



SCOPE & SEQUENCE

WITH STANDARD ALIGNMENT

- GRADES K-5 -
MINNESOTA



ST Math
Created by MIND Research Institute

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JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Numbers and Objects to 5

Standards Coverage:

Recommended: K.1.1.1, K.1.1.2, K.1.1.3

Game Name	Game Description
Dot Count	Count the number of objects that appear in a set by clicking on each object once. Students learn to count to five.
Match Count	Match a given set of shaded circles with a set of empty circles. This game teaches counting and one-to-one correspondence.
How Many Legs	Provide the correct number of shoes for each set of creatures.
Dot Count Symbolic	Count the number of objects that appear in a set by clicking on each object once.
Ten Frame Count	Relate numerical symbols (1-5) to their representations with ten frames.

Subitizing

Standards Coverage:

Related: K.1.1.3

Game Name	Game Description
Subitizing Finger Patterns	Match the number of fingers being held up. Teaches visual representations of numbers up to 5.
Subitizing Fingers and Dice	Choose the die face corresponding to the number of fingers. Teaches visual representations of numbers up to 5.
Subitizing with Dice	Choose the die face corresponding to the number of birds. Teaches visual representations of numbers up to 6.
Double Sided Subitizing	Choose the two die faces that represent the number of birds that appeared on each side of the screen. Teaches visual representations of numbers up to 6.

Numbers and Objects to 10

Standards Coverage:

Recommended: K.1.1.1, K.1.1.2, K.1.1.3, K.3.1.1

Game Name	Game Description
Dot Count	Count the number of objects that appear in a set by clicking on each object once. Students learn to count to ten.
Alien Capture	Count up to 10 spaceships.
Match Count	Match a given set of shaded circles with a set of empty circles. This game teaches counting and one-to-one correspondence.
How Many Legs	Provide the correct number of shoes for each set of creatures.
Counting On to 10 Dots	Use visual models to learn the meaning of the numbers 1-10 and to put them in order. Count to 10 using numerals and visual representations.
Number Sticks	Learn the number symbols (1-9) and the quantities they represent.
Number Objects	Represent a numerical symbol (1-9) as a set of objects and provide the number that describes the cardinality of a given set of objects. This game helps students remember the meaning of the numerals.
Dot Count Symbolic	Count the number of objects that appear in a set by clicking on each object once and provide the number that matches the cardinality of the given sets. Students learn to count to ten.

Exploring Shapes

Standards Coverage:

Recommended: K.3.1.1

Related: K.3.1.2

Game Name	Game Description
Roll Off	Identify the shapes that will roll away. Shapes that are not round get stuck and block JiJi's path.
Block Stack	Identify which objects can be stacked. Shapes that are not rectangular will roll away or cause the stack to topple.
Wedge	Identify the objects that can be used to move the barrier. Shapes that are not triangles will block JiJi's path since they cannot wedge themselves under the barrier.
Match Shape	Match shapes to their outlines to clear JiJi's path. This game introduces basic geometric shapes and the ideas of direction and position.
Prisms and Cylinders	Identify the shape of the base or side of a prism or cylinder.

Greater Than, Less Than, Equal To

Standards Coverage:

Recommended: K.3.2.2

Related: K.1.1.1, K.1.1.3, K.1.1.4, K.1.1.5

Game Name	Game Description
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Order Sort	Order and compare two quantities between 0 and 10.
Parachute	Put JiJi in the correct starting place to parachute down to the ground using inclines and ladders.
More Less Parachute	Select a set of stacked objects that will be greater than, less than, or equal to a given set of stacked objects.
More Less Parachute Unstacked	Select a set of stacked objects that will be greater than, less than, or equal to a given set of unstacked objects.

Understanding Addition and Subtraction within 5

Standards Coverage:

Recommended: K.1.1.4

Game Name	Game Description
Push Box Addition	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Bird Expressions Addition	Add the number of new birds that arrive to find the total number of birds.
Select Box Addition Symbolic	Add using visual models and numerals.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Bird Expressions Subtraction	Identify how many birds are left on the wire after some of them fly away. This game relates numbers to quantities and teaches subtraction.
Select Box Subtraction Symbolic	Subtract using visual models and numerals.

Analyzing Shapes

Standards Coverage:

Recommended: K.3.1.1

Related: K.3.1.2

Game Name	Game Description
How Many Corners	Identify the number of vertices on two-dimensional shapes.
Find the Pair	Given a set of two-dimensional shapes, identify the two that have the same number of vertices.
How Many Sides or Corners	Identify the number of sides or vertices on two-dimensional shapes.
Single Slide Transform	See how various attributes of shapes are changed when different transformations are applied.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.

Understanding Addition and Subtraction within 10

Standards Coverage:

Recommended: K.1.1.4

Game Name	Game Description
Push Box Addition	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Bird Expressions Addition	Add the number of new birds that arrive to find the total number of birds.
Select Box Addition Symbolic	Add using visual models and numerals.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Bird Expressions Subtraction	Identify how many birds are left on the wire after some of them fly away. This game relates numbers to quantities and teaches subtraction.
Select Box Subtraction Symbolic	Subtract using visual models and numerals.

Making 10 and Number Pairs

Standards Coverage:

Recommended: K.1.2.1

Game Name	Game Description
Bouncing Shoes	Use the model to explore the concept of additively constructing a given number within 10.
Bouncing Shoes to 10	Use the model to make several additive pairs for a given number within 10.
Ten Frame	Make ten using ten frames.
Bouncing Shoes with Numbers	Using the symbols, additively decompose numbers within 10.
Partners	Decompose 10 as sums.

Numbers and Objects to 20

Standards Coverage:

Recommended: K.1.1.1, K.1.1.3

Game Name	Game Description
How Many Legs	Provide the correct number of shoes for each set of creatures.
Ten Frame to 20	Relate numerical symbols (up to 20) to their representations with ten frames. This game teaches correspondence between numbers and sets of objects and also provides an introduction to ones and tens place value concepts.
Dot Count Symbolic	Identify the numeral that represents the set of dots.
Alien Capture Symbolic	Count up to 20 spaceships.
Ten Frame to 20 Symbolic	Relate numerical symbols (up to 20) to their representations with ten frames. This game teaches correspondence between numbers and sets of objects and also provides an introduction to ones and tens place value concepts.
Alien Capture Counting On Symbolic	Count up to 20 spaceships.

Exploring Patterns

Standards Coverage:

Recommended: K.2.1.1

Related: K.3.1.1, K.3.1.2

Game Name	Game Description
Pattern Monkey Intro	Create repeating patterns of two-dimensional shapes.
Pattern Monkey	Identify repeating patterns of a sequence of two, three or four geometric shapes.
Pattern Walkway with Shapes	Fit the shapes together to identify and extend a pattern. This will build a bridge for JiJi to walk across.

Counting on the Number Line

Standards Coverage:

Recommended: K.1.1.2, K.1.1.3

Game Name	Game Description
Bird Expressions	Provide the instance of a whole number within 20 on the number line using the model.
Number Line Journey	Move left and right on the number line to locate the given number.
Number Line Zoom	Plot a whole number within 20 on the number line by first indicating if the number is less than or greater than 10.
Number Line Trap	Estimate the location of a whole number within 20 on the number line with various hash marks and labeled numbers.
What's the Number	Write numerals within 20 on the number line.

Comparing Numbers

Standards Coverage:

Recommended: K.1.1.5, K.3.2.2

Related: K.1.1.1, K.1.1.3

Game Name	Game Description
More Less Parachute Symbolic	Select a set of stacked objects that will be greater than, less than, or equal to a given number that is then represented as a set of stacked objects. This game displays the meaning of ordering numbers and provides a visual understanding of the greater than, less than, and equal to symbols.
More Less Parachute Multiple Choice	Select a number that will be greater than, less than, or equal to a given number. This game displays the meaning of ordering numbers by representing the numbers as sets of objects and provides a visual understanding of the greater than, less than, and equal to symbols.
Least Most with Number Line	Identify the smallest or largest number in a set using number line concepts.
Order Sort Symbolic	Compare and order two whole numbers written symbolically between 1 and 10.
Least Most	Identify the smallest or largest number in a set using number line concepts.

Numbers to 30

Standards Coverage:

Recommended: K.1.1.1, K.1.1.2, K.1.1.3

Game Name	Game Description
How Many Legs	Provide the correct number of shoes for each set of creatures.
Ten Frame Facts	Relate numerical symbols (up to 30) to their representations with ten frames. This game teaches correspondence between numbers and sets of objects and also provides an introduction to ones and tens place value concepts.
Ten Frame Facts II	Identify the number (up to 30) that matches the ten frame or represent the given number on a ten frame.
Counting On to 30 Symbolic	Practice counting forward to 30.
Number Line Trap	Represent one-digit and two-digit whole numbers on a number line.

Sorting and Classifying

Standards Coverage:

Recommended: K.1.1.1, K.1.1.3, K.3.1.1, K.3.1.2

Related: K.3.2.1

Game Name	Game Description
Paper JiJi	To put JiJi together, locate the square on the grid determined by the given horizontal and vertical positions.
Shapes and Patterns Paper JiJi	To put JiJi together, locate the square on the grid determined corresponding to the given shape and pattern.
Attribute Grid Two Attributes	Identify two attributes (size, shape, or color) of the given shape by placing the shape in the appropriate box in the grid.

Position

Standards Coverage:

Recommended: K.3.2.1

Game Name	Game Description
Match Position	Remove the ball that is blocking JiJi's path. This game teaches orientation and relative position in two dimensions.
Match Shape	Match shapes to their outlines to clear JiJi's path. This game introduces basic geometric shapes and the ideas of direction and position.
Match Direction Top View	Identify which way JiJi needs to turn to remove the ball. This game teaches orientation and relative position in two dimensions.
Upright JiJi	Create a series of rotations needed to change JiJi's current orientation to a new orientation. This game strengthens the ability to visually manipulate objects.

Measurable Attributes

Standards Coverage:

Recommended: K.3.2.2

Game Name	Game Description
Swap Sort	Order a set of rectangles from smallest to largest or largest to smallest by swapping their positions.
Two Item Slinky	Order pairs of objects by their weights. Students can use a balance to compare pairs they are unsure of.
Three Item Slinky	Compare and order three objects by their weights using a balance.
Indirect Measurement	Compare the lengths of two objects by placing them vertically in ascending or descending order.

Advanced Patterns

Standards Coverage:

Recommended: K.2.1.1, K.3.1.1

Game Name	Game Description
Pattern Monkey Intro	Create repeating patterns of two-dimensional shapes.
Pattern Monkey	Identify repeating patterns of a sequence of two, three or four geometric shapes.
Pattern Walkway with Shapes	Fit the shapes together to identify and extend a pattern. This will build a bridge for JiJi to walk across.
Pattern Directions	Extend repeating patterns in various directions. Here the objects all have the same shape; the patterns are based on color, orientation, and rotation.
Pattern Directions Comparing and Filling	Extend the patterns in various directions by filling in the boxes. The patterns are based on the color and orientation of the objects.
Pattern Walkway with Letters	Build a bridge for JiJi by fitting the shapes together to make a pattern. Now the shapes are labeled with letters.

Math Challenge K

Game Name	Game Description
Number Line Trap	Estimate the location of a whole number within 20 on the number line with various hash marks and labelled numbers.
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Tug Boat with Pictures	Rearrange the numbers so that the sums on each side are the same. This game teaches addition, subtraction, and the concept of equal amounts.
Push Box	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Pie Monster Addition	Use the model to solve addition problems. Includes missing addend.
Pie Monster Subtraction	Use the model to solve subtraction problems. Includes missing subtrahend or minuend.
Treasure Hunt with Boxes	Help JiJi navigate around the map to find the correct destination. This game helps develop spatial reasoning by working with position and direction concepts.
Attribute Grid	Identify attributes of an object including size, color, and shape. Choose the location on a two-dimensional grid that corresponds to a pair of attributes describing an object.
Estimate Length	Estimate length of an object given the distance of platform from end of pathway. Iterate a unit ruler to help estimation accuracy.
Addition with Unknowns	Solve addition problems with unknowns in varying positions and on either side of the equal sign.

Challenge K

Game Name	Game Description
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Bird Brain	Find birds in a grid after a sequence of transformations.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Pattern Monkey	Identify and extend patterns of different geometric shapes.
Pattern Monkey 2	Create repeating patterns of varying length with different geometric shapes. Identify repeating patterns of varying length in a sequence of geometric shapes.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Position Symbolic

Game Name	Game Description
Match Position Side View Symbolic Intro	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "behind", "in front", "above" and "below".
Match Direction Top View Symbolic	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "forward", "backward", "to the right", and "to the left".
Upright JiJi	Create a series of rotations needed to change JiJi's current orientation to a new orientation. This game strengthens the ability to visually manipulate objects.
Treasure Hunt with Squares	Help JiJi navigate around the map to find the correct destination. This game helps develop spatial reasoning by working with position and direction concepts.
Match Position Side View Symbolic	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "behind", "in front", "above" and "below".
Match Direction Top View with Turns Symbolic	Remove the ball that is blocking JiJi's path by identifying its position relative to JiJi using the terms "forward", "backward", "to the right", and "to the left". JiJi's path to the door is not necessarily direct.

Composing Shapes

Game Name	Game Description
Bricks	Arrange the shapes to create the composite shape shown.
Composite Shapes	Create a composite shape by arranging the shape parts.
Composite Shapes 3D	Create a composite 3-dimensional shape by arranging the shape parts.

OPTIONAL OBJECTIVES

Technology Interaction

Game Name	Game Description
Defog JiJi	This game teaches students how to use a mouse, while clearing the fog away from JiJi.

STANDARDS INDEX

1 - Number and Operation

Standard	Objective(s)
K.1.1.1	<p>Recognize that a number can be used to represent how many objects are in a set or to represent the position of an object in a sequence.</p> <p>Recommended: Numbers and Objects to 5; Numbers and Objects to 10; Numbers and Objects to 20; Numbers to 30; Sorting and Classifying</p> <p><i>Related: Greater Than, Less Than, Equal To; Comparing Numbers</i></p>
K.1.1.2	<p>Read, write, and represent whole numbers from 0 to at least 31. Representations may include numerals, pictures, real objects and picture graphs, spoken words, and manipulatives such as connecting cubes.</p> <p>Recommended: Numbers and Objects to 5; Numbers and Objects to 10; Counting on the Number Line; Numbers to 30</p>
K.1.1.3	<p>Count, with and without objects, forward and backward to at least 20.</p> <p>Recommended: Numbers and Objects to 5; Numbers and Objects to 10; Numbers and Objects to 20; Counting on the Number Line; Numbers to 30; Sorting and Classifying</p> <p><i>Related: Subitizing; Greater Than, Less Than, Equal To; Comparing Numbers</i></p>
K.1.1.4	<p>Find a number that is 1 more or 1 less than a given number.</p> <p>Recommended: Understanding Addition and Subtraction within 5; Understanding Addition and Subtraction within 10</p> <p><i>Related: Greater Than, Less Than, Equal To</i></p>

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1 - Number and Operation (continued)

Standard	Objective(s)
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K.1.1.5	Compare and order whole numbers, with and without objects, from 0 to 20.
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Recommended: Comparing Numbers

Related: Greater Than, Less Than, Equal To

K.1.2.1	Compose and decompose numbers up to 10 with objects and pictures.
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Recommended: Making 10 and Number Pairs

2 - Algebra

Standard	Objective(s)
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K.2.1.1	Identify, create, complete, and extend simple patterns using shape, color, size, number, sounds and movements. Patterns may be repeating, growing, or shrinking.
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Recommended: Exploring Patterns; Advanced Patterns

3 - Geometry and Measurement

Standard	Objective(s)
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K.3.1.1	Recognize basic two- and three-dimensional shapes such as squares, circles, triangles, rectangles, trapezoids, hexagons, cubes, cones, cylinders and spheres.
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Recommended: Numbers and Objects to 10; Exploring Shapes; Analyzing Shapes; Sorting and Classifying; Advanced Patterns

Related: Exploring Patterns

K.3.1.2	Sort objects using characteristics such as shape, size, color and thickness.
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Recommended: Sorting and Classifying

Related: Exploring Shapes; Analyzing Shapes; Exploring Patterns

K.3.2.1	Use words to compare objects according to length, size, weight and position.
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Recommended: Position

Related: Sorting and Classifying

K.3.2.2	Order two or three objects using measurable attributes, such as length and weight.
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Recommended: Greater Than, Less Than, Equal To; Comparing Numbers; Measurable Attributes

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Addition and Subtraction Within 10

Standards Coverage:

Recommended: 1.1.2.1, 1.1.2.3

Game Name	Game Description
Push Box Addition	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Select Box Addition Symbolic	Add using visual models and numerals.
Ten Frame Addition	Practice addition facts using ten frames.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Pie Monster	Use the model to solve subtraction problems.
Push Box Estimation	Estimate the height of blocks being added or subtracted.
Basic Facts Subtraction Symbolic	Practice addition and subtraction facts using visual models.
Pie Monster Symbolic	Use the model to solve subtraction problems.

Measurement Concepts

Standards Coverage:

Recommended: 1.1.2.1, 1.3.2.1

Game Name	Game Description
Order Sort	Order a set of rectangles from smallest to largest or largest to smallest by clicking on each rectangle in order from smallest to largest or largest to smallest.
Indirect Measurement	Compare the lengths of two or three objects by placing them vertically in ascending or descending order.
Estimate Length	Estimate length of an object given the distance of platform from end of pathway. Iterate a unit ruler to help estimation accuracy.
Measure Length	Measure length of one or two objects by iterating a unit ruler and select length of gap on number line.

Addition, Subtraction and Equations

Standards Coverage:

Recommended: 1.1.2.1, 1.1.2.3, 1.2.2.1, 1.2.2.4

Game Name	Game Description
Bird Expressions	Model two-step addition and subtraction of single digit numbers.
Build Expression	Model addition or subtraction of whole numbers within 20 and find the sum or difference.
Meaning of Equal Sign	Determine if equations are true or false and represent symbolically by choosing the "equal" or "does not equal" sign.

Number Pairs and Making 10

Standards Coverage:

Recommended: 1.1.2.1, 1.1.2.2, 1.1.2.3

Game Name	Game Description
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Bouncing Shoes	Use the model to make several additive pairs for a given number within 10.
Bouncing Shoes with Numbers	Using symbols, additively decompose numbers within 10.
Building Blocks	Fill in the missing addend to make a sum of 10.
Partners	Decompose 10 as sums.

Introduction to Place Value

Standards Coverage:

Recommended: 1.1.1.1, 1.1.1.2

Game Name	Game Description
Alien Capture Mothership	Count up to 20 spaceships and represent the number in place value notation using tens and ones.
Alien Capture with Numbers	Represent whole numbers up to 20 using visual models based on place value.
Alien Capture with Numerals	The small spaceships contain one alien each and the larger ones contain 10. Represent the total number (up to 20) in place value notation using tens and ones.
Ten Frame Counting	Decompose a number less than 20 into two parts. Record the decomposition using a visual equation.
Ten Frame Counting Symbolic	Decompose a number less than 20 into two parts. Record the decomposition using a numeric equation.

Counting by Tens

Standards Coverage:

Recommended: 1.1.1.1, 1.1.1.2, 1.1.1.3, 1.1.2.1, 1.1.2.3

Game Name	Game Description
Hundreds Pit	Skip count from a given number less than 90 by various amounts.
Counting by Ones on the Hundreds Chart	Use a hundreds chart to count on by ones.
Counting by Tens on the Hundreds Chart	Use a hundreds chart to count on by tens.
Counting by Tens on the Number Line	Add multiple tens to a given number where the sum is less than 100.
Ten Frame Counting	Decompose a number less than 20 into two parts. Record the decomposition using a visual equation.
Ten Frame Counting Symbolic	Decompose a number less than 20 into two parts. Record the decomposition using a numeric equation.

Counting with Groups

Standards Coverage:

Recommended: 1.1.1.1, 1.1.1.2

Game Name	Game Description
Alien Capture	Separately, count up to 20 alien ships or 10 motherships.
Motherships and Aliens	Count up to 10 motherships and then alien ships together in an organized arrangement.
Motherships Groups	Determine the number of motherships needed and how many alien ships are still left when counting a group of alien ships and record the result on ten frames.
Motherships and Aliens Bubble Select	Count up to 10 motherships and then alien ships together in an organized arrangement. Record the answer numerically.
Motherships Groups Bubble Select	Determine the number of motherships needed and how many alien ships are still left when counting a group of alien ships and record the result numerically.

Counting to 120

Standards Coverage:

Recommended: 1.1.1.1, 1.1.1.2, 1.1.1.3, 1.1.2.3

Game Name	Game Description
Number Line Journey	Locate a given number within 120 on a number line.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Number Line Trap	Estimate the location of whole numbers (1-120) on the number line. The student is also introduced to place value concepts with ones and tens.
Counting On and Back	Count on or back from a given sequence of numbers up to 120.

Addition and Subtraction with Unknowns

Standards Coverage:

Recommended: 1.1.2.1, 1.1.2.3

Game Name	Game Description
Pie Monster Addition	Use the model to solve addition problems. Includes missing addend.
Pie Monster Subtraction	Use the model to solve subtraction problems. Includes missing subtrahend or minuend.
Push Box	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Addition with Unknowns	Solve addition problems with unknowns in varying positions and on either side of the equal sign.
Subtraction with Unknowns	Solve subtraction problems with unknowns in varying positions and on either side of the equal sign.
Equations with Unknowns	Model and solve mixed operation problems with unknowns in varying positions and on either side of the equal sign.
Push Box Symbolic	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Missing Addend	Select the other addend to make a given sum.

Place Value Concepts

Standards Coverage:

Recommended: 1.1.1.1, 1.1.1.2

Game Name	Game Description
Multiple Choice Petals	Represent ones, tens and hundreds using words, numerals and visual models.
Pulling Petals	Gain an understanding of place value by transforming the pile of petals into tens (flowers with 10 petals each) ones (single petals).
Bee Petals	Represent numbers using a place value based flower petal model. In some levels, students determine the order of magnitude, given a number and a pile of petals (e.g. given the number 7, identify the size of the pile as 7 ones, 7 tens, or 7 hundreds).
Petals Place Value	Given a one- or two-digit whole number, identify the number of tens and the number of ones.
Petals Bubble Select	Find the total number of petals by counting the flowers (tens) and single petals (ones) and then filling in the tens and ones places with the correct numerals.
How Many Petals	Write the numeral for how many petals are in a given pile.

Money

Standards Coverage:

Recommended: 1.1.1.2, 1.1.1.5, 1.3.2.3

Game Name	Game Description
Identify Coin	Learn the value of each coin.
Money Place Value	Express a whole number using currency and place value concepts.
Money Swapper	Order coins and combinations of coins by their values.
Toll Bridge	Choose or count out the coin or combination of coins whose value is equal to the given amount.

Adding and Subtracting by Tens

Standards Coverage:

Recommended: 1.1.1.4, 1.1.2.1

Related: 1.1.1.2

Game Name	Game Description
Petals Place Value	Given a one- or two-digit whole number, identify the number of tens and the number of ones.
Add or Subtract by 1 or 10	Add and subtract 1 and 10 from two-digit whole numbers using mental arithmetic.
Add or Subtract Single Place Numbers	Add and subtract 1 and 10 from two-digit whole numbers using mental arithmetic.
Table Directions	Add and subtract one-digit and two-digit whole numbers using a number table.
Addition and Subtraction on the Number Line	Add two-digit whole numbers and mark the sum on a number line. Most of the sums and differences involve numbers that are multiples of 5 or 10.

Composite Shapes

Standards Coverage:

Recommended: 1.3.1.2

Game Name	Game Description
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Bricks	Arrange the shapes to create the composite shape shown.
Composite Shapes 2D	Create a composite shape by arranging the shape parts.
Composite Shapes 3D	Create a composite 3D shape by arranging the given 3D shapes.

Comparing Two-Digit Numbers

Standards Coverage:

Recommended: 1.1.1.5, 1.1.1.6

Game Name	Game Description
Order Sort	Order sets of stacked objects from smallest to largest or largest to smallest.
Order Sort Same Digits	From smallest to largest, order two-digit numbers that share the same digit in either place value.
Order Sort Two Digit Numbers	From smallest to largest, order two-digit numbers.
Numberline Trap	Use estimation and an understanding of place value to plot whole numbers (up to two digits) on a number line.
Least or Most	Identify the smallest or largest number in a set using number line concepts.
Comparison Signs	Order sets of objects and whole numbers using the symbols for less than, greater than, and equal to.
Number Comparison	Order whole numbers using both methods based on place value and the symbols for less than, greater than, and equal to.

Skip Counting

Standards Coverage:

Recommended: 1.1.1.3, 1.1.2.1, 1.1.2.3, 1.2.1.1, 1.3.2.3

Game Name	Game Description
Hundreds Pit	Count by 2s, 5s, or 10s to fill the pit so JiJi can cross. Identify patterns in the counting sequence.
Counting On	Skip count by two using both dots and numerals.
Counting by Ones on the Hundreds Chart	Use a hundreds chart to count by ones.
Counting by Tens on the Hundreds Chart	Use a hundreds chart to count by tens.
Counting by Tens on the Number Line	Add multiple tens to a given number where the sum is less than 100.
Skip Counting Amounts	Skip count using nickels, dimes, or quarters.
Two Digit Amounts	Skip count by two-digit numbers using coins.
Buy Items	Choose the monetary amount needed to purchase a given item.

Organizing Data

Standards Coverage:

Recommended: 1.1.1.5, 1.1.1.7, 1.3.1.1

Game Name	Game Description
Paper JiJi	To put JiJi together, locate the square on the grid determined by the given horizontal and vertical positions.
Attribute Grid	Identify attributes of an object including size, color, and shape. Choose the location on a two-dimensional grid that corresponds to a pair of attributes describing an object.
Shapes and Attributes Paper JiJi	Graph the given data by locating the type of shape on the vertical axis and the number of shapes on the horizontal axis.
Tally Marks	Use tally marks to record and represent the numbers and objects from one to ten.
Bar Graph Bridge	Construct bar graphs for a data set given as single observations or in a table.

Telling Time

Standards Coverage:

Recommended: 1.3.2.1, 1.3.2.2

Game Name	Game Description
Hours and Minutes	Choose the correct hand corresponding to hours, minutes, and seconds on an analog clock. The game prepares students to tell and record time on an analog clock.
Telling Time	Students place the hands on a clock in the correct position to represent time to the hour and half-hour on an analog clock.
Time on a Line	Read an analog clock to the hour and half-hour and select the correct time on a number line. This game helps to build a foundation for the idea of elapsed time presented in later grades.
Hours and Minutes, Digital	Choose the correct location on a digital clock that displays the hours, minutes, and seconds. The game prepares students to tell and write time on a digital clock.
Telling Time, Digital	Students read an analog clock to the hour and half-hour and record the time on a digital clock.

Shape Differences

Standards Coverage:

Recommended: 1.3.1.1

Game Name	Game Description
Pick Geometric Shapes 2D	Identify the number of edges and vertices on two-dimensional shapes.
Shape Names	Identify the given polygon.
Pick Geometric Shapes 2D Symbolic	Learn the names and number of edges of different polygons.
Prisms and Cylinders	Pick the shape that is the base of a given prism.
Pick Geometric Shapes 3D2D with Vertices	Identify the number of edges and vertices on two-dimensional shapes.

Math Challenge 1

Game Name	Game Description
Pie Monster	Use the model to solve two-step addition problems. Includes missing addend.
Push Box Missing Quantity	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Measurement Estimation	Estimate or measure lengths of objects needed to create a platform distance.
Tug Boat with Pictures	Rearrange the numbers so that the sums on each side are the same. This game teaches addition, subtraction, and the concept of equal amounts.
Mice Island	Fill in the missing number to make the equation true. This game teaches addition and subtraction of one- and two-digit whole numbers.
Balance Pies	Match the area of one side of a balance using parts of a whole.
Venn Space	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Bricks	Arrange the shapes to create the composite shape shown.
Alien Bridge	Combine the shaded parts of two equivalent wholes together.
Bouncing Shoes	Determine how many instances of a given animal are needed to fill the boots.

Challenge 1

Game Name	Game Description
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Bird Brain	Find birds in a grid after a sequence of transformations.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.

Two-Digit Number Words

Game Name	Game Description
Place Value Builder	Identify the digit values of given whole numbers using models based on place value. This game covers expanded notation and place value concepts up to the tens place while enforcing the skills of reading and writing whole numbers.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the tens place while enforcing the skills of reading and writing whole numbers.
Numbers to Words	Convert two-digit whole numbers from symbols to words.
Words to Numbers	Convert two-digit whole numbers from words to symbols.

OPTIONAL OBJECTIVES

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

1 - Number and Operation

Standard	Objective(s)
1.1.1.1	Use place value to describe whole numbers between 10 and 100 in terms of tens and ones. Recommended: Introduction to Place Value; Counting by Tens; Counting with Groups; Counting to 120; Place Value Concepts
1.1.1.2	Read, write and represent whole numbers up to 120. Representations may include numerals, addition and subtraction, pictures, tally marks, number lines and manipulatives, such as bundles of sticks and base 10 blocks. Recommended: Introduction to Place Value; Counting by Tens; Counting with Groups; Counting to 120; Place Value Concepts; Money <i>Related: Adding and Subtracting by Tens</i>
1.1.1.3	Count, with and without objects, forward and backward from any given number up to 120. Recommended: Counting by Tens; Counting to 120; Skip Counting
1.1.1.4	Find a number that is 10 more or 10 less than a given number. Recommended: Adding and Subtracting by Tens
1.1.1.5	Compare and order whole numbers up to 120. Recommended: Money; Comparing Two-Digit Numbers; Organizing Data

continued on next page

1 - Number and Operation (continued)

Standard**Objective(s)**

- 1.1.1.6** Use words to describe the relative size of numbers. For example: Use the words equal to, not equal to, more than, less than, fewer than, is about, and is nearly to describe numbers.

Recommended: Comparing Two-Digit Numbers

- 1.1.1.7** Use counting and comparison skills to create and analyze bar graphs and tally charts.

Recommended: Organizing Data

- 1.1.2.1** Use words, pictures, objects, length-based models (connecting cubes), numerals and number lines to model and solve addition and subtraction problems in part-part-total, adding to, taking away from and comparing situations.

Recommended: Addition and Subtraction Within 10; Measurement Concepts; Addition, Subtraction and Equations; Number Pairs and Making 10; Counting by Tens; Addition and Subtraction with Unknowns; Adding and Subtracting by Tens; Skip Counting

- 1.1.2.2** Compose and decompose numbers up to 12 with an emphasis on making ten.

Recommended: Number Pairs and Making 10

- 1.1.2.3** Recognize the relationship between counting and addition and subtraction. Skip count by 2s, 5s, and 10s.

Recommended: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Number Pairs and Making 10; Counting by Tens; Counting to 120; Addition and Subtraction with Unknowns; Skip Counting

2 - Algebra

Standard	Objective(s)
1.2.1.1	Create simple patterns using objects, pictures, numbers and rules. Identify possible rules to complete or extend patterns. Patterns may be repeating, growing or shrinking. Calculators can be used to create and explore patterns. Recommended: Skip Counting
1.2.2.1	Represent real-world situations involving addition and subtraction basic facts, using objects and number sentences. Recommended: Addition, Subtraction and Equations
1.2.2.4	Use addition or subtraction basic facts to represent a given problem situation using a number sentence. Recommended: Addition, Subtraction and Equations

3 - Geometry and Measurement

Standard	Objective(s)
1.3.1.1	Describe characteristics of two- and three-dimensional objects, such as triangles, squares, rectangles, circles, rectangular prisms, cylinders, cones and spheres. Recommended: Organizing Data; Shape Differences
1.3.1.2	Compose (combine) and decompose (take apart) two- and three-dimensional figures such as triangles, squares, rectangles, circles, rectangular prisms and cylinders. Recommended: Composite Shapes
1.3.2.1	Measure the length of an object in terms of multiple copies of another object. Recommended: Measurement Concepts; Telling Time
1.3.2.2	Tell time to the hour and half-hour. Recommended: Telling Time
1.3.2.3	Identify pennies, nickels and dimes; find the value of a group of these coins, up to one dollar. Recommended: Money; Skip Counting

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Addition and Subtraction Situations

Standards Coverage:

Recommended: 2.1.2.1, 2.1.2.2, 2.1.2.5, 2.2.2.2

Related: 2.1.1.5

Game Name	Game Description
Push Box	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Pie Monster	Use the model to solve addition problems. Includes missing addend.
Ten Frame Addition	Learn numerals and addition facts using ten frames.
Push Box Subtraction	Determine how many boxes are needed to create a bridge. Watch out for holes in the ground which remove boxes. This game teaches subtraction via the removal of boxes by holes in the ground.
Pie Monster Subtraction	Use the model to solve subtraction problems. Includes missing subtrahend or minuend.
How Many More	Describe the difference between two whole numbers using the words less, greater, and equal.

The Number Line

Standards Coverage:

Recommended: 2.1.1.1

Game Name	Game Description
Number Line Trap	Select locations of numbers within 20 on a number line and estimate the location of numbers up to 100 on a number line.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Number Line to 100	Estimate the location of a two-digit whole number on the number line.
Number Line to 100 Bubble Select	Write numerals within 100 on the number line.

Addition and Subtraction Situations within 100

Standards Coverage:

Recommended: 2.1.2.1, 2.1.2.2, 2.1.2.5, 2.2.2.2

Related: 2.2.2.1

Game Name	Game Description
Mice Island Two-Digit Addition	Fill in the missing number to make the equation true. This game teaches addition and subtraction of one- and two-digit whole numbers.
Critter Two-Digit Addition	Add one-digit and two-digit whole numbers using visual models.
Mice Island Two-Digit Subtraction	Fill in the missing number to make the equation true. This game teaches addition and subtraction of one- and two-digit whole numbers.
Missing Addend	Select the other addend to make a given sum.

Place Value to 1,000

Standards Coverage:

Recommended: 2.1.1.1, 2.1.1.2

Game Name	Game Description
Petals Multiple Choice	Represent ones, tens, hundreds and thousands using words, numerals and visual models.
Pulling Petals	Gain an understanding of place value by transforming the pile of petals into hundreds (bouquets with 100 petals each), tens (flowers with 10 petals each), and ones (single petals).
Bee Petals	Represent numbers using the visual model. In some levels, students determine the order of magnitude, given a number and a pile of petals (e.g. given the number 4, identify the size of the pile as 4 ones, 4 tens, or 4 hundreds).
Petals Bubble Select	Given a three-digit whole number, identify the number of hundreds, tens, and ones.
How Many Petals	Write a numeral to represent the pile of petals.
Petals Place Value	Find the total number of petals by counting the bouquets (hundreds), flowers (tens) and single petals (ones) and then filling in the hundreds, tens and ones places with the correct numerals.

Comparing Three-Digit Numbers

Standards Coverage:

Recommended: 2.1.1.1, 2.1.1.2, 2.1.1.5

Game Name	Game Description
Number Line Trap	Use estimation and an understanding of place value to plot whole numbers (up to three digits) on a number line.
Least Most	Identify the least or greatest element in a set of whole numbers (up to three digits).
Comparison Signs	Order sets of objects and whole numbers using the symbols for less than, greater than, and equal to.
Number Comparison	Order whole numbers (up to three digits) using the symbols for less than, greater than, and equal to.

Measurement

Standards Coverage:

Recommended: 2.1.1.4, 2.3.2.2

Related: 2.3.2.1

Game Name	Game Description
Measure It with Objects	Measure the length of a gap using various nonstandard units. This game also introduces the concept of relative sizes of units.
Measurement Estimation	Estimate or measure lengths of objects needed to create a platform distance.
Measurement Concepts	Use rulers and measuring tapes to measure objects and create corresponding lengths on a number line.

Addition and Subtraction with Measurement

Standards Coverage:

Recommended: 2.1.2.5, 2.3.2.2

Game Name	Game Description
Measurement Addition	Measure and add the lengths of two objects to create an equal distance on a number line.
Measurement Addition With Comparisons	Add lengths of objects to create an equal distance between platforms or to close a gap between platforms.

Operations on the Number Line

Standards Coverage:

Recommended: 2.1.2.3, 2.1.2.5

Related: 2.1.2.2

Game Name	Game Description
Adding with Jumps	On the number line, add multiple ones to a given whole number within 20.
Creating Jumps	On the number line, add multiple ones to a given whole number within 20.
Adding on the Number Line	Add two whole numbers on the number line where the sum is within 20.

Counting to 1,000

Standards Coverage:

Recommended: 2.1.1.1, 2.2.1.1

Game Name	Game Description
Number Line Journey	Move left and right and zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Number Line Trap	Estimate the location of whole numbers (1-100) on the number line. The student is also introduced to place value concepts with ones and tens.

Two Step Situations

Standards Coverage:

Recommended: 2.1.2.1, 2.1.2.2, 2.1.2.5, 2.2.2.1, 2.2.2.2

Game Name	Game Description
Pie Monster	Use the model to solve two-step addition problems. Includes missing addend.
Push Box Missing Quantity	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Pie Monster Symbolic	Solve two-step addition problems symbolically, but with support from the arena. Includes missing addend.
Push Box Missing Quantity Symbolic	Identify the total number of boxes. This game teaches addition by combining stacks of boxes.
Two Step Length Problems	Find missing lengths of objects or of parts of objects. Create and add lengths that equal the distance between platforms.

Adding and Subtracting Tens and Hundreds

Standards Coverage:

Recommended: 2.1.1.3, 2.1.1.4, 2.1.2.2, 2.1.2.3, 2.1.2.4, 2.1.2.5

Related: 2.1.1.1

Game Name	Game Description
Add or Subtract by 1, 10 or 100	To a three-digit whole number, add or subtract 1, 10, or 100 using the model.
Add or Subtract Single Place Numbers	Add or subtract a multiple of 1, 10, or 100 to a given number without regrouping.
Table Directions	Add and subtract one-digit and two-digit whole numbers using a number table.
Addition and Subtraction on the Number Line	Estimate differences of whole numbers (up to four digits) on a number line.

Using Place Value to Add and Subtract (G2)

Standards Coverage:

Recommended: 2.1.2.4, 2.1.2.5

Game Name	Game Description
Petals Addition and Subtraction	Add or subtract 2- and 3- digit numbers using a quantity model of the standard algorithm. Numbers are presented as quantities of petals.
Petals Addition and Subtraction Method	Add or subtract 2- and 3- digit numbers using the quantity model alongside the usual numerical representation of the standard algorithm.

Shapes

Standards Coverage:

Recommended: 2.3.1.2

Related: 2.3.1.1

Game Name	Game Description
Pick Geometric 2D Attributes	Learn the names and number of sides of different polygons.
Prisms and Cylinders	Pick the shape that is the base of a given prism.
Pick Geometric 3D and 2D Attributes	Identify the number of sides and vertices on two-dimensional shapes.
Match Shape Symbolic	Match shapes to their outlines to clear JiJi's path. This game introduces basic geometric shapes and the ideas of direction and position.
Shape Types Symbolic	Identify the given polygon.
Pick Geometric Shapes 2D Symbolic	Learn the names and number of edges of different polygons.

Place Value Bundles - Ten and Hundred

Standards Coverage:

Recommended: 2.1.1.1, 2.1.1.2

Related: 2.1.2.5

Game Name	Game Description
Greenies Bubble Select	Produce the number that is represented by a given place value based representation. This game covers expanded notation and place value concepts up to the thousands place while enforcing the skills of reading and writing whole numbers.
Greenies Regrouping	Regroup the ones or tens or both in order to represent the total number in standard expanded form.
Intro to Building	Fill in the missing addend to make a sum of 10, or to make a sum of 100 using addends that are multiples of 10 (e.g. $30 + 70$).
Petals Regrouping	Given a model of bouquets (hundreds), flowers (tens), and ones (individual petals), regroup in order to represent the total number of petals as a numeral in standard place value notation.
Petals Random Regrouping Ones	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Petals Random Regrouping Tens	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Building Blocks	Fill in the missing addend to make a sum of 10 or 100.

Time

Standards Coverage:

Recommended: 2.3.3.1

Game Name	Game Description
Hours and Minutes	Choose the correct hand corresponding to hours, minutes, and seconds on an analog clock. The game prepares students to tell and write time on an analog clock.
Telling Time	Students place the hands on a clock in the correct position to represent time to the quarter-hour on an analog clock.
Time on a Line	Read an analog clock to the quarter hour and select the correct time on a number line. This game helps to build a foundation for the idea of elapsed time presented in later grades.
Hours and Minutes Digital	Choose the correct location on a digital clock that displays the hours, minutes, and seconds. The game prepares students to tell and write time on a digital clock.
Telling Time Digital	Students read an analog clock to the quarter hour and record the time on a digital clock.

Addition and Subtraction Facts within 20

Standards Coverage:

Recommended: 2.1.1.1, 2.1.2.2, 2.1.2.5

Game Name	Game Description
Ten Frame Addition Facts	Practice addition facts using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Basic Facts	Practice addition and subtraction facts using visual models.
Addition and Subtraction on Number Line	Add and subtract whole numbers and locate the sums and differences on a number line.

Creating Graphs

Standards Coverage:

Recommended: 2.1.2.6

Game Name	Game Description
Attribute Grid	Identify attributes of an object including size, color and shape. Choose the location on a two-dimensional grid that corresponds to a pair of attributes describing an object.
Bar Graph Bridge	Construct bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge 2	Construct bar graphs for a data set given as single observations or in a table.

Addition and Subtraction within 100

Standards Coverage:

Recommended: 2.1.1.1, 2.1.1.2, 2.1.2.2, 2.1.2.3, 2.1.2.4, 2.1.2.5

Related: 2.2.2.2

Game Name	Game Description
Candy Factory	Identify the number of tens and ones for a given two-digit whole number.
Candy Factory Addition	Add one-digit and two-digit whole numbers using place value concepts.
Petals Addition and Subtraction	Use the standard algorithm to add and subtract whole numbers, with and without regrouping required.
Addition and Subtraction on the Number Line	Add two-digit whole numbers and mark the sum on a number line. Most of the sums and differences involve numbers that are multiples of 5 or 10.
Addition Algorithm	Add four-digit whole numbers using the standard algorithm.
Candy Factory Subtraction	Subtract one-digit and two-digit whole numbers using place value concepts.

Using Money (G2)

Standards Coverage:

Recommended: 2.1.1.1, 2.1.1.2, 2.3.3.2

Game Name	Game Description
Identify Coin	Choose or count out the coin amount whose value is equal to the given amount.
Buy Items	Choose the monetary amount needed to purchase a given item.
Toll Bridge	Count out multiple coin and bill combinations whose value is equal to the given amount.
Toll Bridge Multiple Choice	Amongst various distractors, choose the correct combination for the given amount.

Math Challenge 2

Game Name	Game Description
Unknowns with Addition	Solve addition problems with unknowns in varying positions and on either side of the equal sign.
Unknowns with Subtraction	Solve subtraction problems with unknowns in varying positions and on either side of the equal sign.
Unknowns with Equations	Model and solve mixed operation problems with unknowns in varying positions and on either side of the equal sign.
Estimate on Number Line	Use the number line to estimate length.
Rolling Equations	Find the missing length needed to reach JiJi.
Shape Types Symbolic with Rectangles and Quadrilaterals	Identify the given polygon.
Alien Bridge	Combine the shaded parts of two equivalent wholes together.
Balance Pies	Represent given fractions as circular diagrams displaying equal parts of a whole.
Fair Sharing	Determine how many boxes each creature gets, when given a description of an equal sharing situation.
How Many Creatures	Each creature has the same number of legs. Given the total number of legs, determine the number of creatures.
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.

Challenge 2

Game Name	Game Description
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape. Teaches the concept of symmetry and the idea of a function or transformation.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Bird Brain	Find birds in a grid after a sequence of transformations.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Represent Numbers to 1000

Game Name	Game Description
Place Value Builder	Identify the digit values of given whole numbers using place value based models. This game covers expanded notation and place value concepts up to the tens place while enforcing the skills of reading and writing whole numbers.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the tens place while enforcing the skills of reading and writing whole numbers.
Place Value Pushers	Identify the digit that is in the ones, tens, or hundreds place of a whole number. The student also learns the numerical and word representations for each place.

OPTIONAL OBJECTIVES

Line Plots

Game Name	Game Description
Soccer Dot Plots	Record measurements on a number line to create a dot plot.
Dot Plot Dimension Intro	Identify which dimension of the given collection of rectangles is represented by the dot plot shown.

Intro to Arrays

Game Name	Game Description
Bricks	Arrange the shapes to create the composite shape shown.
Count Blocks	Learn how to calculate the area and perimeter of a rectangle.
Create Rectangle	Construct a rectangle with a given area and/or perimeter.
Create Multiple Rectangles	Multiply whole numbers using an area model.
Bird Brain	Find birds in a grid after a sequence of transformations.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

1 - Number and Operation

Standard	Objective(s)
2.1.1.1	<p>Read, write and represent whole numbers up to 1000. Representations may include numerals, addition, subtraction, multiplication, words, pictures, tally marks, number lines and manipulatives, such as bundles of sticks and base 10 blocks.</p> <p>Recommended: The Number Line; Place Value to 1,000; Comparing Three-Digit Numbers; Counting to 1,000; Place Value Bundles - Ten and Hundred; Addition and Subtraction Facts within 20; Addition and Subtraction within 100; Using Money (G2)</p> <p><i>Related: Adding and Subtracting Tens and Hundreds</i></p>
2.1.1.2	<p>Use place value to describe whole numbers between 10 and 1000 in terms of hundreds, tens and ones. Know that 100 is 10 tens, and 1000 is 10 hundreds.</p> <p>Recommended: Place Value to 1,000; Comparing Three-Digit Numbers; Place Value Bundles - Ten and Hundred; Addition and Subtraction within 100; Using Money (G2)</p>
2.1.1.3	<p>Find 10 more or 10 less than a given three-digit number. Find 100 more or 100 less than a given three-digit number.</p> <p>Recommended: Adding and Subtracting Tens and Hundreds</p>
2.1.1.4	<p>Round numbers up to the nearest 10 and 100 and round numbers down to the nearest 10 and 100.</p> <p>Recommended: Measurement; Adding and Subtracting Tens and Hundreds</p>

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1 - Number and Operation (continued)

Standard	Objective(s)
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2.1.1.5	Compare and order whole numbers up to 1000.
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Recommended: Comparing Three-Digit Numbers

Related: Addition and Subtraction Situations

2.1.2.1	Use strategies to generate addition and subtraction facts including making tens, fact families, doubles plus or minus one, counting on, counting back, and the commutative and associative properties. Use the relationship between addition and subtraction to generate basic facts.
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Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations

2.1.2.2	Demonstrate fluency with basic addition facts and related subtraction facts.
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Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Adding and Subtracting Tens and Hundreds; Addition and Subtraction Facts within 20; Addition and Subtraction within 100

Related: Operations on the Number Line

2.1.2.3	Estimate sums and differences up to 100. For example: Know that $23 + 48$ is about 70.
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Recommended: Operations on the Number Line; Adding and Subtracting Tens and Hundreds; Addition and Subtraction within 100

continued on next page

1 - Number and Operation (continued)

Standard

Objective(s)

- 2.1.2.4** Use mental strategies and algorithms based on knowledge of place value and equality to add and subtract two-digit numbers. Strategies may include decomposition, expanded notation, and partial sums and differences.

Recommended: Adding and Subtracting Tens and Hundreds; Using Place Value to Add and Subtract (G2); Addition and Subtraction within 100

- 2.1.2.5** Solve real-world and mathematical addition and subtraction problems involving whole numbers with up to 2 digits.

Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Addition and Subtraction with Measurement; Operations on the Number Line; Two Step Situations; Adding and Subtracting Tens and Hundreds; Using Place Value to Add and Subtract (G2); Addition and Subtraction Facts within 20; Addition and Subtraction within 100

Related: Place Value Bundles - Ten and Hundred

- 2.1.2.6** Use addition and subtraction to create and obtain information from tables, bar graphs and tally charts. Recognize, create, describe, and use patterns and rules to solve real world and mathematical problems.

Recommended: Creating Graphs

2 - Algebra

Standard**Objective(s)**

- 2.2.1.1** Identify, create and describe simple number patterns involving repeated addition or subtraction, skip counting and arrays of objects such as counters or tiles. Use patterns to solve problems in various contexts.

Recommended: Counting to 1,000

- 2.2.2.1** Understand how to interpret number sentences involving addition, subtraction and unknowns represented by letters. Use objects and number lines and create real-world situations to represent number sentences.

Recommended: Two Step Situations

Related: Addition and Subtraction Situations within 100

- 2.2.2.2** Use number sentences involving addition, subtraction, and unknowns to represent given problem situations. Use number sense and properties of addition and subtraction to find values for the unknowns that make the number sentences true.

Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations

Related: Addition and Subtraction within 100

3 - Geometry and Measurement

Standard**Objective(s)**

- 2.3.1.1** Describe, compare, and classify two- and three-dimensional figures according to number and shape of faces, and the number of sides, edges and vertices (corners).

Related: Shapes

- 2.3.1.2** Identify and name basic two- and three-dimensional shapes, such as squares, circles, triangles, rectangles, trapezoids, hexagons, cubes, rectangular prisms, cones, cylinders and spheres.

Recommended: Shapes

- 2.3.2.1** Understand the relationship between the size of the unit of measurement and the number of units needed to measure the length of an object.

Related: Measurement

- 2.3.2.2** Demonstrate an understanding of the relationship between length and the numbers on a ruler by using a ruler to measure lengths to the nearest centimeter or inch.

Recommended: Measurement; Addition and Subtraction with Measurement

- 2.3.3.1** Tell time to the quarter-hour and distinguish between a.m. and p.m.

Recommended: Time

- 2.3.3.2** Identify pennies, nickels, dimes and quarters. Find the value of a group of coins and determine combinations of coins that equal a given amount.

Recommended: Using Money (G2)

JOURNEY AND BONUS JOURNEY OBJECTIVES

Intro to ST Math

Game Name	Game Description
Build Parts	Put JiJi's parts into the outline.
JiJi Poses	Identify the view of JiJi indicated by an outline.
Fill Ground	Fill the outline(s) in the ground with the matching shape or the correct number of shapes.
Estimate On Number Line	Estimate on a number line the length of a given block.

Equal Groups

Standards Coverage:

Recommended: 3.1.2.3, 3.1.2.4, 3.1.3.1, 3.2.1.1

Game Name	Game Description
Tug Boat	Rearrange the boats so that the bridge will open. This game teaches addition, subtraction, and the concept of equal amounts.
Bouncing Shoes	Determine how many instances of a given animal are needed to fill the boots.
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.
Staircase	Skip count to move JiJi up the stairs. This game builds a foundation for understanding multiplication as repeated addition.
Complete Box	Represent numerical expressions using an area model.
Bouncing Shoes Multiple Groups	For more than one animal, find the number of instances needed to fill the boots.
Even or Odd	Learn the concept of even and odd numbers using a visual model.
Even or Odd Symbolic	Using the terms “even” and “odd”, state the parity of the various numbers.

Partitioning

Standards Coverage:

Recommended: 3.1.2.3, 3.1.2.4

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Equal Division	Divide blocks into equal parts.
Match Partition	Match the partitioning of two rectangular blocks.
Fraction Bricks	Represent the same length using different partitionings.
Alien Bridge	Combine the shaded parts of two equivalent wholes together.
Balance Pies	Represent given fractions as circular diagrams displaying equal parts of a whole.
Pie Monster	Implicitly add two shaded regions together.

Using Place Value to Add and Subtract

Standards Coverage:

Recommended: 3.1.2.1, 3.1.2.2

Game Name	Game Description
Petals Addition and Subtraction	Add or subtract 2- and 3- digit numbers using a quantity model of the standard algorithm. Numbers are presented as quantities of petals.
Petals Addition and Subtraction Method	Add or subtract 2- and 3- digit numbers using the quantity model alongside the usual numerical representation of the standard algorithm.

Multiplication Concepts

Standards Coverage:

Recommended: 3.1.1.4, 3.1.2.3, 3.1.2.4

Game Name	Game Description
How Many Legs	Find the correct number of shoes for each set of creatures by counting or, in later levels, multiplying.
Number Line Multiplication	Multiply whole numbers using a number line.
Build Expressions	Add and multiply whole numbers using visual models.
Repeated Expressions	Interpret a multiplication expression as repeated addition.

Division Concepts

Standards Coverage:

Recommended: 3.1.2.3, 3.1.2.4, 3.1.3.1

Game Name	Game Description
Set Split	Divide a set of objects into two equal subsets.
Fair Sharing	Determine how many boxes each creature gets, when given a description of an equal sharing situation.
How Many Creatures	Each creature has the same number of legs. Given the total number of legs, determine the number of creatures.
Fair Sharing Symbolic	Determine how many boxes each creature gets and how many remain in an equal sharing game.
Build Expressions	Divide whole numbers by forming equal groups of dots.

Rounding Three-Digit Numbers

Standards Coverage:

Recommended: 3.1.1.4

Related: 3.1.1.1, 3.1.1.5

Game Name	Game Description
Number Funnels Highest Place	Round two-digit numbers to the nearest 10 and three-digit numbers to the nearest 100.
Number Funnels Tens Place	Round two-digit and three-digit numbers to the nearest 10.

Multiplication and Area

Standards Coverage:

Recommended: 3.1.2.3, 3.1.2.4

Game Name	Game Description
Grid Expressions	Multiply whole numbers using an area model.
Area Select	Calculate the area of rectangles using a formula.
Complete Box	Fill the space with unit squares - both standard and nonstandard shapes. Illustrate the additive nature of area.
Complete Box Fill	Given so many unit squares, determine the shape needed to hold those squares.

Properties of Multiplication

Standards Coverage:

Related: 3.1.2.5

Game Name	Game Description
Distributive Fruits	Introduces distribution of multiplication over addition through visual models of groups of fruit.
Distributive Fruit Modeling	Select templates for distribution of multiplication to match visual models of groups. Complete distribution templates to represent visual models of groups and symbolic products.
Distributive Boxes	Apply the distributive property of multiplication to solve problems involving arrays and areas.
Multiplying By 10s	Model products of one digit and a multiple of 10 using visual, word, and symbolic representations.

Fraction Concepts

Standards Coverage:

Recommended: 3.1.3.1

Related: 3.1.3.2

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Balance Pies	Represent given fractions as circular diagrams displaying equal parts of a whole.
Match Fraction	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.
Fraction of Shape	Create the symbolic notation for a fraction of an irregular shape.
Crank Pies	Represent fractions as equal parts of a whole using visual models.
Alien Bridge	Represent fractions as equal parts of a whole using visual models.

Fractions on the Number Line

Standards Coverage:

Recommended: 3.1.3.1, 3.1.3.3

Related: 3.1.3.2

Game Name	Game Description
JiJi Cycle Basket	Estimate the location of a fraction represented with a diagram on the number line.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
JiJi Cycle	Select the fraction corresponding to the marked point on the number line. The fractions are represented visually as equal parts of a circle.
JiJi Cycle Select Wheel Symbolic	Relate a collection of fractions to a single point on the number line.
Estimate Fractions on a Number Line	Estimate the location of fractions on the number line.
Fraction Trap	Estimate on a number line the location of fractions.
Bubble Fraction Trap	Write the fraction shown on the number line.

Fraction Equivalence and Ordering

Standards Coverage:

Recommended: 3.1.3.1, 3.1.3.3

Game Name	Game Description
Fraction Bricks	Represent the same length using different partitionings.
Equivalent Fractions	Generate equivalent fractions using visual fraction models.
Number Line Trap	Estimate the location of the given fraction on a number line.
Fractions on Number Line	Estimate the location of the given fraction on a number line.
More or Less	Compare fractions with either the same numerator or same denominator using visual models.
Fraction Order Fill	Help Jiji cross the pit by ordering fractions from least to greatest.

Multiplication and Division Relationships

Standards Coverage:

Recommended: 3.1.2.2, 3.1.2.3, 3.1.2.4, 3.1.3.1, 3.2.2.2

Game Name	Game Description
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.
Leg Drape Symbolic	Multiply whole numbers using repeated addition.
Multiplication Facts	Practice multiplication facts. This game reinforces place value concepts as well by having students give their answers as tens and ones.
Build Expression	Divide whole numbers by forming equal groups of dots.
Multiplication Division Fact Family	Create related number sentences by selecting the correct numbers and operation. This game teaches multiplication and division facts and the inverse relationship between the two operations.
Number Line Division	Divide whole numbers and locate the quotients on a number line.
Select Box	Practice multiplication and division facts with missing factors, divisors, or dividends. Groups of boxes illustrate each fact.

Area and Perimeter

Standards Coverage:

Recommended: 3.1.2.4, 3.3.2.2

Related: 3.3.2.3

Game Name	Game Description
Perimeter Select	Calculate the perimeter of a variety of shapes including triangles, rectangles, parallelograms, and trapezoids.
Select Area Perimeter	Learn how to calculate the area and perimeter of a rectangle.
Area Perimeter Select Shape	Construct a rectangle with a given area and/or perimeter.

Multiplication Facts and Strategies

Standards Coverage:

Recommended: 3.1.2.3, 3.1.2.4, 3.1.2.5

Game Name	Game Description
How Many Legs Multiplication Symbolic	Multiply whole numbers using repeated addition.
Multiplication Stacks	Identify the number that should be multiplied by the given number to obtain the given product.
Multiplication Facts	Practice multiplication facts. This game reinforces place value concepts as well by having students give their answers as tens and ones.
Multiplication Algorithm	Multiply multi-digit whole numbers by one-digit whole numbers using the standard algorithm.

Division Facts and Strategies

Standards Coverage:

Recommended: 3.1.2.3, 3.1.2.4, 3.1.3.1

Game Name	Game Description
Area Divide	Divide the tiles into equal groups, with and without remainders. The correct answer is demonstrated using an area model.
How Many Creatures Symbolic	Each creature has the same number of legs. Given the total number of legs, determine the number of creatures.
Fair Sharing Expression	Determine how many boxes each creature gets and how many remain in an equal sharing game.
Number Line Division	Divide whole numbers and locate the quotients on a number line.

Number Patterns

Standards Coverage:

Recommended: 3.1.2.2, 3.1.2.3, 3.1.2.4, 3.2.1.1

Related: 3.1.1.3

Game Name	Game Description
Make It Linear	Identify the common difference in an increasing or decreasing arithmetic sequence represented in numerical form and with virtual manipulatives in order to extend a sequence of numbers or identify missing numbers in a sequence.
Hundreds Pit	Count by 2s, 5s, or 10s to fill the pit so JiJi can cross. Identify patterns in the counting sequence.
Multiplication Table Parts	Find locations in the multiplication table that correspond to multiplication facts with a given product. Investigate relationships between nearby rows and columns with puzzles that have multiple products.
Multiplication Pattern Strings	Multiply whole numbers using a place value model.
Pattern Machine	Extend increasing arithmetic sequences of numbers represented on a number line.

Time to the Minute

Standards Coverage:

Related: 3.3.3.2

Game Name	Game Description
Hours and Minutes	Choose the correct hand corresponding to hours, minutes, and seconds on an analog clock. The game prepares students to tell and write time on an analog clock.
Telling Time	Tell time on an analog clock and record the time on a digital clock.
Time on a Line	Read an analog clock to the quarter hour and select the correct time on a number line. This game helps to build a foundation for the idea of elapsed time presented in later grades.
Hours and Minutes Digital	Choose the correct location on a digital clock that displays the hours, minutes, and seconds. The game prepares students to tell and write time on a digital clock.
Telling Time Digital	Students read an analog clock to the quarter hour and record the time on a digital clock.

Intervals of Time

Standards Coverage:

Recommended: 3.3.3.1

Related: 3.3.3.2

Game Name	Game Description
Move Hands	Determine elapsed time between two specified times on analog clocks by relating the movement of the hour and minute hands to lengths of time.
Clock Monster Set Time	Set a clock to display the new time after a given amount of elapsed time from a specified time.
Clock Monster	Find the difference between times represented on separate analog clocks.
Clock Monster Symbolic	Find the difference between times represented on separate analog clocks.
Time Unroll	Determine elapsed time by selecting an appropriately sized gap that will fit the difference between two specified times.
Time Unroll With Clocks	Determine elapsed time by selecting an appropriately sized gap that will fit the difference between two specified times.
Clock Monster Timeline	Find the difference between times represented on separate analog clocks.
Clock Monster Timeline 2	Find the difference between times represented on separate analog clocks.

Place Value Bundles - Ten, Hundred, Thousand

Standards Coverage:

Recommended: 3.1.1.1, 3.1.1.2

Related: 3.1.1.3, 3.1.2.2

Game Name	Game Description
Intro to Building	Fill in the missing addend to make a sum of 100 or 1000.
Intro to Building 2	Fill in the missing addend to make a sum of 100 or 1000.
Petals Regrouping	Given a model of bouquets (hundreds), flowers (tens), and ones (individual petals), regroup in order to represent the total number of petals as a numeral in standard place value notation.
Petals Random Regrouping	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Building Blocks to 100	Fill in the missing addend to make a sum of 100 or 1000.
Petals Random Regrouping Hundreds	Find the total number of petals by counting the bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Building Blocks to 1000	Fill in the missing addend to make a sum of 100 or 1000.

Addition and Subtraction with Regrouping

Standards Coverage:

Recommended: 3.1.2.1, 3.1.2.2

Game Name	Game Description
Intro to Regrouping	Using the petals model, add two three-digit whole numbers with regrouping in the ones or tens place.
Regrouping Dual Mode Addition	Symbolically add two three-digit whole numbers with regrouping in the ones or tens place. Use the petals model as support.
Intro to Borrowing	Using the petals model, subtract two three-digit whole numbers with regrouping in the ones or tens place.
Regrouping Dual Mode Subtraction	Symbolically subtract two three-digit whole numbers with regrouping in the ones or tens place. Use the petals model as support.

Line Plots and Mode

Standards Coverage:

Recommended: 3.4.1.1

Game Name	Game Description
Soccer Dot Plots Fractions	Record whole number and fraction measurements on a number line to create a dot plot.
Dot Plot Dimension Intro	Identify which dimension of the given group of rectangles is represented by the dot plot shown.

Shapes

Standards Coverage:

Recommended: 3.3.1.1

Game Name	Game Description
Shape Types	Identify the given polygon.
Shape Types with Quadrilaterals	Identify the given polygon.
Pick Geometric Shapes 2D	Match the name of a two-dimensional shape with the number of vertices or edges it has.
Pick Geometric Shapes 2D Symbolic	Match the name of a two-dimensional shape with the number of vertices or edges it has.

Parallel Lines and Parallelograms

Standards Coverage:

Recommended: 3.3.1.1

Game Name	Game Description
Perpendicular Lines	Identify parallel, perpendicular, and intersecting lines within a given set of lines.
Bricks	Arrange the shapes to create the composite shape shown.
Parallel Lines	Identify parallel, perpendicular, and intersecting lines within a given set of lines.
Quadrilateral Types with Parallelograms	Identify the given polygon.

Scale and Measurement in Graphing

Standards Coverage:

Recommended: 3.4.1.1

Game Name	Game Description
Bar Graph Bridge	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge 2	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.

Using Money

Standards Coverage:

Recommended: 3.1.2.2, 3.1.3.1

Related: 3.1.1.5, 3.3.3.3

Game Name	Game Description
Fruit Toll Bridge	Choose or count out the combination of fruits whose total cost is equal to the given amount.
Total Cost	Estimate the total cost of the items in the shopping cart with whole number or decimal prices using the number line.
Buy Multiple Items	Determine how many quantities of the given item can be purchased based on the displayed amount of money.
Unit Cost	Given the total cost for a quantity of the same item, determine the cost of the individual item.
Making Change	Make change when the displayed monetary amount is greater than the purchase price.

Measuring Temperature and Volume

Standards Coverage:

Recommended: 3.1.3.1, 3.3.3.4

Related: 3.1.2.2

Game Name	Game Description
Thermometer	Learn to read the temperature on a thermometer.
Temperature Changes	Determine the temperature change by reading and comparing the temperature on two thermometers.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.

Money Place Value

Standards Coverage:

Recommended: 3.1.1.1, 3.1.1.2

Game Name	Game Description
Identify Coin	Choose or count out the coin amount whose value is equal to the given amount.
Buy Items	Choose the monetary amount needed to purchase a given item.
Toll Bridge	Count out multiple coin and bill combinations whose value is equal to the given amount.
Toll Bridge Multiple Choice	Amongst various distractors, choose the correct combination for the given amount.
Money Swapper	Order coins and combinations of coins by their values.
Money Place Value	Express a whole number using currency and place value concepts.
Money Notation	Choose the currency amounts that are in the correct dollar and cent notations.

Math Challenge 3

Game Name	Game Description
Measurement Estimation	Estimate or measure lengths of objects needed to create a platform distance.
Measurement Addition Subtraction	Apply addition and subtraction strategies to solve problems involving length measurements.
Add Sub Comparing Lengths	Measurement arithmetic problems.
Bouncing Shoes	Use repeated addition within the model to determine how many of one animal are needed to fill the given number of shoes.
Bouncing Shoes Symbolic	Use multiplication within the model to determine how many of one animal are needed to fill the given number of shoes.
Pie Monster	Represent the given fraction or whole number with circles divided into equal parts.
Pattern Machine	Generate numerical patterns on the number line by finding consecutive terms.
Which Parentheses	Identify where the parentheses should be placed to make the expression represent the given model.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
Estimate Fractions on the Number Line	Estimate the location fractions on the number line.
JiJi Cycle Select Wheel	Relate a collection of fractions represented with circular diagrams to a single point on the number line.
JiJi Cycle Select Basket	Relate a collection of fractions represented with circular diagrams to a single point on the number line.

Challenge 3

Game Name	Game Description
Treasure Hunt	Help JiJi navigate around the map to find the correct destination. This game helps develop spatial reasoning by working with position and direction concepts.
Attribute Transform	Choose the correct attribute to change (shape, color, or size) to transform the first shape into the second. This game teaches the idea of a function in a visual way.
Bird Brain	Find birds in a grid after a sequence of transformations.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape. Teaches the concept of symmetry and the idea of a function or transformation.
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Cognitive Training

Game Name	Game Description
Sorting Fruit	Working memory tasks - help animals collect hidden fruit sequences moving along a conveyor belt.
Shape Match	Working memory tasks - track moving shapes on a grid to match outlines.

OPTIONAL OBJECTIVES

Shape Attributes

Game Name	Game Description
Prisms and Cylinders	Pick the shape that is the base of a given prism.
Pick Vertices 2D3D Symbolic	Learn the names and number of edges of different polygons.
Bricks	Arrange the shapes to create the composite shape shown.
Pick Edges and Faces 2D3D Symbolic	Learn the names and number of edges of different polygons.

Multiplication and Division Facts

Game Name	Game Description
Leg Drape	Practice multiplication facts with a visual scaffold.
Leg Drape Symbolic	Practice multiplication facts using symbolic language.
Multiplication Facts	Practice Facts with an alternate representation.
Fair Sharing Visual	Practice division via fair sharing.
Fair Sharing Symbolic	Practice symbolic division facts via fair sharing.
Area Divide	Practice division facts using an area representation.
Multiplication Table	Practice multiplication facts in reverse by placing products on the multiplication table.
Multiplication Table Grouped	Practice multiplication facts in reverse by placing groups of products on the multiplication table.
Concentration Numbers	Practice multiplication facts quickly in sequence.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

1 - Number and Operation

Standard	Objective(s)
3.1.1.1	<p>Read, write and represent whole numbers up to 100,000. Representations may include numerals, expressions with operations, words, pictures, number lines, and manipulatives such as bundles of sticks and base 10 blocks.</p> <p>Recommended: Place Value Bundles - Ten, Hundred, Thousand; Money Place Value</p> <p><i>Related: Rounding Three-Digit Numbers</i></p>
3.1.1.2	<p>Use place value to describe whole numbers between 1000 and 100,000 in terms of ten thousands, thousands, hundreds, tens and ones.</p> <p>Recommended: Place Value Bundles - Ten, Hundred, Thousand; Money Place Value</p>
3.1.1.3	<p>Find 10,000 more or 10,000 less than a given five-digit number. Find 1000 more or 1000 less than a given four- or five-digit. Find 100 more or 100 less than a given four- or five-digit number.</p> <p><i>Related: Number Patterns; Place Value Bundles - Ten, Hundred, Thousand</i></p>
3.1.1.4	<p>Round numbers to the nearest 10,000, 1000, 100 and 10. Round up and round down to estimate sums and differences.</p> <p>Recommended: Multiplication Concepts; Rounding Three-Digit Numbers</p>
3.1.1.5	<p>Compare and order whole numbers up to 100,000.</p> <p><i>Related: Rounding Three-Digit Numbers; Using Money</i></p>

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1 - Number and Operation (continued)

Standard

Objective(s)

- 3.1.2.1** Add and subtract multi-digit numbers, using efficient and generalizable procedures based on knowledge of place value, including standard algorithms.

Recommended: Using Place Value to Add and Subtract; Addition and Subtraction with Regrouping

- 3.1.2.2** Use addition and subtraction to solve real-world and mathematical problems involving whole numbers. Use various strategies, including the relationship between addition and subtraction, the use of technology, and the context of the problem to assess the reasonableness of results.

Recommended: Using Place Value to Add and Subtract; Multiplication and Division Relationships; Number Patterns; Addition and Subtraction with Regrouping; Using Money

Related: Place Value Bundles - Ten, Hundred, Thousand; Measuring Temperature and Volume

- 3.1.2.3** Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the relationship between multiplication and division.

Recommended: Equal Groups; Partitioning; Multiplication Concepts; Division Concepts; Multiplication and Area; Multiplication and Division Relationships; Multiplication Facts and Strategies; Division Facts and Strategies; Number Patterns

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1 - Number and Operation (continued)

Standard	Objective(s)
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| 3.1.2.4 | Solve real-world and mathematical problems involving multiplication and division, including both 'how many in each group' and 'how many groups' division problems. |
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Recommended: Equal Groups; Partitioning; Multiplication Concepts; Division Concepts; Multiplication and Area; Multiplication and Division Relationships; Area and Perimeter; Multiplication Facts and Strategies; Division Facts and Strategies; Number Patterns

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| 3.1.2.5 | Use strategies and algorithms based on knowledge of place value, equality and properties of addition and multiplication to multiply a two- or three-digit number by a one-digit number. Strategies may include mental strategies, partial products, the standard algorithm, and the commutative, associative, and distributive properties. |
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Recommended: Multiplication Facts and Strategies

Related: Properties of Multiplication

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| 3.1.3.1 | Read and write fractions with words and symbols. Recognize that fractions can be used to represent parts of a whole, parts of a set, points on a number line, or distances on a number line. |
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Recommended: Equal Groups; Division Concepts; Fraction Concepts; Fractions on the Number Line; Fraction Equivalence and Ordering; Multiplication and Division Relationships; Division Facts and Strategies; Using Money; Measuring Temperature and Volume

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| 3.1.3.2 | Understand that the size of a fractional part is relative to the size of the whole. |
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Related: Fraction Concepts; Fractions on the Number Line

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1 - Number and Operation (continued)

Standard	Objective(s)
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3.1.3.3	Order and compare unit fractions and fractions with like denominators by using models and an understanding of the concept of numerator and denominator.
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Recommended: Fractions on the Number Line; Fraction Equivalence and Ordering

2 - Algebra

Standard	Objective(s)
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3.2.1.1	Create, describe, and apply single-operation input-output rules involving addition, subtraction and multiplication to solve problems in various contexts.
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Recommended: Equal Groups; Number Patterns

3.2.2.2	Use multiplication and division basic facts to represent a given problem situation using a number sentence. Use number sense and multiplication and division basic facts to find values for the unknowns that make the number sentences true.
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Recommended: Multiplication and Division Relationships

3 - Geometry and Measurement

Standard

Objective(s)

- 3.3.1.1** Identify parallel and perpendicular lines in various contexts, and use them to describe and create geometric shapes, such as right triangles, rectangles, parallelograms and trapezoids.

Recommended: Shapes; Parallel Lines and Parallelograms

- 3.3.2.2** Find the perimeter of a polygon by adding the lengths of the sides.

Recommended: Area and Perimeter

- 3.3.2.3** Measure distances around objects.

Related: Area and Perimeter

- 3.3.3.1** Tell time to the minute, using digital and analog clocks. Determine elapsed time to the minute.

Recommended: Intervals of Time

- 3.3.3.2** Know relationships among units of time.

Related: Time to the Minute; Intervals of Time

- 3.3.3.3** Make change up to one dollar in several different ways, including with as few coins as possible.

Related: Using Money

- 3.3.3.4** Use an analog thermometer to determine temperature to the nearest degree in Fahrenheit and Celsius.

Recommended: Measuring Temperature and Volume

4 - Data Analysis

Standard	Objective(s)
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3.4.1.1	Collect, display and interpret data using frequency tables, bar graphs, picture graphs and number line plots having a variety of scales. Use appropriate titles, labels and units.
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Recommended: Line Plots and Mode; Scale and Measurement in Graphing

JOURNEY AND BONUS JOURNEY OBJECTIVES

Patterns in Number and Shape

Standards Coverage:

Recommended: 4.1.1.1, 4.2.1.1

Game Name	Game Description
Pattern Wheel	Identify and extend patterns of different geometric shapes.
Pattern Machine	Generate numerical patterns on the number line by finding consecutive terms.
Robot Patterns	Identify and extend geometric patterns of colored squares on a grid.
Pattern Machine Advanced	Find consecutive and non-consecutive terms for a numerical pattern.

Multiplicative Comparison

Standards Coverage:

Related: 4.1.1.1, 4.2.2.1

Game Name	Game Description
Comparison Bridge Estimation	Use estimation to solve multiplicative or additive comparison problems. Differentiate between multiplicative and additive comparisons.
Comparison Bridge	Solve multiplicative or additive comparison problems.
Comparison Bridge Symbolic	Use language to solve multiplicative or additive comparison problems.

Solve Two-Step Problems

Standards Coverage:

Recommended: 4.3.2.3, 4.3.2.4

Related: 4.2.2.1, 4.2.2.2

Game Name	Game Description
Pie Monster	Determine how many pies to add or subtract to the conveyer belt so two monsters can remove the crates blocking JiJi's path.
How Many Legs	Multiply whole numbers using repeated addition.
How Many Creatures	Multiply whole numbers using repeated addition.
Two Step Problems with Volume	Solve two-step addition, subtraction, multiplication, or division problems involving liquid volumes in beakers with a measurement scale.

Using Place Value

Standards Coverage:

Related: 4.1.1.2

Game Name	Game Description
Number Line Journey	Move left and right on the number line to locate the given number.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the millions place while enforcing the skills of reading and writing whole numbers.
Commas	Correctly place commas on large whole numbers and identify the place values of the points where the commas are placed.
Place Value Clouds	Identify the place value of a given digit of a whole number up to the millions place. The place values are expressed with the words or symbols for the powers of ten.

Mixed Numbers

Standards Coverage:

Recommended: 4.1.2.2, 4.1.2.3

Game Name	Game Description
Match Fraction	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.
Alien Bridge	Use pies divided into fourths to create a fraction diagram to match the given one.
JiJi Cycle Select Wheel	Relate a collection of fractions represented with circular diagrams to a single point on the number line.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
Estimate Fractions on the Number Line	Estimate the location fractions on the number line.
Fraction Trap	Estimate on a number line the location of Fractions

Fraction Equivalence

Standards Coverage:

Recommended: 4.1.2.1, 4.1.2.2

Game Name	Game Description
Equivalent Fractions	Generate equivalent fractions using visual fraction models.
Common Denominator Monster	Partition a fraction to create an equivalent fraction using models.
Common Denominator Monster Advanced	Partition fractions to create common denominators using models.
Fraction More or Less	Compare fractions with the same numerator or the same denominator using models.

Applying Area and Perimeter

Standards Coverage:

Recommended: 4.3.2.3, 4.3.2.4

Game Name	Game Description
Perimeter Select	Calculate the perimeter of a variety of shapes including triangles, squares, trapezoids, parallelograms, rectangles, and rhombuses.
Area Select	Calculate the area of rectangles using a formula.
Area or Perimeter	Calculate the area of rectangles using a formula.
Area Perimeter with Units	Learn the units for measuring area and perimeter and explore pairs of different rectangles with equivalent perimeters or areas.

Comparing Whole Numbers

Standards Coverage:

Recommended: 4.1.2.5

Game Name	Game Description
Large Number Comparison	Order whole numbers up to seven digits using the symbols for less than, greater than, and equal to.
Least Most Symbolic	Identify the least or greatest element in a set of whole numbers (up to six digits) and learn the meaning of the words “least” and “greatest”.
Large Number Comparison Symbolic	Order whole numbers up to seven digits using the phrases “less than”, “greater than”, and “equal to”.
Order Fill	Choose the numbers in order from least to greatest in order to fill the pit so JiJi can cross.

Addition and Subtraction with Fractions

Standards Coverage:

Recommended: 4.1.2.3

Game Name	Game Description
Alien Bridge	Learn the meaning of fraction addition using visual models.
JiJi Cycle Select Basket	Relate a collection of fractions represented with circular diagrams to a single point on the number line.
Scale Fraction Addition and Subtraction	Add and subtract fractions and mixed numbers on the number line. The fractions and mixed numbers are presented using visual models.
Alien Bridge Symbolic	Add fractions with the same denominator. In some levels, students fill in the missing addend when given one addend and the sum.
JiJi Cycle Select Basket Symbolic	Relate a collection of fractions to a single point on the number line.
Crank Pies Addition and Subtraction Symbolic	Add proper and improper fractions with like denominators. This game extends the visual model of fractions to numeric representations.
Scale Fraction Addition and Subtraction Symbolic	Add and subtract fractions and mixed numbers with like and unlike denominators on the number line.
Pie Monster Symbolic	Represent the given fraction or whole number with circles divided into equal parts.

Multi-Step Problems Using 4 Operations (G4)

Standards Coverage:

Related: 4.1.1.5

Game Name	Game Description
Linear Transform	Select the number that will allow JiJi to cross to the other side. This game teaches the concept of equality through problems involving multiple operations.
Leg Drape Boots	Multiply whole numbers using repeated addition.
Leg Drape Creatures	Multiply whole numbers using repeated addition.
Multi-Step Mixed Operations with Volume	Solve multi-step mixed operation problems involving liquid volumes using beakers with a measurement scale.
Which Parentheses	Identify where the parentheses should be placed to make the expression represent the given model.

Lines of Symmetry

Standards Coverage:

Recommended: 4.3.3.2

Game Name	Game Description
Where is the Line of Symmetry	Identify lines of symmetry in a variety of shapes.
Symmetry Grid	Create figures that have bilateral symmetry using a grid to reflect shapes across the symmetry line.
Ice Caves	Shoot lasers through blocks of ice along lines of symmetry. Students identify line-symmetric and asymmetric figures.
Big Seed	Fill all the holes using colored tiles. A group of tiles of the same color can be unfolded along 8 symmetry axes. The color of tiles can also be changed.

Decimal Fractions

Standards Coverage:

Recommended: 4.1.2.6

Game Name	Game Description
Fraction Grid	Identify the fraction, equivalents of numbers using the given model.
Decimal Grid	Identify the decimal equivalents of numbers using the given model.
Fractions and Decimals Grid	Identify the decimal and fraction equivalents of numbers using the given model.
Number Line Trap	Estimate on a number line the location of tenths and hundredths in fraction and decimal form.
Addition on NL	Estimate on a number line the location of fourths and halves in fraction and decimal form.

Exploring Lines and Shapes

Standards Coverage:

Related: 4.2.1.1

Game Name	Game Description
Shape Names	Identify the given polygon.
Shape Types	Name shapes with 3 through 8 sides and identifying subcategories of triangles and quadrilaterals.

Comparing Decimals

Standards Coverage:

Recommended: 4.1.2.2, 4.1.2.4, 4.1.2.5, 4.1.2.6

Related: 4.1.2.7

Game Name	Game Description
What's the Number	Estimate on a number line the location of decimals and whole numbers.
Decimal Order Fill	Help JiJi cross the pit by putting one- and two-place decimals in order from least to greatest.
Decimal Comparison	Order decimals using place value-based methods and the symbols for less than, greater than, and equal to.

Multi-Step Addition and Subtraction Problems

Standards Coverage:

Recommended: 4.1.1.5

Game Name	Game Description
Multi-Step Adding and Subtracting Lengths	Solve multi-step addition and subtraction problems involving lengths of objects with unknowns in a varying positions.
Multi-Step Addition and Subtraction with Volume	Solve multi-step addition and subtraction problems involving liquid volumes using beakers with a measurement scale.

Lines and Angles

Standards Coverage:

Recommended: 4.3.2.1, 4.3.2.2

Game Name	Game Description
Parallel and Perpendicular Lines	Use visual icons to identify parallel and perpendicular lines, then apply those concepts to the terms perpendicular and parallel.
Acute Obtuse and Right Angles	Use visual cues to identify acute, obtuse and right angles, then apply those concepts to the terms acute, obtuse and right.
Identify Lines and Angles	Apply visual cues to identify a variety of lines and angles, then apply those concepts to their vocabulary terms.
Draw Lines and Angles	Draw lines or angles given prompt of vocabulary terms.
Do the Lines Intersect	Identify parallel, perpendicular, and intersecting lines within a given set of lines.
Line Capture	Fit a line to a set of points in the coordinate plane. In later levels, place a point in the plane so that it will be on the line through the given points.
Measuring Angles	Measure angles using a protractor and sketch angles of specified measure.

Multi-Digit Multiplication

Standards Coverage:

Recommended: 4.1.1.1, 4.1.1.3

Related: 4.3.2.3, 4.3.2.4

Game Name	Game Description
Grid Expressions	Multiply whole numbers using an area model.
Area Multiplication	Multiply two-digit whole numbers using visual models.
Area Multiplication 2	Multiply two-digit whole numbers using visual models.

Whole Number Division (G4)

Standards Coverage:

Recommended: 4.1.1.5, 4.1.1.6

Game Name	Game Description
Area Divide	Explore the concept of division using an array model to practice division facts.
Long Division	Divide multi-digit numbers by one-digit divisors using a visual model incorporating place value blocks. This game builds conceptual understanding of the division algorithm.
Long Division with Remainder	Divide multi-digit numbers by one-digit divisors with remainders using a visual model incorporating place value blocks.
Long Division Symbolic	Use the long division algorithm to perform division of multi-digit numbers by one-digit divisors.
Long Division with Remainder Symbolic	Use the long division algorithm to perform division of multi-digit numbers by one-digit divisors with a remainder.

Data and Graphing

Standards Coverage:

Recommended: 4.4.1.1

Game Name	Game Description
Bar Graph Bridge	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge Table	Read a bar graph and answer questions about the data table used to construct the graph.
Double Bar Graph	Explore double bar graphs by constructing graphs from a table of data. Read a double bar graph and fill in missing values in the data table.
Pie Chart Fill Chart	Construct a pie chart from a data set given as observations or in a table.

Math Challenge 4

Game Name	Game Description
Fraction Bricks	Represent the same length using different partitionings.
Fraction Trap	Estimate on a number line the location of fractions.
Pie Monster Fractions	Solve multi-step addition and subtraction problems with fractions and mixed numbers.
Pie Monster Symbolic	Fraction and mixed number problems.
Pie Monster Multi-Step	Multi-step fraction problems.
Bricks	Arrange the shapes to create the composite shape shown.
Shape Types	Identify the given polygon.
Missing Angle with Triangles	Find the magnitude of the missing angle on a triangle or quadrilateral using facts about the sums of their interior angles. This game also introduces the use of a protractor as a tool used to measure an angle.
Ice Caves	Shoot lasers through blocks of ice along lines of symmetry. Students identify line-symmetric and asymmetric figures.
Buy Items	Choose the monetary amount needed to purchase a given item.
Fruit Monster	Determine how many pieces of fruit are needed to feed the monsters. Students explore the relationship between inputs and outputs using ratios within a visual model.
Rate Objects	Find an equivalent rate to the one given.

Challenge 4

Game Name	Game Description
Bird Brain	Find birds in a grid after a sequence of transformations.
Venn Space	Place the object in the correct section of the Venn diagram according to its attributes.
Big Seed	Fill all the holes using colored tiles. A group of tiles of the same color can be unfolded along 8 symmetry axes. The color of tiles can also be changed.
Venn Space Pick Shape	Identify the object that has the attributes corresponding to a particular section of a Venn diagram.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Concentration Nums	Practice multiplication facts.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Cognitive Training

Game Name	Game Description
Sorting Fruit	Working memory tasks - help animals collect hidden fruit sequences moving along a conveyor belt.
Shape Match	Working memory tasks - track moving shapes on a grid to match outlines.

Measurement and Conversions

Game Name	Game Description
Thermometer	Learn to read the temperature on a thermometer.
Temperature Changes	Determine the temperature change by reading and comparing the temperature on two thermometers.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.

OPTIONAL OBJECTIVES

Fractions on the Number Line (G4)

Game Name	Game Description
JiJi Cycle Basket	Estimate the location of a fraction represented with a diagram on the number line.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
JiJi Cycle	Select the fraction corresponding to the marked point on the number line. The fractions are represented visually as equal parts of a circle.
JiJi Cycle Select Wheel Symbolic	Relate a collection of fractions to a single point on the number line.
Estimate Fractions on a Number Line	Estimate the location of fractions on the number line.
Fraction Trap	Estimate on a number line the location of fractions.
Bubble Fraction Trap	Write the fraction shown on the number line.

Rounding Whole Numbers

Game Name	Game Description
Number Funnels	Round whole numbers to the nearest given place value. The game also teaches place value concepts up to the hundred thousands place.

Multiplication and Division Facts

Game Name	Game Description
Leg Drape	Practice multiplication facts with a visual scaffold.
Leg Drape Symbolic	Practice multiplication facts using symbolic language.
Multiplication Facts	Practice Facts with an alternate representation.
Fair Sharing Visual	Practice division via fair sharing.
Fair Sharing Symbolic	Practice symbolic division facts via fair sharing.
Area Divide	Practice division facts using an area representation.
Multiplication Table	Practice multiplication facts in reverse by placing products on the multiplication table.
Multiplication Table Grouped	Practice multiplication facts in reverse by placing groups of products on the multiplication table.
Concentration Numbers	Practice multiplication facts quickly in sequence.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

1 - Number and Operation

Standard	Objective(s)
4.1.1.1	Demonstrate fluency with multiplication and division facts. Recommended: Patterns in Number and Shape; Multi-Digit Multiplication <i>Related: Multiplicative Comparison</i>
4.1.1.2	Use an understanding of place value to multiply a number by 10, 100 and 1000. <i>Related: Using Place Value</i>
4.1.1.3	Multiply multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recommended: Multi-Digit Multiplication
4.1.1.5	Solve multi-step real-world and mathematical problems requiring the use of addition, subtraction and multiplication of multi-digit whole numbers. Use various strategies, including the relationship between operations, the use of technology, and the context of the problem to assess the reasonableness of results. Recommended: Multi-Step Addition and Subtraction Problems; Whole Number Division (G4) <i>Related: Multi-Step Problems Using 4 Operations (G4)</i>

continued on next page

1 - Number and Operation (continued)

Standard**Objective(s)**

- 4.1.1.6** Use strategies and algorithms based on knowledge of place value, equality and properties of operations to divide multi-digit whole numbers by one- or two-digit numbers. Strategies may include mental strategies, partial quotients, the commutative, associative, and distributive properties and repeated subtraction.

Recommended: Whole Number Division (G4)

- 4.1.2.1** Represent equivalent fractions using fraction models such as parts of a set, fraction circles, fraction strips, number lines and other manipulatives. Use the models to determine equivalent fractions.

Recommended: Fraction Equivalence

- 4.1.2.2** Locate fractions on a number line. Use models to order and compare whole numbers and fractions, including mixed numbers and improper fractions.

Recommended: Mixed Numbers; Fraction Equivalence; Comparing Decimals

- 4.1.2.3** Use fraction models to add and subtract fractions with like denominators in real-world and mathematical situations. Develop a rule for addition and subtraction of fractions with like denominators.

Recommended: Mixed Numbers; Addition and Subtraction with Fractions

- 4.1.2.4** Read and write decimals with words and symbols; use place value to describe decimals in terms of thousands, hundreds, tens, ones, tenths, hundredths and thousandths.

Recommended: Comparing Decimals

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1 - Number and Operation (continued)

Standard	Objective(s)
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4.1.2.5	Compare and order decimals and whole numbers using place value, a number line and models such as grids and base 10 blocks.
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Recommended: Comparing Whole Numbers; Comparing Decimals

4.1.2.6	Read and write tenths and hundredths in decimal and fraction notations using words and symbols; know the fraction and decimal equivalents for halves and fourths.
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Recommended: Decimal Fractions; Comparing Decimals

4.1.2.7	Round decimals to the nearest tenth.
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Related: Comparing Decimals

2 - Algebra

Standard	Objective(s)
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|----------------|--|
| 4.2.1.1 | Create and use input-output rules involving addition, subtraction, multiplication and division to solve problems in various contexts. Record the inputs and outputs in a chart or table. |
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Recommended: Patterns in Number and Shape

Related: Exploring Lines and Shapes

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|----------------|---|
| 4.2.2.1 | Understand how to interpret number sentences involving multiplication, division and unknowns. Use real world situations involving multiplication or division to represent number sentences. |
|----------------|---|

Related: Multiplicative Comparison; Solve Two-Step Problems

- | | |
|----------------|---|
| 4.2.2.2 | Use multiplication, division and unknowns to represent a given problem situation using a number sentence. Use number sense, properties of multiplication, and the relationship between multiplication and division to find values for the unknowns that make the number sentences true. |
|----------------|---|

Related: Solve Two-Step Problems

3 - Geometry and Measurement

Standard**Objective(s)**

- 4.3.2.1** Measure angles in geometric figures and real-world objects with a protractor or angle ruler.

Recommended: Lines and Angles

- 4.3.2.2** Compare angles according to size. Classify angles as acute, right and obtuse.

Recommended: Lines and Angles

- 4.3.2.3** Understand that the area of a two-dimensional figure can be found by counting the total number of same size square units that cover a shape without gaps or overlaps. Justify why length and width are multiplied to find the area of a rectangle by breaking the rectangle into one unit by one unit squares and viewing these as grouped into rows and columns.

Recommended: Solve Two-Step Problems; Applying Area and Perimeter

Related: Multi-Digit Multiplication

- 4.3.2.4** Find the areas of geometric figures and real-world objects that can be divided into rectangular shapes. Use square units to label area measurements.

Recommended: Solve Two-Step Problems; Applying Area and Perimeter

Related: Multi-Digit Multiplication

- 4.3.3.2** Apply reflections (flips) to figures by reflecting over vertical or horizontal lines and relate reflections to lines of symmetry.

Recommended: Lines of Symmetry

4 - Data Analysis

Standard	Objective(s)
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4.4.1.1	Use tables, bar graphs, timelines and Venn diagrams to display data sets. The data may include fractions or decimals. Understand that spreadsheet tables and graphs can be used to display data.
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Recommended: Data and Graphing

JOURNEY AND BONUS JOURNEY OBJECTIVES

Decimal Place Value

Standards Coverage:

Recommended: 5.1.2.1, 5.1.2.3, 5.1.2.4

Game Name	Game Description
Decimal Greenies	Identify and interpret the digit values of given decimals using place value-based models. This game covers expanded notation and place value concepts to the hundredths place while enforcing the skills of reading and writing decimals.
Decimal Greenies Bubble Select	Identify and interpret the digit values of given decimals using place value-based models. This game covers expanded notation and place value concepts to the hundredths place while enforcing the skills of reading and writing decimals.
Number Line Journey	Represent up to three-place decimals on a number line. Some levels require students to decide which direction to move in at each step to find the given number.
Decimal Place Value	Identify the digit values of given whole numbers and decimals using place value-based models. This game covers expanded notation and place value concepts while enforcing the skills of reading and writing whole numbers and decimals.
Decimal Place Value Pushers	Identify the place of a given digit within a decimal up to the thousandths place. The places are expressed with the words or symbols for the powers of ten.
Expanded Form	Provide a number when given its representation in expanded notation. This game also covers place value concepts to the thousands place while enforcing the skills of reading and writing whole numbers.

Comparing with Decimals

Standards Coverage:

Recommended: 5.1.2.1, 5.1.2.3

Game Name	Game Description
Decimal Comparison	Order decimals using place value-based methods and the symbols for less than, greater than, and equal to.
Least Most	Identify the least or greatest element in a set of whole numbers (up to four digits).
Decimal Order Fill	Help JiJi cross the pit by putting one-, two-, and three-place decimals in order from least to greatest.

Interpret Expressions

Standards Coverage:

Recommended: 5.2.2.1

Game Name	Game Description
Complete Box	Write an expression to describe the area. Includes adding or deducting from the area and nonstandard shapes.
Multiplying with Parentheses	Learn the meaning of and how to simplify expressions involving variables and parentheses.
Which Parentheses	Identify where the parentheses should be placed to make the expression equal to the given value.

Rounding Decimals

Standards Coverage:

Recommended: 5.1.2.3, 5.1.2.5

Game Name	Game Description
Number Funnels	Round decimals to the nearest whole number. The game also teaches place value concepts up to the hundredths place.
Decimal Number Funnels	Round decimals to the nearest given place value.

Patterns and Relationships

Standards Coverage:

Recommended: 5.2.1.2

Related: 5.2.3.2

Game Name	Game Description
Robot Patterns	Identify and extend geometric patterns of colored squares on a grid.
Pattern Machine	Generate numerical patterns on the number line.
Pattern Machine Rule	Build a rule that describes the relationship between terms in a sequence.
Linear Transform	Select the number that will allow JiJi to cross to the other side. This game teaches the concept of equality through problems involving multiple operations.
Linear Transform Table	Fill in the table with the missing inputs or outputs for a given linear function, or, in other levels, identify the function that corresponds to the given table of inputs and outputs.

Multiple Operations

Standards Coverage:

Related: 5.1.1.4, 5.2.1.2, 5.2.2.1

Game Name	Game Description
Complete Box	Represent numerical expressions using an area model.
Linear Transform	Select the number that will allow JiJi to cross to the other side. This game teaches the concept of equality through problems involving multiple operations.
Linear Transform Unknown Operator	Find the output that results from applying a linear function to a whole number.
Leg Drape Boots	Multiply whole numbers using repeated addition.
Leg Drape Creatures	Multiply whole numbers using repeated addition.
Which Parentheses	Identify where the parentheses should be placed to make the expression represent the given model.
Operation Race	Evaluate numerical expressions using the correct order of operations.

Shapes and Properties

Game Name	Game Description
Shape Names	Identify the given polygon.
Shape Types	Identify different types of triangles (equilateral, acute, etc.) and different types of polygons (rectangle, rhombus, etc).

Common Denominators and Equivalent Fractions

Standards Coverage:

Recommended: 5.1.3.1, 5.1.3.3, 5.1.3.4

Related: 5.1.2.4

Game Name	Game Description
Number Line Equivalence	Identify equivalent fractions using a number line model.
Fraction Grid	Write one- and two-place decimals as fractions with denominators of 2, 4, 10, or 100.
Common Denominator Intro	Partition fractions to create common denominators using models.
Pie Monster	Implicitly add two fractions together.

Adding and Subtracting Fractions with Unlike Denominators

Standards Coverage:

Recommended: 5.1.3.1, 5.1.3.3, 5.1.3.4

Related: 5.1.2.4

Game Name	Game Description
JiJi Cycle Select Basket	Estimate the location of a fraction represented with a diagram on the number line.
Fraction Robot Addition	Add proper and improper fractions with like and unlike denominators using rectangular diagrams displaying equal parts of a whole.
Scale Fraction Visual	Add and subtract fractions and mixed numbers on the number line. The fractions and mixed numbers are presented using visual models.
Alien Bridge	Learn the meaning of fraction addition using visual models.
Add and Subtract Unlike Denominators	Add and subtract fractions with unlike denominators by creating fractions with common denominators using a visual model.
Fraction Grid	Select a number of partitions on a given grid to represent the the sum or difference of two fractions.
Alien Bridge Symbolic	Learn the meaning of fraction addition using visual models.
Add and Subtract Unlike Denominators Symbolic	Add and subtract fractions with unlike denominators symbolically by creating fractions with common denominators.

Multiplication Algorithm

Standards Coverage:

Recommended: 5.1.1.4

Game Name	Game Description
Grid Expressions	Multiply whole numbers using an area model.
Area Multiplication	Multiply two-digit whole numbers using visual models.
Multiplication Algorithm	Multiply multi-digit whole numbers by one-digit whole numbers using the standard algorithm.
Area Multiplication 2	Multiply two-digit whole numbers using visual models.

Division Algorithm Strategies

Standards Coverage:

Recommended: 5.1.1.1, 5.1.1.4

Game Name	Game Description
Area Divide	Explore the concept of division using an array model to practice division facts.
Long Division	Divide multi-digit numbers by one-digit divisors using a visual model incorporating place value blocks. This game builds conceptual understanding of the division algorithm.
Long Division with Remainder	Divide multi-digit numbers by one-digit divisors with remainders using a visual model incorporating place value blocks.
Long Division Symbolic	Use the long division algorithm to perform division of multi-digit numbers by one-digit divisors.
Long Division with Remainder Symbolic	Use the long division algorithm to perform division of multi-digit numbers by one-digit divisors with a remainder.

Volume

Standards Coverage:

Recommended: 5.3.2.3, 5.3.2.4

Game Name	Game Description
Intro to Volume	Calculate the volume of a right rectangular prism and express it using metric or U.S. customary cubic units.
Helicopter Volume	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground.
Helicopter Volume Symbolic	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground.
Volume Fill	Calculate the volume of a right rectangular prism and express it using metric or U.S. customary cubic units.
Area, Perimeter, Volume Select	Calculate the volumes of rectangular and triangular prisms and express them using metric or U.S. customary cubic units.

Addition and Subtraction with Decimals

Standards Coverage:

Recommended: 5.1.1.4, 5.1.2.2, 5.1.3.1, 5.1.3.4

Related: 5.1.1.3

Game Name	Game Description
Place Value Align	Learn to align decimals before adding or subtracting.
Estimate Addition and Subtraction Number Line	Estimate sums and differences of whole numbers and decimals on a number line.
Place Value River	Identify which place to increase or decrease in order to obtain the second decimal from the first.
Arithmetic Algorithm	Add one- and two-place decimals using the standard algorithm.

The Coordinate Plane

Standards Coverage:

Related: 5.2.1.2

Game Name	Game Description
Coordinate Trap	Select the location of a coordinate pair on a coordinate grid.
Ordered Pairs	Name the coordinate pair for a given point located on a coordinate grid.
Line Capture	Fit a line to a set of points in the coordinate plane. In later levels, place a point in the plane so that it will be on the line through the given points.
Line Capture from Table	Represent the table of input and output values with a straight line in the coordinate plane.

Area of Polygons (G5)

Standards Coverage:

Recommended: 5.3.2.1, 5.3.2.2

Game Name	Game Description
Area of Rectangle	Find the area and perimeter of a rectangle using visual models.
Complete Box	Write an expression to describe the area. Includes adding or deducting from the area.
Mean Height	Find the mean height of a collection of stacks of blocks, or the mean of a collection of numbers.
Area Select	Calculate the areas of rectangles, triangles and parallelograms and express them using metric and U.S. customary units.

Variables and Equations

Standards Coverage:

Recommended: 5.1.1.4, 5.2.3.3

Related: 5.2.3.1

Game Name	Game Description
Variable Stacks	Solve the multi-step equation expressed as a model.
Variable Stacks Symbolic	Solve one-step and multi-step equations expressed in symbols.
Missing Addend Symbolic	Fill in the missing addend to make the equation true.
Solve Equation	Solve basic addition, subtraction and multiplication equations with a single variable. Emphasis is placed on understanding the concept of a variable and equality of both sides of an equation.

Line Plot Intro Decimals and Mode

Standards Coverage:

Related: 5.4.1.1

Game Name	Game Description
Soccer Dot Plots Eighths	Record fraction measurements on a number line to create a dot plot.
Mode Magnet Decimals	Identify the minimum, maximum, or mode value of a distribution of whole numbers and/or decimals shown in a dot plot.
Mode Is Most Decimals	Identify the mode of a given collection of decimal numbers.
Mean Height	Find the mean height of a collection of stacks of blocks, or the mean of a collection of numbers.
Mean Dot Plots	Find the mean of the values displayed in a dot plot.

Using Data and Graphs

Standards Coverage:

Recommended: 5.2.1.1

Related: 5.4.1.2

Game Name	Game Description
Bar Graph Bridge	Construct vertical and horizontal bar graphs for a data set given as single observations or in a table.
Bar Graph Bridge Table	Read a bar graph and answer questions about the data table used to construct the graph.
Pie Chart Fill Chart	Construct a pie chart from a data set given as observations or in a table.
Pie Chart Fill Data	Read a pie chart and create the table used to generate the chart.
Double Bar Graph	Explore double bar graphs by constructing graphs from a table of data. Read a double bar graph and fill in missing values in the data table.

Converting Measurements

Standards Coverage:

Related: 5.1.1.4

Game Name	Game Description
Thermometer	Learn to read the temperature on a thermometer.
Temperature Changes	Determine the temperature change by reading and comparing the temperature on two thermometers.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.

Math Challenge 5

Game Name	Game Description
Build a Monster	Identify the ratio of the monster arms to monster mouths.
Wall Factory	Choose values for the variables to make the given expression represent the configuration of blocks in the ground.
Which Parentheses	Identify where the parentheses should be placed to make the expression equal to the given value.
Hungry Monsters	Apply multiplicative reasoning to solve multi-step multiplication and division problems.
Variable Stacks	Solve linear equations using a model in which the two sides of the equation are modeled as stacks that need to have equal height.
Scalar Multiplication	Interpret multiplication as scaling (resizing) through estimation and reasoning about the relative size of factors and products.
Frac Wall	Solve linear equations using a visual model.
Graph Path	Move the point along a straight line in a coordinate plane.

Challenge 5

Game Name	Game Description
Concentration Nums	Practice multiplication facts.
Big Seed	Find a sequence of actions that will unfold the given image into the desired shape. Teaches the concept of symmetry and the idea of a function or transformation.
Bird Brain	Find birds in a grid after a sequence of transformations.
Dot Shapes	Connect dots to form shapes which will fill holes in the ground.
Ice Caves	Identify lines of symmetry in two-dimensional shapes.
Upright JiJi	Find a sequence of rotations to move JiJi into an upright position.
Kick Box	Use lasers and mirrors to move the spheres out of the way so JiJi can pass.

Cognitive Training

Game Name	Game Description
Sorting Fruit	Working memory tasks - help animals collect hidden fruit sequences moving along a conveyor belt.
Shape Match	Working memory tasks - track moving shapes on a grid to match outlines.

OPTIONAL OBJECTIVES

Angles

Game Name	Game Description
Wedge	Identify the objects that can be used to move the barrier. Triangles that are not oriented correctly will block JiJi's path since they cannot wedge themselves under the barrier.
Which Angle	Identify an angle as acute, obtuse, straight, or right when given its numerical or pictorial representation.
Missing Angle with Triangles	Find the magnitude of the missing angle on a triangle or quadrilateral using facts about the sums of their interior angles. This game also introduces the use of a protractor as a tool used to measure an angle.
Lines of Symmetry	Identify lines of symmetry in a variety of shapes.
Shape Types	Identify the given polygon.
Bricks	Arrange the shapes to create the composite shape shown.
Angle Sums	Find the sum of a polygon's interior angles by decomposing the polygon into a set of triangles and using the sum of interior angles fact for triangles.
Missing Angle with Quadrilaterals	Find the magnitude of the missing angle on a triangle or quadrilateral using facts about the sums of their interior angles. This game also introduces the use of a protractor as a tool used to measure an angle.

Fraction and Decimal Concepts

Game Name	Game Description
Match Fraction	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.
Crank Pies	Represent given fractions, improper fractions, and mixed numbers as circular diagrams displaying equal parts of a whole. This game also teaches the idea of equivalent fractions.
Alien Bridge	Use pies divided into fourths to create a fraction diagram to match the given one.
Fraction Grid	Identify the fraction equivalents of numbers using the given model.
Complementary Fractions	Add unit fractions to equal a given decimal which is a multiple of 0.10.
Decimal Grid	Identify the decimal equivalents of numbers using the given model.
Fractions and Decimals Grid	Identify the decimal and fraction equivalents of numbers using the given model.
Fraction Decimal Trap	Estimate on a number line the location of fourths and halves in fraction and decimal form.
Place Value Clouds	Identify the place of a given digit within a decimal up to the hundredths place. The places are expressed with the words or symbols for the powers of ten.

Fractions on the Number Line (G5)

Game Name	Game Description
JiJi Cycle Basket	Estimate the location of a fraction represented with a diagram on the number line.
Scale Fraction	Plot the combined length of a collection of rectangles on the number line.
JiJi Cycle	Select the fraction corresponding to the marked point on the number line. The fractions are represented visually as equal parts of a circle.
JiJi Cycle Select Wheel Symbolic	Relate a collection of fractions to a single point on the number line.
Estimate Fractions on a Number Line	Estimate the location of fractions on the number line.
Fraction Trap	Estimate on a number line the location of fractions.
Bubble Fraction Trap	Write the fraction shown on the number line.

Line Plots and Range

Game Name	Game Description
Soccer Dot Plots Eighths	Record fraction measurements on a number line to create a dot plot.
Dot Plot Dimension	Identify which dimension of the given collection of rectangles is represented by the dot plot shown.
What's the Range	Find the range of a list of whole numbers and bubble select to record the answer.

Multiplication and Division Facts

Game Name	Game Description
Leg Drape	Practice multiplication facts with a visual scaffold.
Leg Drape Symbolic	Practice multiplication facts using symbolic language.
Multiplication Facts	Practice Facts with an alternate representation.
Fair Sharing Visual	Practice division via fair sharing.
Fair Sharing Symbolic	Practice symbolic division facts via fair sharing.
Area Divide	Practice division facts using an area representation.
Multiplication Table	Practice multiplication facts in reverse by placing products on the multiplication table.
Multiplication Table Grouped	Practice multiplication facts in reverse by placing groups of products on the multiplication table.
Concentration Numbers	Practice multiplication facts quickly in sequence.

Addition and Subtraction Facts

Game Name	Game Description
Push Box Addition Facts	Practice addition facts using visual block representations for sums under 10.
Select Box Addition Facts	Practice addition facts using alternate visual block representations for sums under 10.
Basic Subtraction Facts	Practice subtraction facts under 10 using visual block representations.
Select Box Subtraction Facts	Practice subtraction facts under 10 using alternate block representations.
Ten Frame Addition Facts	Practice addition facts to 20 using ten frames.
Ten Frame Subtraction Facts	Practice subtraction facts using ten frames.
Mixed Facts	Practice addition and subtraction facts using visual block representations.
Addition and Subtraction Facts on the Number Line	Practice addition and subtraction facts using a number line representation.
Add Facts Bridge	Practice addition facts using a tricky inverted format.
Concentration Numbers	Practice multiple addition and subtraction facts quickly in sequence.

STANDARDS INDEX

1 - Number and Operation

Standard	Objective(s)
5.1.1.1	<p>Divide multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms. Recognize that quotients can be represented in a variety of ways, including a whole number with a remainder, a fraction or mixed number, or a decimal.</p> <p>Recommended: Division Algorithm Strategies</p>
5.1.1.3	<p>Estimate solutions to arithmetic problems in order to assess the reasonableness of results.</p> <p><i>Related: Addition and Subtraction with Decimals</i></p>
5.1.1.4	<p>Solve real world and mathematical problems requiring addition, subtraction, multiplication and division of multi-digit whole numbers. Use various strategies, including the inverse relationships between operations, the use of technology, and the context of the problem to assess the reasonableness of results.</p> <p>Recommended: Multiplication Algorithm; Division Algorithm Strategies; Addition and Subtraction with Decimals; Variables and Equations</p> <p><i>Related: Multiple Operations; Converting Measurements</i></p>
5.1.2.1	<p>Read and write decimals using place value to describe decimals in terms of groups from millionths to millions.</p> <p>Recommended: Decimal Place Value; Comparing with Decimals</p>

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1 - Number and Operation (continued)

Standard	Objective(s)
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| 5.1.2.2 | Find 0.1 more than a number and 0.1 less than a number. Find 0.01 more than a number and 0.01 less than a number. Find 0.001 more than a number and 0.001 less than a number. |
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Recommended: Addition and Subtraction with Decimals

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| 5.1.2.3 | Order fractions and decimals, including mixed numbers and improper fractions, and locate on a number line. |
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Recommended: Decimal Place Value; Comparing with Decimals; Rounding Decimals

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| 5.1.2.4 | Recognize and generate equivalent decimals, fractions, mixed numbers and improper fractions in various contexts. |
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Recommended: Decimal Place Value

Related: Common Denominators and Equivalent Fractions; Adding and Subtracting Fractions with Unlike Denominators

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| 5.1.2.5 | Round numbers to the nearest 0.1, 0.01 and 0.001. |
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Recommended: Rounding Decimals

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| 5.1.3.1 | Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms. |
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Recommended: Common Denominators and Equivalent Fractions; Adding and Subtracting Fractions with Unlike Denominators; Addition and Subtraction with Decimals

continued on next page

1 - Number and Operation (continued)

Standard	Objective(s)
5.1.3.3	<p>Estimate sums and differences of decimals and fractions to assess the reasonableness of results.</p> <p>Recommended: Common Denominators and Equivalent Fractions; Adding and Subtracting Fractions with Unlike Denominators</p>
5.1.3.4	<p>Solve real world and mathematical problems requiring addition and subtraction of decimals, fractions and mixed numbers, including those involving measurement, geometry and data.</p> <p>Recommended: Common Denominators and Equivalent Fractions; Adding and Subtracting Fractions with Unlike Denominators; Addition and Subtraction with Decimals</p>

2 - Algebra

Standard**Objective(s)**

- 5.2.1.1** Create and use rules, tables, spreadsheets and graphs to describe patterns of change and solve problems.

Recommended: Using Data and Graphs

- 5.2.1.2** Use a rule or table to represent ordered pairs of positive integers and graph these ordered pairs on a coordinate system.

Recommended: Patterns and Relationships

Related: Multiple Operations; The Coordinate Plane

- 5.2.2.1** Apply the commutative, associative and distributive properties and order of operations to generate equivalent numerical expressions and to solve problems involving whole numbers.

Recommended: Interpret Expressions

Related: Multiple Operations

- 5.2.3.1** Determine whether an equation or inequality involving a variable is true or false for a given value of the variable.

Related: Variables and Equations

- 5.2.3.2** Represent real world situations using equations and inequalities involving variables. Create real world situations corresponding to equations and inequalities.

Related: Patterns and Relationships

- 5.2.3.3** Evaluate expressions and solve equations involving variables when values for the variables are given.

Recommended: Variables and Equations

3 - Geometry and Measurement

Standard	Objective(s)
5.3.2.1	Develop and use formulas to determine the area of triangles, parallelograms and figures that can be decomposed into triangles. Recommended: Area of Polygons (G5)
5.3.2.2	Use various tools and strategies to measure the volume and surface area of objects that are shaped like rectangular prisms Recommended: Area of Polygons (G5)
5.3.2.3	Understand that the volume of a three-dimensional figure can be found by counting the total number of same-sized cubic units that fill a shape without gaps or overlaps. Use cubic units to label volume measurements. Recommended: Volume
5.3.2.4	Develop and use the formulas $V = lwh$ and $V = Bh$ to determine the volume of rectangular prisms. Justify why base area B and height h are multiplied to find the volume of a rectangular prism by breaking the prism into layers of unit cubes. Recommended: Volume

4 - Data Analysis

Standard**Objective(s)**

- 5.4.1.1** Know and use the definitions of the mean, median and range of a set of data. Know how to use a spreadsheet to find the mean, median and range of a data set. Understand that the mean is a leveling out of data.

Related: Line Plot Intro Decimals and Mode

- 5.4.1.2** Create and analyze double-bar graphs and line graphs by applying understanding of whole numbers, fractions and decimals. Know how to create spreadsheet tables and graphs to display data.

Related: Using Data and Graphs
