



[MATH]

There are many activities parents can involve their children in that are math related. Children of all ages can always practice their math facts (addition, subtraction, multiplication, division) in a variety of ways. Try to make it fun!

[MATH WEB-BASED RESOURCES]

ONLINE MATH GAMES AND ACTIVITIES

- Grades K-1 (investigations.terc.edu/library/Games_K1.cfm)
- Grades 2-3 (investigations.terc.edu/library/Games_23.cfm)
- Grades 4-5 (investigations.terc.edu/library/Games_45.cfm)

FASTT MATH STRETCH TO GO (angel.collierschools.com)

Practice math facts and computation tailored to skill level.

[MATH CURRICULUM]

KINDERGARTEN

- Practice addition facts to 5 and related subtraction facts.

1ST GRADE

- Practice addition facts to 10 and related subtraction facts.

2ND GRADE

- Practice all single-digit addition facts and related subtraction facts.
(Students should know these from memory by the end of 2nd grade)

3RD GRADE

- Practice all single-digit multiplication facts and related division facts.
(Students should know these from memory by the end of 3rd grade)

4TH GRADE

- Practice addition and subtraction within 1,000,000 using the standard algorithm.

5TH GRADE

- Practice multiplication of up to 3-digit numbers using the standard algorithm.



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[MATH ACTIVITIES AND GAMES]

CONCENTRATION (addition, subtraction, multiplication, division)

- You will need index cards or squares of paper. The object of the game is to find pairs of matching cards among an array of face down cards. Help your child write addition, subtraction, multiplication, or division facts on one set of index cards, and the answers on another set. Shuffle the cards and lay them out face down. The first player turns over two cards. If they match, the player keeps the two cards and takes another turn. The next player continues by trying to find two matching cards. When all cards have been collected, the player with the most pairs wins.

DICE GAMES (addition)

- You will need 2, 3, or 4 dice and one score sheet. Tally to so many rolls or to a preset score such as 0 or 100 points. Vary it by adding the sums of the dice together, and the greatest or least score wins! Vary it again by rolling 3 colored dice and 1 white die. Subtract the number on the white die from the sum of the colored dice, and the greatest sum wins.

GO FISH (addition)

- Prepare flash cards from 0-13 (3 sets of each number). Play “Go Fish” to add numbers up to 10. (Ex: Sally has the number 4, so she asks her mother for the number 6 because $4+6=10$)

WAR (addition)

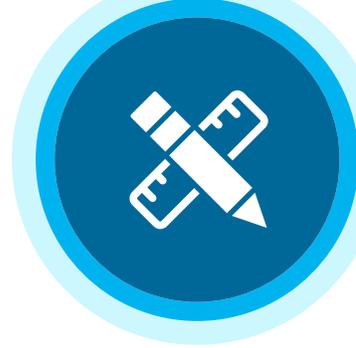
- Divide a deck of cards evenly. Each player will put out two cards and add them together. Whoever has the highest total will take all cards. The object is to take the whole deck. This could be expanded to multiplication.

PIG (addition)

- Players take turns rolling two dice. A player may roll the dice as many times as he/she wants, mentally keeping a total of the sums that come up. When the player stops rolling, he/she records the total, and adds it to the scores from previous rounds. BUT if a one is rolled, the player scores a 0 for that round, and it's the next player's turn.

RACE FOR \$1.00 (money addition)

- You need 30 pennies, 10 nickels, 20 dimes, 1 quarter, a dollar, 2 dice, and a partner. Take turns. On your turn, roll the dice. The sum tells how many pennies to take. When you have pennies, trade for a nickel. When you have 2 nickels, trade for a dime. When you have 2 dimes and one nickel, trade for a quarter. The first player to reach \$1.00 is the winner.



[MATH ACTIVITIES AND GAMES (continued)]

GUESS MY NUMBER (number logic)

- You need: paper, pencil, partner. Player one picks a number from 0 – 99 and writes it down. Player two makes a guess and writes it down. Player one gives a clue: “Your guess is greater than my number” or “Your guess is less than my number.” Continue playing until player two guesses player one’s number. Switch jobs and play again.

THE 1 TO 10 GAME (addition)

- You need: 2 dice, 1 deck of cards, and a partner. Use only the ace, 2, 3, 4, 5, 6, 7, 8, 9, and 10 cards. One of you takes the red cards, one of you takes the black cards. Take turns. On your turn, roll the dice and figure out the sum. Remove enough cards from your hand to add up to that sum. For example, if you roll a 5 and a 3, you can make 8 in many ways (5+3, 4+4, 4+2+2, etc.) If you can’t make the sum with the cards in your hand, roll again. If you can’t make a sum after three rolls, you lose the game. You win if your partner can’t make a number in three rolls or if you use up all of your cards.

NUMBER FAMILY RUMMY (fact families)

- Use a deck of 40 cards: Four suits of ace through ten. The goal is to make families of three cards that are related by addition or subtraction. For example: 5, 5, and 10 are a family because $5+5=10$, and $10-5=5$. 6, 3, and 9 are a family because $6+3=9$, $3+6=9$, $9-6=3$, and $9-3=6$. Shuffle the deck and deal cards to each player. Place the remaining cards face down in a pile. If you have any families of cards, place them aside. If you don’t have any families, you may draw one from the pile and discard one of your own. You may also discard the one that you picked up, if you don’t want it. The first player to get rid of all 6 cards (2 fact families) is the winner. Remember that the ace equals one.

GRAB BAG SUBTRACTION (subtraction)

- Choose a number of things to work with, and put that many objects into a bag. You can use crayons, coins, beans, buttons, etc.) Grab a handful of the items and count them. Use subtraction to figure out how many items are now left in the bag. So if you put 100 items in the bag and pulled out 20, then you would write $100 - 20 = 80$. Let your partner have a turn, and whoever leaves the least amount in the bag is the winner.

SUBTRACTION PIG (subtraction)

- Each player is given 11 cards numbered 0-10. These are placed face up in a row. Players roll two dice on a turn and may choose to add or subtract the two numbers shown on the dice. If the resulting sum or difference equals one of the number cards still face up, the player can turn that card face down. Next player then takes a turn. This continues until one of the players wins by turning all 11 of this cards face down.



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[MATH ACTIVITIES AND GAMES (continued)]

CARD CAPTURE (addition, subtraction, multiplication, division)

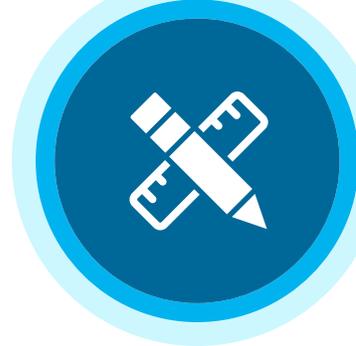
- Use a set of fact flashcards. Divide the cards equally between the two players. One player attacks, while the other player defends. The defending player shows his cards (problem side up) one at a time to the attacking player. If the attacking player says the right answer, he captures the card and adds it to his own. He can continue capturing cards until he answers incorrectly. When this happens, the defending player becomes the attacker, and gets his chance at capturing the cards. This continues with cards being captured back and forth until one player winds up with all of the cards, or has the most cards when time is called. You can even set the rules to the first player to capture 20 cards, or any number you'd like.

ADDITION AND SUBTRACTION TURNOVER (addition and subtraction)

- Each player is given 11 cards numbered 0-10. These are placed face up in a row. Players roll two dice on a turn and may choose to add or subtract the two numbers shown on the dice. If the resulting sum or difference equals one of the number cards still face up, the player can turn that card face down. Next player then takes a turn. This continues until one of the players wins by turning all 11 of this cards face down.

SLOT CARD RACES (addition, subtraction, multiplication, division)

- Cut an open slot in a card or blank piece of paper. The slot needs to be large enough to see only one math problem or fact at a time written in a column on another piece of paper. The problems should be such that the player can work the answers out in his/her head. Each player in turn tries to work the problems as fast as he can while being timed. The card is slid down from one problem to the next as he correctly answers each one. If a problem is answered incorrectly, the leader moves the card back one problem. Each player's time is written down. Players may re-challenge each other. A variation would be to move the card at a certain speed for all players to see how many problems they can do accurately at that speed before making a mistake.



[MATH WEB-BASED RESOURCES (middle and high school)]

PARENT RESOURCES IN CPALMS (cpalms.org/Public/search/Course)

ALGEBRA NATION (angel.collierschools.com)

[MATH CURRICULUM (middle and high school)]

6TH GRADE

Skills to review and practice

- Add and subtract whole numbers.
- Multiply whole numbers using standard algorithm and divide whole numbers using larger numbers.
- Add, subtract, multiply, and divide decimals.
- Compare fractions, decimals, and percent using equivalencies.
- Add, subtract, multiply, and divide fractions with like and unlike denominators and rewrite the result as a mixed number.
- Write expressions to model everyday events (e.g. cost of 2 sandwiches and 4 drinks).
- Solve one-step equations.
- Graph points on a coordinate plane in Quadrant 1 (positive X and Y values only).

7TH GRADE

Skills to review and practice

- Add, subtract, multiply, and divide whole numbers.
- Add, subtract, multiply, and divide decimals.
- Add, subtract, multiply, and divide fractions with different denominators, including mixed numbers; convert a fraction into its decimal equivalent.
- Write expressions that contain ratios and rates for everyday events (e.g. cell phone data charges).
- Graph points on the coordinate plane.
- Compare fractions, decimals, and percent.
- Evaluate numerical expressions with whole number exponents.
- Find area, surface area, and volume of triangles, quadrilaterals, polygons, cubes, and right prisms.

Skills to preview

- Solve two-step equations and inequalities that contain fractions and decimals.
- Display data on a number line, dot plot, histogram, and box plot.



MATH

[MATH CURRICULUM (middle and high school continued)]

8TH GRADE

Skills to review and practice

- Add, subtract, multiply, and divide whole numbers.
- Add, subtract, multiply, and divide decimals.
- Add, subtract, multiply, and divide fractions with different denominators, including mixed numbers; convert a fraction into its decimal equivalent.
- Add, subtract, multiply, and divide positive and negative numbers.
- Evaluate problems using the square root and cube root symbols.

Skills to preview

- Write and solve multi-step equations and inequalities that contain fractions or decimals based on real events.
- Graph various lines on the coordinate plane.
- Determine the mean, median, and mode of a set of real world data.
- Create and interpret stem and leaf plots, frequency charts, and scatter plots.
- Evaluate expressions with integer exponents.
- Find the slope of a line.

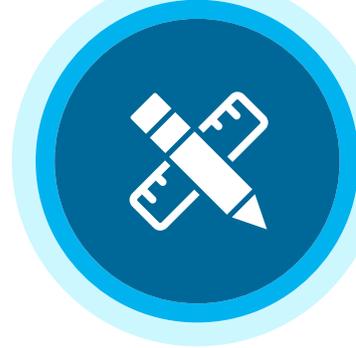
ALGEBRA 1

Skills to review and practice

- Add, subtract, multiply, and divide positive and negative numbers.
- Add, subtract, multiply, and divide fractions with different denominators, including mixed numbers; convert a fraction into its decimal equivalent.
- Combine like terms: add and subtract expressions with variables.
- Apply the distributive property to expressions with variables.
- Find the least common multiple of two-digit and three digit numbers.
- Find the greatest common factor of two-digit and three-digit numbers.
- Apply the properties of exponents to simplify expressions.
- Write and solve a one-variable equation or inequality based on a real-world scenario. Include multi-step equations with variables on both sides and equations with fractions.
- Write a linear equation in the form $y = mx + b$ and graph it on the coordinate plane.

Skills to preview

- Simplify expressions that contain square roots with whole number exponents.
- Graph an exponential function or a quadratic function on the coordinate plane.
- Factor a quadratic trinomial with a leading coefficient of 1 or a quadratic binomial using difference of squares.



[MATH CURRICULUM (middle and high school continued)]

GEOMETRY

Skills to review and practice

- Write and solve multi-step equations or inequalities based on a real-world scenario. Include multi-step equations with variables on both sides and equations with fractions.
- Transformations on a coordinate plane: reflections, rotations, and translations
- Apply the Pythagorean Theorem to find the missing side length of a right triangle.
- Memorize and apply the formulas for finding the area of a triangle, rectangle, trapezoid, circle, and parallelogram.
- Find the perimeter of a polygon and the circumference of a circle.
- Find the surface area and volume of a prism, pyramid, cylinder, cone, and sphere.

Skills to preview

- Compare and contrast triangles based on their properties; compare and contrast quadrilaterals based on their properties.
- Construct geometric figures using a compass and a straight edge (parallel and perpendicular lines, bisecting an angle, copying a line segment or an angle).

ALGEBRA 2

Skills to review and practice

- Factor quadratic and special cubic expressions.
- Simplify expressions involving radicals, including those with rational exponents.
- Solve and graph a linear, quadratic, exponential, or radical equation.
- Identify the key features of the graph of any function (domain and range, intercepts, maximum and minimum points, end behavior, intervals where the function is increasing, decreasing, or constant).
- Construct a histogram, box plot, and dot plot in the context of a real-world scenario. Analyze the resulting distribution in terms of shape, center, and spread.
- Memorize and apply the side ratios of a 30-60-90 and a 45-45-90 right triangle.
- Review domain and range of a function.

Skills to preview

- Solve and graph a rational, polynomial, or logarithmic equation. Identify key features listed above, as well as the location of any asymptotes.
- Use all six trigonometric functions to find missing side lengths and angles of a right triangle.