












First in math®

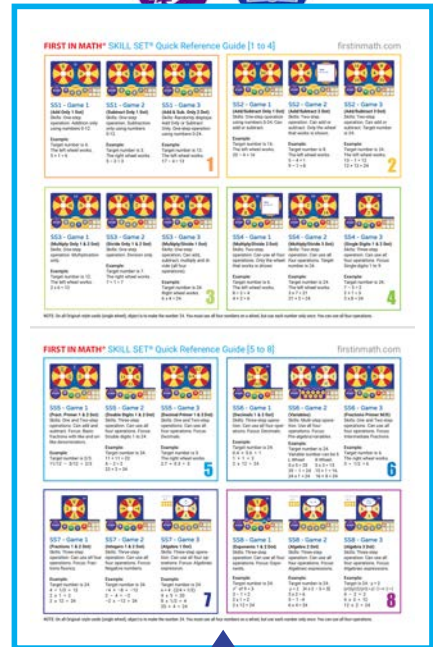
Skill Set® & Games Guide

FIRST IN MATH® Core Modules

-  Just The Facts Pre-Test/Post-Test
-  Very Important Facts® [VIFs®]
-  GYMS for Fact Practice
-  24® Game Skill Sets

FIRST IN MATH® Special Modules

-  Know & Show Word Problems
-  What Do You Know? 2.0 Test
-  Bonus Games
-  Measurement World
-  CT World 2.0
-  K2 World
-  Pre-K World

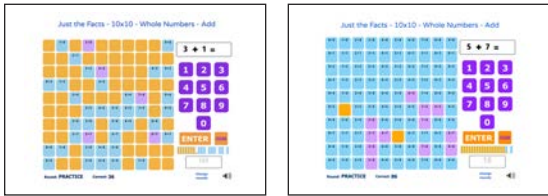


24® Game SKILL SETS® GUIDE

DOWNLOAD & PRINT AS CLASSROOM POSTER!

11" x 17" (fits Tabloid-size paper)

Just The Facts (Pre/Post Test)



Easily assess Fact Fluency. Student takes a Pre-Test to determine fluency, repeats as a Post-Test to review growth. Focus: Whole Numbers; Decimals; Integers & Fractions. Test only takes five minutes. Guide for use; your classes may be different:

Grades 1 & 2: Complete JTF 10 x 10 - Add/Subtract

Grade 3: Complete JTF 10 x 10 - Add/Subtract/Multiply

Grades 4 & 5: Complete JTF 10 x 10 - Add/Sub/Multiply/Divide

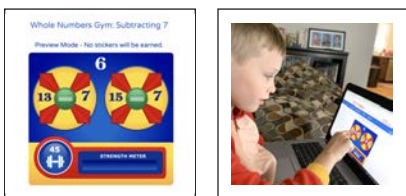
Data is available to Educators and Admins via the ASSESSMENT REPORTS link on your FIM Homepage. Choose custom views, save data to spreadsheets, and more.

Very Important Facts® (VIFs®) System



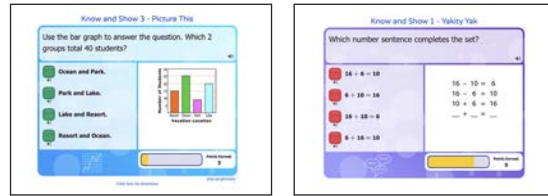
Concise instructional videos integrated with digital games help students become automatic with basic facts to prepare them for higher-level math. A three-tier system isolates essential rules and fundamentals students must master to develop automaticity. Linear progression assures focus in areas that need improvement until proficiency is achieved. Once solid foundations are built, students learn how to decompose numbers and discover a straightforward way to add and subtract numbers—even double digits. Four sequential units: Add / Subtract / Multiply / Divide.

GYMS for Fact Practice



Solidify basic skills and build fluency through fast-paced fact practice — GYMS offer a short cycle of play that students enjoy. Designed to focus on addition, subtraction, multiplication & division facts 1 to 12. Solve 12 non-repeating math facts in one minute. Completion data is available to all educators via ASSESSMENT REPORTS. Choose custom views, save data to spreadsheets. A/S & M/D with Whole Numbers, Fractions, Decimals and Integers.

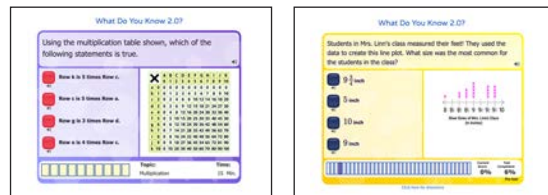
Know & Show



Grade-specific games provide experience solving word problems. Helps students become adept at identifying relevant information and applying their mathematical knowledge to find answers! Measurement, estimation, probability, algebra, geometry, & more.

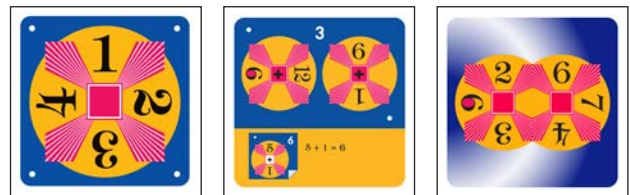
- Multiple choice questions address conceptual understanding
- Encourages "math talk" in whole-class or small-group settings
- Problems in nine categories tie to current math standards
- Includes hints, and a popup glossary of terms
- Students see games at their Focus level

What Do You Know? 2.0



Unlike other modules, WDYK?2.0 is a "test" you can assign to the entire class, or specific individuals, from your Teacher Homepage. Designed to evaluate word problem comprehension and problem-solving ability. Problems encompass domains of mathematics and facilitate learning across all skill levels in grades 3, 4 and 5.

24® Game SKILL SETS®

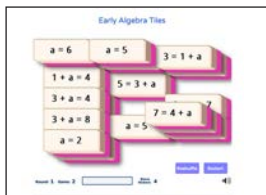


See pages 8 & 9 for examples

Students build equations to strengthen procedural fluency. Eight SKILL SETS® focus on specific levels of learning — from Addition to multi-step Algebra. Each set is comprised of three sequential 24® Games that introduce challenges on a gradient. From early numeracy to advanced problem solving, games target skills students need to master at each grade level based on national and state standards. Specially-designed games encourage investigation, teaching students of all ages and abilities to creatively adapt and apply knowledge in a variety of situations. Untimed content allows each student to progress at his or her own pace.

Bonus Games: Skill Groups 1 - 8

Eight Bonus Game units target skills students will need at each grade level. These fun and incredibly-diverse games feature various types of untimed skill-building activities, such as sequencing and working with tens, pattern sensing, algebra, fractions, decimals.



BONUS 1:

More Or Less. Place ten numbers on a number line. Strengthens estimation skills. Starts with single-digit numbers and advances to three digits.

Ten Wheels. Build wheels by placing four numbers in a circle so each wheel totals ten. Solidifies addition/subtraction skills and introduces higher-order thinking.

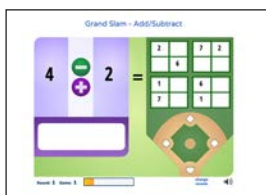
First In Tens - Add. Use graphic bars to help build equations where the sum is always ten. Untimed. Strengthens visual estimation.

First In Tens - Subtract. Use graphic bars to help build equations to find the difference, always subtracting from ten.

Shape Shuffle. Students hone grouping, pattern-sense skills to complete a pattern. Strengthens lateral thinking and is a basis for algebraic thinking.

Link 'N Lock - Add Subtract. Students hone grouping skills. Add or subtract two numbers in a triad; the result is the number you want to look for in a triad that you can link to. Click on a triad to rotate it.

Early Algebra Tiles. Match tiles that show a variable of equivalent value; click on two tiles to create a matched pair. Game may have up to three layers of overlapping tiles. To discourage guessing, game will reset upon the 6th click that does not result in a match.



BONUS 2:

Deep Sea-Sequence. Practice skip counting and solidify addition and subtraction skills. Select numbers that continue a specified sequence, such as “ $n + 2$ ”. Higher levels of play present two simultaneous sequences.

Grand Slam Add/Subtract. Practice number-sense and grouping skills with addition and subtraction. Three rounds progress from single to double digits.

First to 20 Add. Build equations that sum to target numbers ranging from 11 to 20. Great for visual learners.

First to 20 Subtract. Use graphic bars to help build equations to find the difference, using numbers from 11 to 20. Round Two: Find the missing number to complete the equation.

Speed Shuffle. Hone grouping, number-sense skills to complete a pattern. Strengthens lateral thinking; begins algebraic thinking.

Go To 100 Add. Find missing number to complete the addition equation by regrouping. Numbers range from 3 to 100.

Go To 100 Subtract. Find a missing number to complete the subtraction equation by regrouping. Numbers range from 3 to 100.

Geometry Tiles. Match tiles with 2D or 3D shapes viewed from different perspectives. Click two tiles to create a matched pair (two circles, two cubes). Game may have up to three layers of tiles.



BONUS 3:

Factor Wheels. Place four numbers in a circle that share a common factor. Solidifies multiplication and division fluency.

Skip Game. Numbers 1 to 10; skip count by adding or subtracting.

XYZ Shuffle. Select missing icons represented by one or more variables (x , y , or z). Develops comfort with pre-algebra concepts. Strengthens logical thinking skills.

Decimals More Or Less. Place ten decimals on a number line (with the fewest moves!) to further critical-thinking skills.

Multiply/Divide Grand Slam. Hone number-sense and grouping skills. Three rounds of play progress to using all four operations.

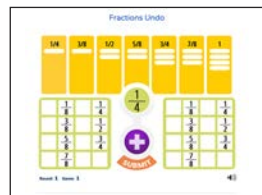
Estimation. Round numbers to nearest 10's, 100's or 1,000's; round multiple numbers then add and/or subtract to select a correct total.

Link 'N Lock - Multiply/Divide. Students hone grouping skills as they link triads together; requires planning ahead. Multiply or divide the two numbers in a triad and the result is the number you want to look for in another triad to link to. Click triads to rotate as needed.

Equivalent Fraction Tiles. Match tiles with fractions of equal value; click on two tiles to match. Continue matching the remaining tiles.

VIFs Tiles. Match tiles with facts of equivalent value; click on tiles to create a matched pair. Continue matching the remaining tiles.

Elementary Algebra Tiles. Match tiles with a variable of equivalent value; click on a correct pair, those two tiles will disappear. Continue matching the remaining tiles until you clear the board.



BONUS 4:

24 Wheels. Build wheels by placing four numbers in a circle that total 24—circles must match the solution patterns provided. Develops pattern-sensing & problem solving skills.

Monu's Path. Using addition/subtraction, work through several different paths to solve for x .

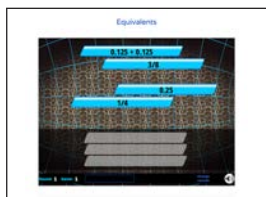
Fractions More Or Less. Place fractions on a number line in proper order. Higher rounds include fractions with unlike denominators.

The Hex Factor. Select one of three numbers that will continue a specified sequence, such as “n x 3”. Higher levels present two simultaneous, and feature faster-running sequences.

Pundi’s Puzzle. Select icons of different shapes and colors to fill a 4 x 4 grid where rows, columns, or diagonals do not contain icons of same shape and color. Rounds 3 and 4 feature a 5 x 5 grid. Sharpens reasoning skills.

Jennie’s Jewels. Build Wheels that have one of four common attributes: Same Shape, Same Color / Same Shape, Different Color / Different Shape, Same Color / Different Shape, Different Color.

Fractions Undo. Decompose Fractions. Round 1 begins with $\frac{1}{4}$ as the fraction and will sequentially move by $\frac{1}{4}$ increments to 1. Choose the two fractions that when added will result in the fraction you want to decompose.



BONUS 5:

Fraction Wheels. Combine fractions and mixed numbers using addition/subtraction to create whole-number wheels. Review Game feature allows for immediate feedback.

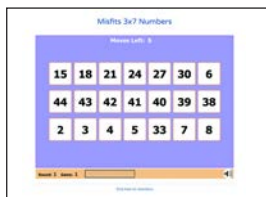
Grand Slam Integers. Hones number sense and grouping skills using all four operations with positive and negative integers.

Equivalents. A player selects three bars that display equal values, then determines if the remaining bars are more than or less than the three equal values.

RPS Chess. Plays like chess; each icon moves in specific patterns, players capture icons on the board until only one remains.

Pattern Puzzle. Game begins with ONE pattern and from 6 to 8 24® Game Single Digits cards. Select cards that can be solved using the pattern shown.

3 Moves to Zero. Game begins with nine numbers. Using any of the operations shown, decide how to make a zero using three numbers.



BONUS 6:

Estimation Decimals. Round Decimals to the nearest 1’s, 0.1’s or 0.01’s. Advances to rounding multiple numbers and then add and/or subtract those numbers.

Misfits 3x7 Numbers. Find the pattern, spot the “misfits” that are out of place and move them to where they belong.

Grand Slam Decimals - Add/Subtract. Hones mathematical skills using addition & subtraction with Decimals.

Grand Slam Decimals - Multiply/Divide. Hones math skills using multiplication & division with Decimals.

Grand Slam Decimals - All Operations. Hones math skills using all four operations with Decimals.

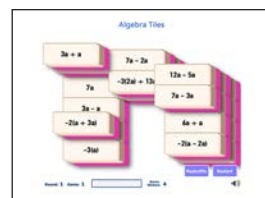
Decimal Tiles. Match tiles with equations of equal value containing decimals; click on two tiles to create a matched pair. Game may have up to three layers of overlapping tiles as challenge increases.

Integer Tiles. Match tiles with equations of equal value containing integers; click on two tiles to create a matched pair. Game may have up to three layers of overlapping tiles as challenge increases.

Exponent Tiles. Match tiles with equations of equal value containing exponents; click two tiles to create a matched pair. May have up to three layers of overlapping tiles as challenge increases.

Monuji’s Path. Build equations using all four operations. Work through several different paths to solve for x. Increases in difficulty.

Pattern Power. Game begins with ONE 24® Game Single Digits card and 6 to 8 patterns below. Select a pattern that can solve the card. Select more matching patterns as rounds increase in difficulty.



BONUS 7:

Xtreme Algebra. Match quadrant and path to the given algebraic expression. Includes adding/subtracting algebraic expressions with up to two variables.

Grand Slam Fractions - Add/Subtract. Hones mathematical skills using addition & subtraction with Fractions.

Grand Slam Fractions - Multiply/Divide. Hones math skills using multiplication & division with Fractions.

Grand Slam Fractions - All Operations. Hones mathematical skills using all four operations with Fractions.

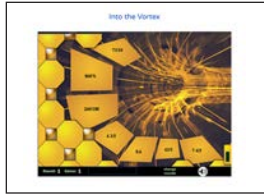
Algebra More Or Less. Calculate the numeric value of algebraic expression appearing on emerging balls, and place five balls on the number line in their proper order.

Link 'N' Lock Fractions. Link triad shapes together; add or subtract the two fractions in a triad and the result is the number you want to find in another triad to link to.

Algebra Tiles. Match tiles with equivalent algebraic equations; click on two tiles to create a matched pair. Game may have up to three layers of overlapping tiles.

Fraction Tiles. Match tiles with equations of equal value containing fractions; click on two tiles to create a matched pair. Game may have up to three layers of overlapping tiles as challenge increases.

Order Of Operation Tiles. Match tiles with equations of equal value requiring knowledge of order of operations; click on two tiles to create a matched pair (equivalent equations of the same value using order of operations).



BONUS 8:

Grand Slam Algebra. Baseball-themed game hones mathematical skills using all four operations with Algebra.

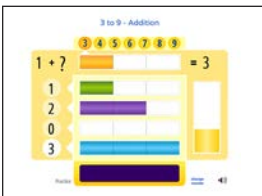
Master RPS Chess. Plays like chess; each icon moves in specific patterns, players capture icons on the board until only one remains.

Into The Vortex. Begins with seven panels that contain values or algebraic expressions. Click three panels that contain EQUIVALENT (equal) values (example: 0.5, 3/6 and 1/2). Round 4, click three equivalent algebraic expressions (ex: x ; $x/3 + 2x/3$; $3.1x - 2.1x$).

Quantum Zeroes. Game begins with nine numbers. Using any of the operations shown, make a zero using three numbers; continue making zeros from with remaining numbers.

K2 World

K2 World games are designed for young learners and require little to no reading. Only students in the EARLY Focus Group have access to K2 World and Pre-K content.



NUMBERS:

3 to 9 Add. Build equations to make the sum equal to a target number that varies from 3 to 9.

3 to 9 Subtract. Build equations to find the difference by subtracting numbers ranging from 3 to 9.

K2 More Or Less. Place five ovals (containing dots or numbers) on a number line in order.

K2 Skip Game. Practice skip counting by adding or subtracting.

K2 How Many. Each game tile shows a number of objects at the top. The answers, shown in white ovals, are scrambled. Unscramble the answers so that they match.

K2 Misfits Numbers. Find the number sequence in each bar and spot the misfits (numbers that do not belong to the sequence). Drag misfits to where they belong so each bar has a correct sequence.

Five at a Time. Number line game; numbers are presented in a sequence five at a time.

K2 Just The Facts A/S/M/D. Pre- and Post-test in four quadrants of 25 facts each. Facts 1 to 9.

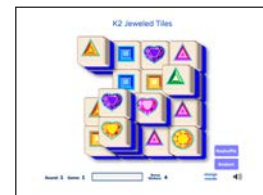
K2 GYM - Whole Numbers. Facts 1 to 10. Solidify basic skills with Add/Subtract.

K2 Four At A Time. A number line with a range of four numbers is shown; squares with numbers appear and remain until placed.

K2 Five At A Time. Game begins with a number line with a range of five numbers. A square with a number will appear and must be placed within a specific time determined by the game.

K2 Undo 2-10. A number to decompose will appear in the center circle. The game starts with 2 as the number to undo, and will sequentially move to 10. Choose the two numbers – from 1 to 9 on each side—that when added will result in the number you want.

K2 Before And After. Game begins with a number in the center circle. There is a space on the left for the number that comes Before and a space on the right for a number that comes After. Choose which number comes just Before and which comes just After from the five numbers given.



SHAPES & LOGIC:

K2 Link 'N Lock Jewels. Link triad shapes together, matching shapes that have the same attributes.

K2 Jennie's Jewels. Build Wheel sets that have one of four common attributes.

K2 Pundi's Puzzle. Select shape/color icons to fill a 3 x 3 grid, where rows or columns do not contain icons of same shape and color.

See 3. Group three icons that share shape/color attributes.

K2 Triplets. Select correct icons (shape & color), from a row of multiple choices to build specific patterns.

K2 RPS Chess. Plays like chess; each icon moves in specific patterns, players capture icons on the board until only one remains.

K2 Misfits. Find the shape(s) in each bar that do not belong to the sequence. Drag "misfits" to where they belong so each bar has a correct sequence.

K2 Jeweled Tiles. Match pairs of tiles that contain identical jewels.

K2 Gems to Zero. Using nine gems, decide how to make groups using three gems that have common attributes.

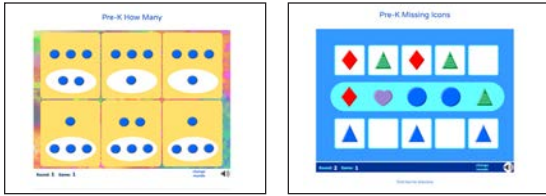
Know & Show

KS1 and KS2. Games provide a unique way for K-1-2 students to solve word problems at the K-2 level. (See page 2)

continued on page 6

Pre-K World

Pre-K World games are designed for young learners and require no reading. Only students in the EARLY Focus Group have access to Pre-K World content.



Pre-K How Many. Game has six tiles showing a number of objects at the top. The answers, with the matching number of objects shown in the white ovals, are scrambled. Unscramble and match correctly to the number of objects at the top of each tile.

Pre-K Before & After. Game begins with a group of dots in the center circle. There is a space on the left for the quantity that comes Before, and a space on the right for the quantity that comes After. Choose Before or After from the five quantities shown.

Pre-K More or Less. Number line balls appear that have dots or a number; place three balls on the number line in order.

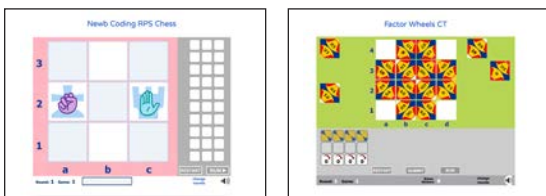
Pre-K Missing Icons. Find patterns. Select icon(s) needed to place into the empty box(es) with missing icons in order to complete a pattern. Using drag-and-drop, move the missing icon(s) as needed.

Pre-K Three at a Time. A number line shows a range of three quantities of objects or numbers. Place three rectangles (objects or numbers) on the line in order. LESS on the left, MORE on the right.

Pre-K Link 'N Lock Mosaic. Integrates art with math. *This is the only First In Math game where there is no right or wrong answer.* The only objective is to link all triads together in a way you find interesting. Change the triads' rotational angle and make different designs.

Computational Thinking (CT) World

COMPUTATIONAL THINKING (CT) is a problem-solving process. Integrating CT into mathematics can help students understand how to express procedures as a series of logical steps that deliver an expected result and a correct solution. CT World games strengthen pattern recognition and the ability to think logically multiple steps ahead, deal with complexity, persist in working with difficult problems, tolerate ambiguity and deal with open-ended scenarios.



Newb Coding RPS Chess. Combines "Rock-Paper-Scissors" with CHESS and Coding. Capture icons until only one remains. Solve by figuring out all moves ahead of time, then 'write' code to direct the computer by clicking x/y coordinates.

Elite Coding RPS Chess. A tougher version of our popular "Rock-

Paper-Scissors" + CHESS + Coding mashup!

Epic Coding RPS Chess. The most complex version of our popular "Rock-Paper-Scissors" + CHESS + Coding series!

Newb Misfits. Uncover a pattern in each bar and detect the misfits (icons that do not belong to the pattern), then move the misfits into their proper place using code.

Epic Misfits. The most complex version of the Misfits series with more icons. Uncover icons that do not belong to the pattern, move to their proper place using code.

Zero Sum Newb. Select numbers, place them at designated entry points using code, such that the resulting answers will sum to zero.

Factor Wheels CT. Build five FACTOR WHEELS. Wheels are made by placing four 'cards' together to create a circle of numbers that share a common factor – this version requires students to use "click 'n code" buttons to place the cards.

Coding Pundi's Puzzle. Place icons into the cells of a grid such that in any row, column or the two major diagonals do not have icons that are the same shape or same color. Students must figure out all the moves ahead of time, then move icons to the proper order in the code panel by clicking their x/y coordinates.

Misfits Whole Numbers. Uncover a sequence in each bar and detect the misfits (numbers that do not belong to the sequence). Using code, move the misfits to their proper place.

Fractions Misfits. Patterns with fractions; uncover a sequence in each bar and detect the misfits (numbers out of place) and move them to the proper place by clicking their x/y coordinates.

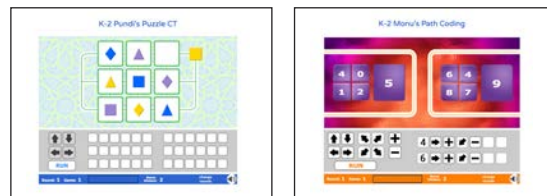
Misfits Decimals. Bars contain decimals. Find the sequence in each bar, detect the 'misfit' numbers that are out of place and move them to the proper place by clicking their x/y coordinates.

Zero Sum. Students select numbers, place them at designated entry points using code, such that the resulting answers will sum to zero.

Elite Misfits. A tougher version of the Misfits game.

Computational Thinking (CT) for K2

Problem-solving processes for young learners. Fun and creative games introduce coding concepts, strengthen pattern recognition and the ability to think multiple steps ahead. Students learn to handle complexity by breaking up big problems into smaller steps.



K-2 Pundi's Puzzle CT. Place icons, using simple coding with arrows, into a 3 x 3 grid so that any row or column does NOT have icons of same shape or same color (don't worry about diagonals).

K-2 RPS Chess CT. Capture icons on the board until only one remains; click icons & arrows in coding panel to direct your moves.

K-2 Monu's Path CT. Game begins with directional paths & operations prewritten except for the last directional arrow & operation. Figure out the last directional arrow & operation needed to produce

a final result that will match the number in the larger answer panel, and works for BOTH puzzles.

K-2 Coding Missing Icons CT. Select icons needed to place into empty boxes with missing icons in order to complete a pattern. Click icons & arrows in coding panel to direct moves.

K-2 Misfits Numbers CT. Students uncover a sequence in each bar and detect the misfits (numbers that are out of place) then move the misfits by clicking numbers and arrow keys in the Code panel.

K-2 What Belongs CT. Build a single wheel that has one of four attributes – students write simple code to place the game pieces by clicking them.

Measurement World

Real-world math skills focus on money, time, length, distance, area, volume and weight in everyday applications. Available in US & Metric, plus a Mixed category to help students become comfortable with both.



TIME:

Equal Time. Students must select the three panels that show equal time—analogue, digital or written.

Passing Time. Select three panels that reflect equal time—analogue, digital, written or elapsed.

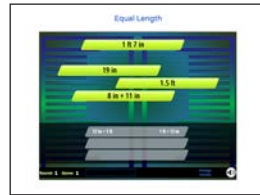


MONEY:

Equal Pay. Select two panels that reflect equivalent amounts; count out that amount in coins/bills.

Making Change. See the cost of an item and the amount paid, count out correct change in bills/coins.

Money Tiles. Match tiles with equal monetary value, shown as coins or written as numbers or text. Click two tiles to create a matched pair. Game may have up to three layers of overlapping tiles as challenge increases.

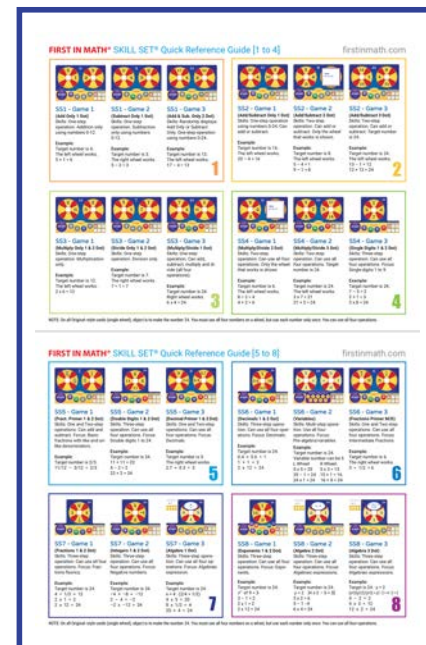


LENGTH/DISTANCE - AREA/VOLUME - WEIGHTS:

Equal Length. Select bars of equal length, then decide if the remaining bars are longer or shorter. US/metric and mixed bars included.

Equal Weight. Select representations of equal weights, then decide if the remaining weigh more or less. US/metric and mixed weights are included.

Area/Perimeter 2D. Draw the specified shape after finding the length and width or radius, using the provided area, perimeter and circumference. Higher levels present ever-increasing challenge, especially when it comes to the rectangle and right triangle shapes, where students need to calculate the hypotenuse.



24® Game SKILL SETS®

See pages 8-9 for examples & correlations



SS1 - Game 1

(Add Only 1 Dot)

Skills: One-step operation. Addition only using numbers 0-12.

Example:

Target number is 6.
The left wheel works.
 $5 + 1 = 6$



SS1 - Game 2

(Subtract Only 1 Dot)

Skills: One-step operation. Subtraction only using numbers 0-12.

Example:

Target number is 3.
The right wheel works.
 $5 - 2 = 3$



SS1 - Game 3

(Add & Sub. Only 2 Dot)

Skills: Randomly displays Add Only or Subtract Only. One-step operation using numbers 0-24.

Example:

Target number is 13.
The left wheel works.
 $17 - 4 = 13$

1



SS2 - Game 1

(Add/Subtract Only 1 Dot)

Skills: One-step operation using numbers 0-24. Can add or subtract.

Example:

Target number is 16.
The left wheel works.
 $20 - 4 = 16$



SS2 - Game 2

(Add/Subtract 2 Dot)

Skills: Two-step operation. Can add or subtract. Only the wheel that works is shown.

Example:

Target number is 8.
The left wheel works.
 $5 - 4 = 1$
 $9 - 1 = 8$



SS2 - Game 3

(Add/Subtract 3 Dot)

Skills: Two-step operation. Can add or subtract. Target number is 24.

Example:

Target number is 24.
The left wheel works.
 $13 - 1 = 12$
 $12 + 12 = 24$

2



SS3 - Game 1

(Multiply Only 1 & 2 Dot)

Skills: One-step operation. Multiplication only.

Example:

Target number is 12.
The left wheel works.
 $2 \times 6 = 12$



SS3 - Game 2

(Divide Only 1 & 2 Dot)

Skills: One-step operation. Division only.

Example:

Target number is 7.
The right wheel works.
 $7 \div 1 = 7$



SS3 - Game 3

(Multiply/Divide 1 Dot)

Skills: One-step operation. Can add, subtract, multiply and divide (all four operations).

Example:

Target number is 24.
Right wheel works.
 $6 \times 4 = 24$

3



SS4 - Game 1

(Multiply/Divide 2 Dot)

Skills: Two-step operation. Can use all four operations. Only the wheel that works is shown

Example:

Target number is 6.
The left wheel works.
 $8 \div 2 = 4$
 $4 + 2 = 6$



SS4 - Game 2

(Multiply/Divide 3 Dot)

Skills: Two-step operation. Can use all four operations. Target number is 24.

Example:

Target number is 24.
The left wheel works.
 $3 \times 7 = 21$
 $21 + 3 = 24$



SS4 - Game 3

(Single Digits 1 & 2 Dot)

Skills: Three-step operation. Can use all four operations. Focus: Single digits 1 to 9.

Example:

Target number is 24.
 $7 - 5 = 2$
 $2 + 1 = 3$
 $3 \times 8 = 24$

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SS5 - Game 1

(Fract. Primer 1 & 2 Dot)
 Skills: One and Two-step operations. Can add and subtract. Focus: Basic fractions with like and unlike denominators.

Example:
 Target number is 2/3.
 $11/12 - 3/12 = 2/3$



SS5 - Game 2

(Double Digits 1 & 2 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Double digits 1 to 24.

Example:
 Target number is 24.
 $11 + 11 = 22$
 $4 - 2 = 2$
 $22 + 2 = 24$



SS5 - Game 3

(Decimal Primer 1 & 2 Dot)
 Skills: One and Two-step operations. Can use all four operations. Focus: Decimals.

Example:
 Target number is 3.
 The right wheel works.
 $2.7 + 0.3 = 3$

5



SS6 - Game 1

(Decimals 1 & 2 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Decimals.

Example:
 Target number is 24.
 $0.4 + 0.6 = 1$
 $1 + 1 = 2$
 $2 \times 12 = 24$



SS6 - Game 2

(Variables)
 Skills: Multi-step operation. Use all four operations. Focus: Pre-algebra/variables.

Example:
 Target number is 24.
 Variable number can be 5
 L Wheel: R Wheel:
 $5 \times 5 = 25$ $5 \times 3 = 15$
 $25 - 1 = 24$ $15 + 1 = 16$
 $24 \times 1 = 24$ $16 + 8 = 24$



SS6 - Game 3

(Fractions Primer M/D)
 Skills: One and Two-step operations. Can use all four operations. Focus: Intermediate Fractions.

Example:
 Target number is 6.
 The right wheel works.
 $3 \div 1/2 = 6$

6



SS7 - Game 1

(Fractions 1 & 2 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Fractions fluency.

Example:
 Target number is 24.
 $4 \div 1/3 = 12$
 $2 \times 1 = 2$
 $2 \times 12 = 24$



SS7 - Game 2

(Integers 1 & 2 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Negative numbers.

Example:
 Target number is 24.
 $-4 + -8 = -12$
 $2 - 4 = -2$
 $-2 \times -12 = 24$



SS7 - Game 3

(Algebra 1 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Algebraic expression.

Example:
 Target number is 24.
 $x = 4$ $(2/4 = 1/2)$
 $4 \times 5 = 20$
 $8 \times 1/2 = 4$
 $20 + 4 = 24$

7



SS8 - Game 1

(Exponents 1 & 2 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Exponents.

Example:
 Target number is 24.
 $\sqrt{\text{of } 9} = 3$
 $3 - 1 = 2$
 $2 \times 1 = 2$
 $2 \times 12 = 24$



SS8 - Game 2

(Algebra 2 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Algebraic expressions.

Example:
 Target number is 24.
 $y = 2$ $[4 \times 2 - 5 = 3]$
 $3 \times 2 = 6$
 $5 - 1 = 4$
 $6 \times 4 = 24$



SS8 - Game 3

(Algebra 3 Dot)
 Skills: Three-step operation. Can use all four operations. Focus: Algebraic expressions.

Example:
 Target is 24, $y = 2$
 $(y+3)(y-2)/(y+3) = y-2 = 4-2 = 2$
 $4 - 2 = 2$
 $4 \times 3 = 12$
 $12 \times 2 = 24$

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