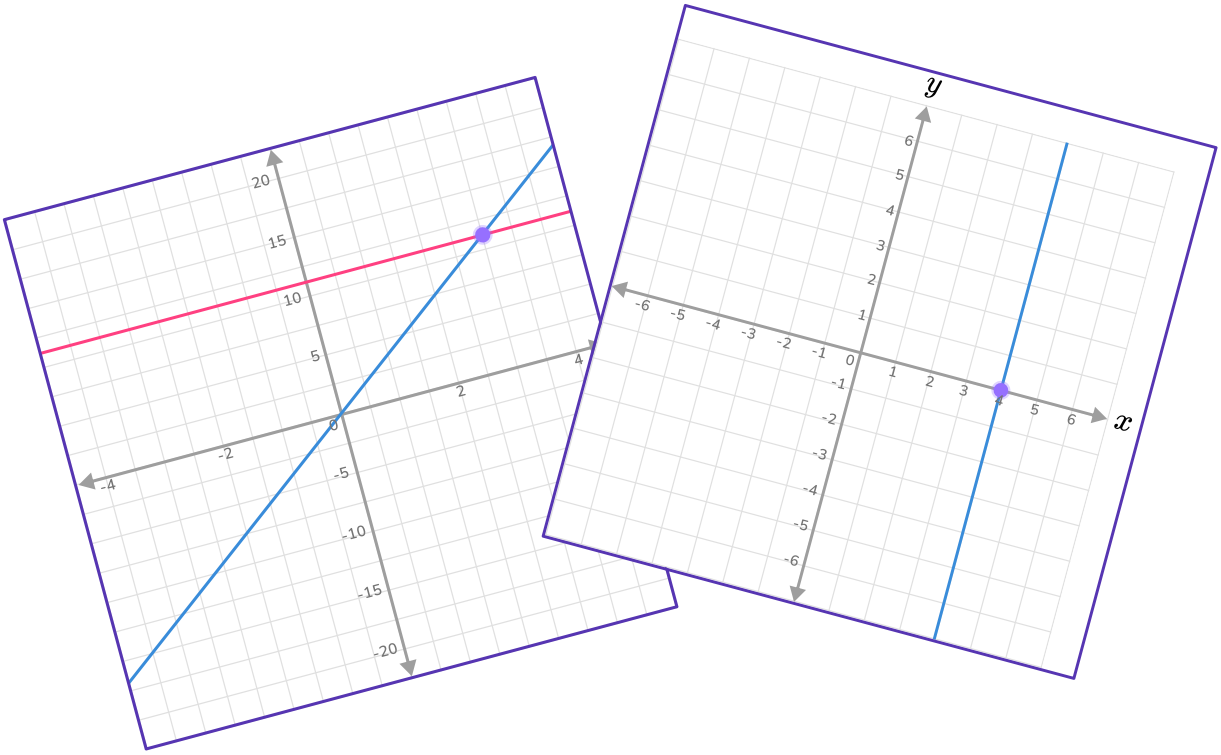
Students can use pattern blocks to develop spatial reasoning by exploring geometric relationships, identifying shapes, and creating patterns and designs. They also support the development of mathematical concepts such as symmetry, congruence, fractions, and area.

Grade level:
○ Grades K-5

How to play:

Through activities involving sorting, classifying, composing, decomposing, and transforming shapes, students enhance their understanding of geometry, spatial visualization, problem-solving, and critical thinking skills. Pattern blocks provide a tangible and interactive way for students to deepen their mathematical understanding and foster a love for learning in mathematics.

Stained glass window activity



This activity encourages students to tap into their artistic side while practicing their understanding of graphing linear equations.

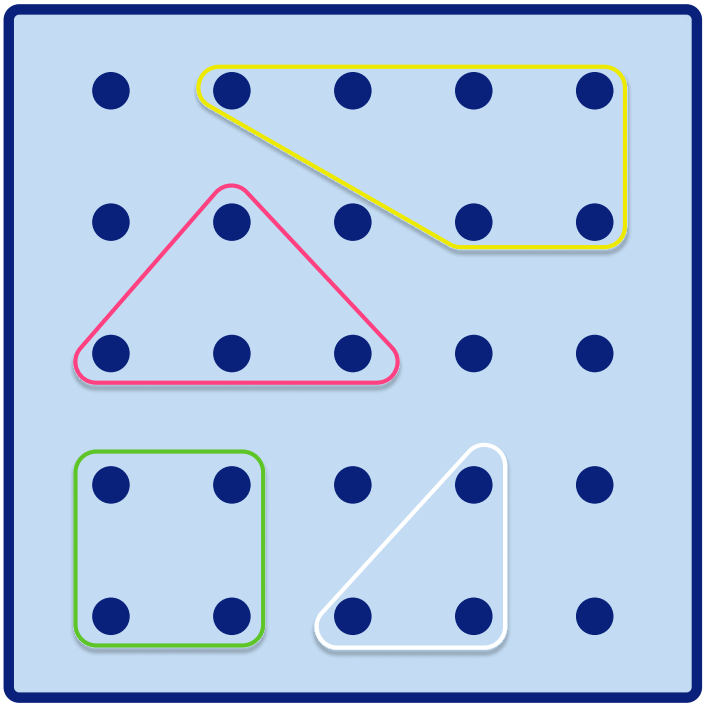
Grade level:
○ Grades 7-9

How to play:
Students will create a stained glass window by graphing linear equations.

Teachers will need to distribute coordinate planes or graph paper, provide pupils with the linear equations, have students graph them, then add color and outlines to their designs with colored pencils and Sharpies.

Ideas to adapt:
You can provide equations already in slope-intercept form and or where students need to solve for y before graphing.

Geoboards



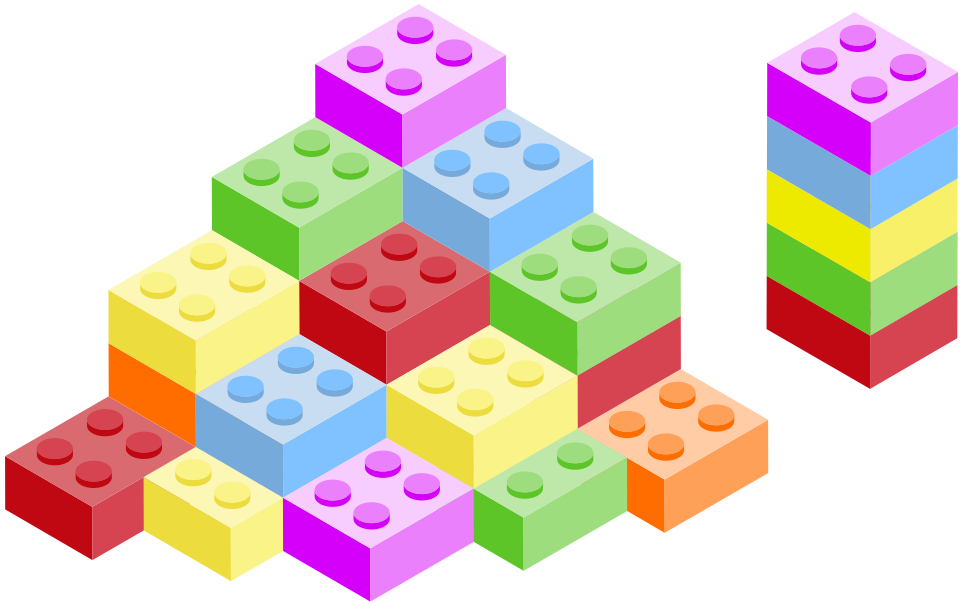
Geoboards are hands-on mathematical tools comprising a board with pegs arranged in a grid pattern, allowing students to stretch rubber bands to create shapes and patterns.

Grade level:
○ Grades K-8

How to play:
With geoboards, students delve into various mathematical concepts, from geometry to fractions and measurement. They explore geometric shapes, angles, symmetry, and spatial relationships while enhancing spatial reasoning skills.

Additionally, geoboards facilitate understanding of fractions by partitioning shapes and practicing measurement through area and perimeter calculations. Moreover, students engage in problem-solving activities and unleash their creativity as they design geometric patterns and solve puzzles, making geoboards versatile tools for interactive and exploratory learning in mathematics.

Use LEGO bricks



Students can use LEGO bricks to enhance their understanding of math and use them similarly to base ten blocks.

Grade level:
○ Grades 3-5

How to play:
By building structures with LEGO bricks, students can explore concepts such as halves, thirds, fourths, and more by partitioning bricks into equal parts. They can create models where different colored bricks represent different fractions, allowing them to see and compare fractional relationships.

Additionally, students can use LEGO bricks to perform operations with fractions, such as adding, subtracting, multiplying, and dividing, by combining or separating brick groups. This hands-on approach with LEGO bricks provides a concrete and tangible way for students to grasp abstract fraction concepts, fostering deeper comprehension and retention.

Do you have a group of students who need a boost in math?

Each student could receive personalized lessons every week from our specialist one-on-one math tutors.

- Differentiated instruction for each student
- Aligned to your state's standards
- Scaffolded learning to close gaps

“We just had our first session and it went great! The kids really liked it and felt like they were learning! One even said he finally felt like math was making sense.”

Michelle Craig, Instructional Coach,
Sherwood Forest Elementary, Washington

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