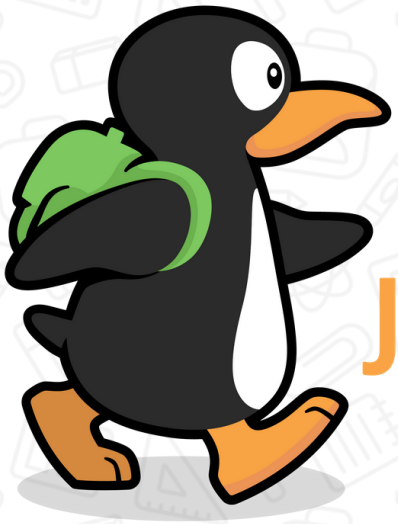

SCOPE & SEQUENCE
WITH STANDARD ALIGNMENT

- GRADES K–5 -
VIRGINIA

ST16-220728

ST Math®
Created by MIND Research Institute

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.

Exploring Shapes

Standards Coverage:

Recommended: K.10b, K.12

Related: K.10a, K.10c

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.

Numbers and Objects to 5

Standards Coverage:

Recommended: K.1b, K.3a

Related: K.1a

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.3a

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.1b, K.2a, K.3a

Related: K.1a

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.

Greater Than, Less Than, Equal To

Standards Coverage:

Recommended: K.2a

Related: K.9, K.1a, K.3c

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.6

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	Add using visual models and numerals.
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.
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.
Select Box Subtraction	Subtract using visual models and numerals.
Bird Expressions Addition	Add the number of new birds that arrive to find the total number of birds.

Exploring Patterns

Standards Coverage:

Recommended: K.13

Related: K.12

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.

Analyzing Shapes

Standards Coverage:

Recommended: K.10a, K.10b, K.12

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.

Numbers and Objects to 20

Standards Coverage:

Related: K.1a, K.1b, K.3a

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.

Comparing Numbers

Standards Coverage:

Recommended: K.2a

Related: K.9, K.1a

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.

Understanding Addition and Subtraction within 10

Standards Coverage:

Recommended: K.6, K.3c

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.6

Related: K.2a

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.
Bird Lift	Each bird can lift one block, but there are more bricks than birds. Identify how many additional birds are needed.
Critter Addition	Add one-digit and two-digit whole numbers using visual models.
Bouncing Shoes with Numbers	Using the symbols, additively decompose numbers within 10.

Identifying Shape Attributes

Standards Coverage:

Recommended: K.10b, K.12, K.11b

Related: K.1a

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.

Measurable Attributes

Standards Coverage:

Recommended: K.9

Related: K.10b, K.12

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.

Composing Shapes

Standards Coverage:

Related: K.10a, K.12

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.

Position

Standards Coverage:

Recommended: K.10c

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.

Halves and Fourths

Standards Coverage:

Recommended: K.5

Game Name	Game Description
Balance Pies	Represent given fractions as circular diagrams displaying equal parts of a whole.
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 Basket	Estimate the location of a fraction represented with a diagram on the number line.

Advanced Patterns

Standards Coverage:

Recommended: K.13

Related: K.12

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.

Counting Pennies

Standards Coverage:

Recommended: K.7

Game Name	Game Description
Toll Bridge Single Coin	Learn the value of each coin.
Toll Bridge Multiple Coin	Choose or count out the coin or combination of coins whose value is equal to the given amount.
Money Notation	Practice reading and writing money amounts using the cent symbol.

Concepts of Time

Standards Coverage:

Related: K.9

Game Name	Game Description
Hours and Minutes	Choose the correct place on a digital clock or the correct hand on an analog clock corresponding to hours or minutes. The game prepares students to tell and write time.
Telling Time Digital	Students read an analog clock to the hour and record the time on a digital clock.
Telling Time Analog	Students place the hands on a clock in the correct position to represent time to the hour.
Time on a Line	Read an analog clock to the hour and select the correct time on a number line.

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.

Counting to 100 (K)

Game Name	Game Description
Number Line Journey	Move left and right on the number line to locate the given number.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Counting On and Back	Count forward to one hundred and backward from one hundred.

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.

Equal Shares and Partitioning (K)

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Equal Division	Divide blocks into equal parts.
Match Partitions	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	Match the area of one side of a balance using parts of a whole.
Pie Monster	Implicitly add two shaded regions together.

STANDARDS INDEX

NNS - Number and Number Sense

Standard	Objective(s)
K.1a	The student will tell how many are in a given set of 20 or fewer objects by counting orally. *Related: Numbers and Objects to 5; Numbers and Objects to 10; Greater Than, Less Than, Equal To; Numbers and Objects to 20; Comparing Numbers; Identifying Shape Attributes*
K.1b	The student will read, write, and represent numbers from 0 through 20. **Recommended: Numbers and Objects to 5; Numbers and Objects to 10** *Related: Numbers and Objects to 20*
K.2a	The student, given no more than three sets, each set containing 10 or fewer concrete objects, will compare and describe one set as having more, fewer, or the same number of objects as the other set(s). **Recommended: Numbers and Objects to 10; Greater Than, Less Than, Equal To; Comparing Numbers** *Related: Making 10 and Number Pairs*
K.3a	The student will count forward orally by ones from 0 to 100. **Recommended: Numbers and Objects to 5; Numbers and Objects to 10** *Related: Subitizing; Numbers and Objects to 20*

continued on next page

NNS - Number and Number Sense (continued)

Standard	Objective(s)
K.3c	The student will identify the number after, without counting, when given any number between 0 and100 and identify the number before, without counting, when given any number between 1 and 10. **Recommended: Understanding Addition and Subtraction within 10** *Related: Greater Than, Less Than, Equal To*
K.5	The student will investigate fractions by representing and solving practical problems involving equal sharing with two sharers. **Recommended: Halves and Fourths**

CE - Computation and Estimation

Standard	Objective(s)
K.6	The student will model and solve single-step story and picture problems with sums to 10 and differences within 10, using concrete objects. **Recommended: Understanding Addition and Subtraction within 5; Understanding Addition and Subtraction within 10; Making 10 and Number Pairs**

MG - Measurement and Geometry

Standard	Objective(s)
K.7	The student will recognize the attributes of a penny, nickel, dime, and quarter and identify the number of pennies equivalent to a nickel, a dime, and a quarter. **Recommended: Counting Pennies**
K.9	The student will compare two objects or events, using direct comparisons, according to one or more of the following attributes: length (longer, shorter), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder), volume (more, less), and time (longer, shorter). **Recommended: Measurable Attributes** *Related: Greater Than, Less Than, Equal To; Comparing Numbers; Concepts of Time*
K.10a	The student will identify and describe plane figures (circle, triangle, square, and rectangle). **Recommended: Analyzing Shapes** *Related: Exploring Shapes; Composing Shapes*
K.10b	The student will compare the size (smaller, larger) and shape of plane figures (circle, triangle, square, and rectangle). **Recommended: Exploring Shapes; Analyzing Shapes; Identifying Shape Attributes** *Related: Measurable Attributes*

continued on next page

MG - Measurement and Geometry (continued)

Standard	Objective(s)
K.10c	The student will describe the location of one object relative to another (above, below, next to) and identify representations of plane figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space. **Recommended: Position** *Related: Exploring Shapes*

PS - Probability and Statistics

Standard	Objective(s)
K.11b	The student will read and interpret data in object graphs, picture graphs, and tables. **Recommended: Identifying Shape Attributes**

PFA - Patterns, Functions, and Algebra

Standard	Objective(s)
K.12	The student will sort and classify objects according to one attribute. **Recommended: Exploring Shapes; Analyzing Shapes; Identifying Shape Attributes** *Related: Exploring Patterns; Measurable Attributes; Composing Shapes; Advanced Patterns*
K.13	The student will identify, describe, extend, create, and transfer repeating patterns. **Recommended: Exploring Patterns; Advanced Patterns**

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.

Counting to 100

Standards Coverage:

Recommended: 1.1a, 1.1c, 1.1d

Related: 1.2a

Game Name	Game Description
Number Line Journey	Move left and right on the number line to locate the given number.
Number Line Journey Zoom	Zoom in on the number line to locate the given number.
Counting On	Count forward to one hundred.
Counting On and Back	Count forward to one hundred and backward from one hundred.

Addition and Subtraction Within 10

Standards Coverage:

Recommended: 1.7b

Related: 1.7a

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.

Addition, Subtraction and Equations

Standards Coverage:

Recommended: 1.7b, 1.15

Related: 1.6, 1.7a

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.

Introduction to Place Value

Standards Coverage:

Recommended: 1.2a

Related: 1.1a, 1.1d, 1.5a

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: 1.2a

Related: 1.1a, 1.1d

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.

Two-Digit Numbers

Standards Coverage:

Recommended: 1.1a, 1.2a

Related: 1.1d

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.

Place Value Concepts

Standards Coverage:

Recommended: 1.2a, 1.5a

Related: 1.1a, 1.1d

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.

Measurement Concepts

Standards Coverage:

Recommended: 1.1

Related: 1.2c, 1.3

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.

Equal Shares and Partitioning

Standards Coverage:

Recommended: 1.4a

Related: 1.4b

Game Name	Game Description
Equal Areas	Determine which figure is divided up equally based on area.
Equal Division	Divide blocks into equal parts.
Match Partitions	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	Match the area of one side of a balance using parts of a whole.
Pie Monster	Implicitly add two shaded regions together.

Addition and Subtraction with Unknowns

Standards Coverage:

Recommended: 1.7a, 1.7b

Related: 1.6, 1.15

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.

Number Pairs and Making 10

Standards Coverage:

Recommended: 1.7a, 1.7b

Related: 1.6

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.

Comparing Two-Digit Numbers

Standards Coverage:

Recommended: 1.2b, 1.2c, 1.15

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: 1.8, 1.1a, 1.1d, 1.14

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.

Shape Differences

Standards Coverage:

Recommended: 1.11a, 1.11b

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.

Making Shapes

Standards Coverage:

Recommended: 1.4a, 1.4b

Related: 1.11a, 1.11b

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.

Sorting and Classifying

Standards Coverage:

Recommended: 1.13

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.

Organizing Data

Standards Coverage:

Recommended: 1.13, 1.12a

Related: 1.2b, 1.12b

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: 1.9a

Related: 1.9b

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.

Addition and Subtraction Within 20

Standards Coverage:

Recommended: 1.7b

Game Name	Game Description
Ten Frame Addition	Practice addition facts using ten frames.
Ten Frame Addition 2	Practice addition facts using ten frames.
Basic Facts	Practice addition and subtraction facts using visual models.
Ten Frame Subtraction	Practice addition facts using ten frames.

Money

Standards Coverage:

Recommended: 1.8, 1.2a

Related: 1.1a, 1.2c

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.

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.

Equal Shares and Partitioning Symbolic

Game Name	Game Description
Fraction of Shape Symbolic	Both symbolically and linguistically state what portion of the shape is shaded.
Crank Pies	Match the shaded region to the terms 'ones', 'halves', and 'fourths'. Determine how many of these are given.
Match Fraction Symbolic	Represent a given fraction using a visual model by first dividing a whole into equal parts and then shading the correct number of parts.

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.

Measuring Objects

Game Name	Game Description
Slinky Objects	Compare and order familiar objects by weight using a balance.
Slinky Weights	Compare and order objects by weight using a balance.
Slinky with Units	Weigh objects and compare weights using U.S customary units.
Volume Fill	Calculate volume and learn the formula for the volume of a right rectangular prism.

STANDARDS INDEX

NNS - Number and Number Sense

Standard	Objective(s)
1.1a	The student will count forward orally by ones to 110, starting at any number between 0 and 110. **Recommended: Counting to 100; Two-Digit Numbers; Skip Counting** *Related: Introduction to Place Value; Counting by Tens; Place Value Concepts; Money*
1.1c	The student will count backward orally by ones when given any number between 1 and 30. **Recommended: Counting to 100**
1.1d	The student will count forward orally by ones, twos, fives, and tens to determine the total number of objects to 110. **Recommended: Counting to 100; Skip Counting** *Related: Introduction to Place Value; Counting by Tens; Two-Digit Numbers; Place Value Concepts*
1.2a	The student will group a collection into tens and ones and write the corresponding numeral. **Recommended: Introduction to Place Value; Counting by Tens; Two-Digit Numbers; Place Value Concepts; Money** *Related: Counting to 100*

continued on next page

NNS - Number and Number Sense (continued)

Standard	Objective(s)
1.2b	The student will compare two numbers between 0 and 110 represented pictorially or with concrete objects, using the words greater than, less than or equal to. **Recommended: Comparing Two-Digit Numbers** *Related: Organizing Data*
1.2c	The student will order three or fewer sets from least to greatest and greatest to least. **Recommended: Comparing Two-Digit Numbers** *Related: Measurement Concepts; Money*
1.3	The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth. *Related: Measurement Concepts*
1.4a	The student will represent and solve practical problems involving equal sharing with two or four sharers. **Recommended: Equal Shares and Partitioning; Making Shapes**
1.4b	The student will represent and name fractions for halves and fourths, using models. **Recommended: Making Shapes** *Related: Equal Shares and Partitioning*

continued on next page

NNS - Number and Number Sense (continued)

Standard	Objective(s)
1.5a	The student will select a reasonable order of magnitude from three given quantities: a one-digit numeral, a two-digit numeral, and a three-digit numeral (e.g., 5, 50, 500). **Recommended: Place Value Concepts** *Related: Introduction to Place Value*

CE - Computation and Estimation

Standard	Objective(s)
1.6	The student will create and solve single-step story and picture problems using addition and subtraction within 20. *Related: Addition, Subtraction and Equations; Addition and Subtraction with Unknowns; Number Pairs and Making 10*
1.7a	The student will recognize and describe with fluency part-whole relationships for numbers up to 10. **Recommended: Addition and Subtraction with Unknowns; Number Pairs and Making 10** *Related: Addition and Subtraction Within 10; Addition, Subtraction and Equations*
1.7b	The student will demonstrate fluency with addition and subtraction within 10. **Recommended: Addition and Subtraction Within 10; Addition, Subtraction and Equations; Addition and Subtraction with Unknowns; Number Pairs and Making 10; Addition and Subtraction Within 20**

MG - Measurement and Geometry

Standard	Objective(s)
1.8	The student will determine the value of a collection of like coins (pennies, nickels, or dimes) whose total value is 100 cents or less. **Recommended: Skip Counting; Money**
1.9a	The student will tell time to the hour and half-hour, using analog and digital clocks. **Recommended: Telling Time**
1.9b	The student will read and interpret a calendar. *Related: Telling Time*
1.1	The student will use nonstandard units to measure and compare length, weight, and volume. **Recommended: Measurement Concepts**
1.11a	The student will identify, trace, describe, and sort plane figures (triangles, squares, rectangles, and circles) according to number of sides, vertices, and angles. **Recommended: Shape Differences** *Related: Making Shapes*
1.11b	The student will identify and describe representations of circles, squares, rectangles, and triangles in different environments, regardless of orientation, and explain reasoning. **Recommended: Shape Differences** *Related: Making Shapes*

PS - Probability and Statistics

Standard	Objective(s)
1.12a	The student will collect, organize, and represent various forms of data using tables, picture graphs, and object graphs. **Recommended: Organizing Data**
1.12b	The student will read and interpret data displayed in tables, picture graphs, and object graphs, using the vocabulary more, less, fewer, greater than, less than, and equal to. *Related: Organizing Data*

PFA - Patterns, Functions, and Algebra

Standard	Objective(s)
1.13	The student will sort and classify concrete objects according to one or two attributes. **Recommended: Sorting and Classifying; Organizing Data**
1.14	The student will identify, describe, extend, create, and transfer growing and repeating patterns. **Recommended: Skip Counting**
1.15	The student will demonstrate an understanding of equality through the use of the equal symbol. **Recommended: Addition, Subtraction and Equations; Comparing Two-Digit Numbers** *Related: Addition and Subtraction with Unknowns*

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.

The Number Line

Standards Coverage:

Related: 2.1a

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.

Counting with Groups

Standards Coverage:

Related: 2.1a, 2.2a

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.

Addition and Subtraction Situations

Standards Coverage:

Recommended: 2.5a, 2.5b, 2.6b, 2.6c, 2.1c, 2.17

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.

Shapes

Standards Coverage:

Related: 2.13

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.

Addition and Subtraction Situations within 100

Standards Coverage:

Recommended: 2.5a, 2.5b, 2.6b, 2.6c, 2.17

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.

Two Step Situations

Standards Coverage:

Recommended: 2.5a, 2.5b, 2.6b, 2.6c, 2.17

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.

Measurement

Standards Coverage:

Recommended: 2.8a

Related: 2.5b, 2.6b, 2.6c

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:

Related: 2.6b

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 (G2)

Standards Coverage:

Recommended: 2.5a

Related: 2.5b, 2.6a, 2.6b

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.

Place Value to 1,000

Standards Coverage:

Recommended: 2.1a

Related: 2.1b

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: 2.1c, 2.17

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.

Place Value Bundles - Ten and Hundred

Standards Coverage:

Recommended: 2.1a

Related: 2.6a, 2.6b

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.

Regrouping Concepts in Addition

Standards Coverage:

Recommended: 2.6b

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 Concepts in Subtraction

Standards Coverage:

Recommended: 2.6b

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

Patterns and Functions

Standards Coverage:

Recommended: 2.2a, 2.2c, 2.16

Game Name	Game Description
Hundreds Pit	Skip count (by 2s, 3s, 5s, 9s, or 10s) to fill the pit so JiJi can cross. Identify patterns in the counting sequence.
Even or Odd	Learn the concept of even and odd numbers using a visual model.
Robot Patterns	Identify and extend geometric patterns of colored squares on a grid.
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.
Helicopter	Determine how many helicopters are needed to transport blocks to fill a hole so JiJi can cross to the other side. Students explore the relationship between inputs and outputs using rates within a visual model.
Make It Linear Symbolic	Identify the common difference in an increasing or decreasing arithmetic sequence presented as a list and in a table in order to extend a sequence of numbers or identify missing numbers in a sequence.
Helicopter Symbolic	Determine how many helicopters are needed to transport blocks to fill a hole so JiJi can cross to the other side. Students explore the relationship between inputs and outputs using rates within a visual model.
Helicopter Table	Identify missing values in a table of values exhibiting a linear relationship.
Make It Linear Table	Identify the common difference in an increasing or decreasing arithmetic sequence presented as a list and in a table in order to extend a sequence of numbers or identify missing numbers in a sequence.

Fraction Concepts

Standards Coverage:

Recommended: 2.4a

Related: 2.4b

Game Name	Game Description
JiJi Cycle	Estimate the location of a fraction represented with a diagram on the number line.
Alien Bridge	Represent fractions as equal parts of a whole.
Match Fraction	Represent given fractions as rectangular diagrams displaying equal parts of a whole.
Alien Bridge Bubble Select	Write the fraction that represents the amount of the circle that has been abducted by the alien.
Crank Pies	Represent given fractions as circular diagrams displaying equal parts of a whole. This game also teaches the idea of equivalent fractions.
JiJi Cycle Symbolic	Select the correct number of unit fractions that will allow JiJi to travel to a given point on the number line.
Fraction Eggs	Fill in the carton with the correct number of eggs to match the description. This game teaches the meaning of fractions (with denominators up to 12) as equal parts of a set.
Fraction of Set	Represent given fractions as diagrams displaying equal parts of a set. This game also teaches the idea of equivalent fractions.

Representing and Comparing Fractions

Standards Coverage:

Recommended: 2.4c

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.

Using Money

Standards Coverage:

Recommended: 2.7a, 2.7b

Related: 2.1a

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.

Time

Standards Coverage:

Recommended: 2.9

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.

Creating Graphs

Standards Coverage:

Recommended: 2.15a

Related: 2.15b

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.

Outcomes (G2)

Standards Coverage:

Related: 2.14

Game Name	Game Description
Least Most Probability	Describe outcomes of events with spinners and marbles using the terms likely, unlikely, probable, and improbable.
High, Low, Certain and Impossible Probability	Explore the concepts of certain and impossible events in probability situations involving spinners and marbles.

Addition and Subtraction Facts to 20

Standards Coverage:

Recommended: 2.5a, 2.5b

Related: 2.6c

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.

Intro to Symmetry

Standards Coverage:

Recommended: 2.12a, 2.12b

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.

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.

Money, Extended

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.

Partitioning Symbolic

Game Name	Game Description
Crank Pies	Identify equivalent fractions using both circular and rectangular diagrams.
Equivalent Fractions	Identify equivalent fractions using rectangular diagrams displaying equal parts of a whole.
Fraction of Shape Symbolic	Determine the word best describing the shaded region (fourth, half, whole, etc). Select how many of these 'units' are present.
Match Fraction Symbolic	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 Symbolic	Determine the word best describing the shaded region (fourth, half, whole, etc). Select how many of these 'units' are present.

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.

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 represenation.
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.

Even and Odd Numbers

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.
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.
Complete Box	Represent numerical expressions using an area model.
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.

Three-Digit Number Words

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.

Counting to 1,000

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.

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.

STANDARDS INDEX

NNS - Number and Number Sense

Standard	Objective(s)
2.1a	The student will read, write, and identify the place and value of each digit in a three-digit numeral, with and without models. **Recommended: Place Value to 1,000; Place Value Bundles - Ten and Hundred** *Related: The Number Line; Counting with Groups; Using Money*
2.1b	The student will identify the number that is 10 more, 10 less, 100 more, and 100 less than a given number up to 999. *Related: Place Value to 1,000*
2.1c	The student will compare and order whole numbers between 0 and 999. **Recommended: Addition and Subtraction Situations; Comparing Three-Digit Numbers**
2.2a	The student will count forward by twos, fives, and tens to 120, starting at various multiples of 2, 5, or 10. **Recommended: Patterns and Functions** *Related: Counting with Groups*
2.2c	The student will use objects to determine whether a number is even or odd. **Recommended: Patterns and Functions**

continued on next page

NNS - Number and Number Sense (continued)

Standard	Objective(s)
2.4a	The student will name and write fractions represented by a set, region, or length model for halves, fourths, eighths, thirds, and sixths. **Recommended: Fraction Concepts**
2.4b	The student will represent fractional parts with models and with symbols. *Related: Fraction Concepts*
2.4c	The student will compare the unit fractions for halves, fourths, eighths, thirds, and sixths, with models. **Recommended: Representing and Comparing Fractions**

CE - Computation and Estimation

Standard	Objective(s)
2.5a	The student will recognize and use the relationships between addition and subtraction to solve single-step practical problems, with whole numbers to 20. **Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Operations on the Number Line (G2); Addition and Subtraction Facts to 20**

continued on next page

CE - Computation and Estimation (continued)

Standard	Objective(s)
2.5b	The student will demonstrate fluency with addition and subtraction within 20. **Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Addition and Subtraction Facts to 20** *Related: Measurement; Operations on the Number Line (G2)*
2.6a	The student will estimate sums and differences. *Related: Operations on the Number Line (G2); Place Value Bundles - Ten and Hundred*
2.6b	The student will determine sums and differences, using various methods. **Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Regrouping Concepts in Addition; Regrouping Concepts in Subtraction** *Related: Measurement; Addition and Subtraction with Measurement; Operations on the Number Line (G2); Place Value Bundles - Ten and Hundred*
2.6c	The student will create and solve single-step and two-step practical problems involving addition and subtraction. **Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations** *Related: Measurement; Addition and Subtraction Facts to 20*

MG - Measurement and Geometry

Standard	Objective(s)
2.7a	The student will count and compare a collection of pennies, nickels, dimes, and quarters whose total value is $2.00 or less. **Recommended: Using Money**
2.7b	The student will use the cent symbol, dollar symbol, and decimal point to write a value of money. **Recommended: Using Money**
2.8a	The student will estimate and measure length to the nearest inch. **Recommended: Measurement**
2.9	The student will tell time and write time to the nearest five minutes, using analog and digital clocks. **Recommended: Time**
2.12a	The student will draw a line of symmetry in a figure. **Recommended: Intro to Symmetry**
2.12b	The student will identify and create figures with at least one line of symmetry. **Recommended: Intro to Symmetry**
2.13	The student will identify, describe, compare, and contrast plane and solid figures (circles/spheres, squares/cubes, and rectangles/rectangular prisms). *Related: Shapes*

PS - Probability and Statistics

Standard	Objective(s)
2.14	The student will use data from probability experiments to predict outcomes when the experiment is repeated. *Related: Outcomes (G2)*
2.15a	The student will collect, organize, and represent data in pictographs and bar graphs. **Recommended: Creating Graphs**
2.15b	The student will read and interpret data represented in pictographs and bar graphs. *Related: Creating Graphs*

PFA - Patterns, Functions, and Algebra

Standard	Objective(s)
2.16	The student will identify, describe, create, extend, and transfer patterns found in objects, pictures, and numbers. **Recommended: Patterns and Functions**
2.17	The student will demonstrate an understanding of equality through the use of the equal symbol and the use of the not equal symbol. **Recommended: Addition and Subtraction Situations; Addition and Subtraction Situations within 100; Two Step Situations; Comparing Three-Digit Numbers**

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.

Four Digit Place Value

Standards Coverage:

Recommended: 3.1a

Game Name	Game Description
Petals Multiple Choice	Represent ones, tens, hundreds and thousands using words, numerals and visual models.
How Many Petals	Write a two-digit or three-digit number to represent the pile of petals.
Petals Place Value	Given a four-digit whole number, identify the number of thousands, hundreds, tens, and ones.

Place Value Bundles - Ten, Hundred, Thousand

Standards Coverage:

Recommended: 3.1a

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.

Ordering and Comparing Whole Numbers

Standards Coverage:

Recommended: 3.1a, 3.1b, 3.1c

Game Name	Game Description
Comparison Signs	Order sets of objects and whole numbers using the symbols for less than, greater than, and equal to.
Large Number Comparison	Order whole numbers (up to four digits) using the symbols for less than, greater than, and equal to.
Number Line Trap	Use estimation and an understanding of place value to plot whole numbers (up to four digits) on a number line.
Least Most	Identify the least or greatest element in a set of whole numbers (up to four digits).
Order Fill	Choose the numbers in order from least to greatest in order to fill the pit so Jiji can cross.
Comparison Signs Symbolic	Order whole numbers using the phrases “less than”, “greater than”, and “equal to”.
Large Number Comparison Symbolic	Order whole numbers (up to four digits) using the phrases “less than”, “greater than”, and “equal to”.
Least Most Symbolic	Identify the least or greatest element in a set of whole numbers (up to four digits) and learn the meaning of the words “least” and “greatest”.
Number Line Journey	Move left and right on the number line to locate the given number.
Round Off	Round whole numbers to the nearest ten and to the nearest hundred.
Number Funnels	Round whole numbers to the nearest given place value. The game also teaches place value concepts up to the thousands place.

Number Patterns

Standards Coverage:

Recommended: 3.3a, 3.3b, 3.4a, 3.4b, 3.4c, 3.16

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.

Using Place Value to Add and Subtract

Standards Coverage:

Recommended: 3.3b

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: 3.4a, 3.4c, 3.4d

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: 3.4a, 3.4b

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.

Multiplication and Area

Standards Coverage:

Recommended: 3.4a, 3.8b

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: 3.4d

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.

Area and Intro to Perimeter

Standards Coverage:

Recommended: 3.8a, 3.8b

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.

Mass and Volume

Standards Coverage:

Related: 3.1c

Game Name	Game Description
Slinky Objects	Compare and order familiar objects by weight using a balance.
Slinky Weights	Compare and order objects by weight using a balance.
Slinky with Units	Weigh objects and compare weights using U.S customary units.
Arctic Volume Addition and Subtraction	Solve one-step addition and subtraction problems involving liquid volumes using beakers with a measurement scale.
Arctic Volume Multiplication and Division	Solve one-step multiplication and division problems involving liquid volumes using beakers with a measurement scale.
Helicopter Volume	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground.
Volume Fill	Count cubes to determine the volume of a figure.

Shapes

Standards Coverage:

Recommended: 3.12b

Related: 3.12a, 3.12c, 3.16

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.

Lines of Symmetry (G3)

Standards Coverage:

Recommended: 3.11

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.

Multiplication and Division Relationships

Standards Coverage:

Recommended: 3.4a, 3.4b, 3.4c

Related: 3.1a

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.

Fractions

Standards Coverage:

Recommended: 3.2a, 3.2b, 3.2c

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: 3.5, 3.2a, 3.2b, 3.2c

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 Comparison

Standards Coverage:

Recommended: 3.2a, 3.2b, 3.2c

Game Name	Game Description
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.

Intro to Fraction Addition and Subtraction

Standards Coverage:

Related: 3.2a, 3.2b

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.

Decimal Money

Standards Coverage:

Recommended: 3.6a, 3.6b, 3.6c

Game Name	Game Description
Money Notation	Choose the currency amounts that are in the correct dollar and cent notations.
Place Value Align	Set up the addition or subtraction operation involving whole numbers and decimals by aligning their decimal points.
Estimate Total Cost	Estimate the total cost of the items in the shopping cart with whole number or decimal prices using the number line.
Buy Items	Determine the number of items a given set of coins is able to buy.
Making Change	Determine the maximum number of items a given set of coins or a dollar bill is able to buy and calculate the leftover change.
Toll Bridge	Choose or count out the coin or combination of coins whose value is equal to the given amount.
Fruit Toll Bridge	Choose or count out the combination of fruits whose total cost is equal to the given amount.

Time to the Minute

Standards Coverage:

Recommended: 3.9a, 3.9b

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.

Addition and Subtraction with Regrouping

Standards Coverage:

Recommended: 3.3a, 3.3b

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.

Rounding Three-Digit Numbers

Standards Coverage:

Recommended: 3.1b

Related: 3.1a

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 Facts and Strategies

Standards Coverage:

Recommended: 3.4a, 3.4b, 3.4c, 3.4d

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: 3.4a, 3.4b

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.

Solve Two-Step Problems

Standards Coverage:

Recommended: 3.4a, 3.4b, 3.4c, 3.4d

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.

Outcomes (G3)

Standards Coverage:

Recommended: 3.14

Game Name	Game Description
Least Most Probability	Describe outcomes of events with spinners and marbles using the terms likely, unlikely, probable, and improbable.
High, Low, Certain and Impossible Probability	Explore the concepts of certain and impossible events in probability situations involving spinners and marbles.

Scale and Measurement in Graphing

Standards Coverage:

Recommended: 3.15a, 3.15b

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.

Line Plots and Mode

Standards Coverage:

Recommended: 3.15a, 3.15b

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.

Measuring Temperature and Volume

Standards Coverage:

Recommended: 3.3a, 3.3b, 3.7b, 3.1

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.

Understanding Place Value

Standards Coverage:

Recommended: 3.1a

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 thousands (boxes with 1,000 petals each), hundreds (bouquets with 100 petals each), tens (flowers with 10 petals each), and 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 4, identify the size of the pile as 4 ones, 4 tens, or 4 hundreds, or 4 thousands).
Petals Bubble Select	Find the total number of petals by counting the boxes (thousands), bouquets (hundreds), flowers (tens) and single petals (ones) and then filling in the hundreds, tens and ones places with the correct numerals.
Petals Place Value	Given a four-digit whole number, identify the number of thousands, hundreds, tens, and ones.
Petals Regrouping	Given a model of boxes of flowers (thousands), 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 Regrouping Random	Find the total number of petals by counting the boxes (thousands), bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.
Number Line Journey	Move left and right on the number line to locate the given number.
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 millions 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 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.

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	Measurment 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

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 represenation.
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.

Operations on the Number Line

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.

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.

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.

STANDARDS INDEX

NNS - Number and Number Sense

Standard	Objective(s)
3.1a	The student will read, write, and identify the place and value of each digit in a six-digit whole number, with and without models. **Recommended: Four Digit Place Value; Place Value Bundles - Ten, Hundred, Thousand; Ordering and Comparing Whole Numbers; Understanding Place Value** *Related: Multiplication and Division Relationships; Rounding Three-Digit Numbers*
3.1b	The student will round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand. **Recommended: Ordering and Comparing Whole Numbers; Rounding Three-Digit Numbers**
3.1c	The student will compare and order whole numbers, each 9,999 or less. **Recommended: Ordering and Comparing Whole Numbers** *Related: Mass and Volume*
3.2a	The student will name and write fractions and mixed numbers represented by a model. **Recommended: Fractions; Fractions on the Number Line; Fraction Comparison** *Related: Intro to Fraction Addition and Subtraction*

continued on next page

NNS - Number and Number Sense (continued)

Standard	Objective(s)
3.2b	The student will represent fractions and mixed numbers with models and symbols. **Recommended: Fractions; Fractions on the Number Line; Fraction Comparison** *Related: Intro to Fraction Addition and Subtraction*
3.2c	The student will compare fractions having like and unlike denominators, using words and symbols, with models. **Recommended: Fractions; Fractions on the Number Line; Fraction Comparison**

CE - Computation and Estimation

Standard	Objective(s)
3.3a	The student will estimate and determine the sum or difference of two whole numbers. **Recommended: Number Patterns; Addition and Subtraction with Regrouping; Measuring Temperature and Volume**
3.3b	The student will create and solve single-step and multistep practical problems involving sums or differences of two whole numbers, each 9,999 or less. **Recommended: Number Patterns; Using Place Value to Add and Subtract; Addition and Subtraction with Regrouping; Measuring Temperature and Volume**
3.4a	The student will represent multiplication and division through 10 * 10, using a variety of approaches and models. **Recommended: Number Patterns; Multiplication Concepts; Division Concepts; Multiplication and Area; Multiplication and Division Relationships; Multiplication Facts and Strategies; Division Facts and Strategies; Solve Two-Step Problems**
3.4b	The student will create and solve single-step practical problems that involve multiplication and division through 10 x 10. **Recommended: Number Patterns; Division Concepts; Multiplication and Division Relationships; Multiplication Facts and Strategies; Division Facts and Strategies; Solve Two-Step Problems**
3.4c	The student will demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10. **Recommended: Number Patterns; Multiplication Concepts; Multiplication and Division Relationships; Multiplication Facts and Strategies; Solve Two-Step Problems**

continued on next page

CE - Computation and Estimation (continued)

Standard	Objective(s)
3.4d	The student will solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less. **Recommended: Multiplication Concepts; Multiplication Facts and Strategies; Solve Two-Step Problems** *Related: Properties of Multiplication*
3.5	The student will solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less **Recommended: Fractions on the Number Line**

MG - Measurement and Geometry

Standard	Objective(s)
3.6a	The student will determine the value of a collection of bills and coins whose total value is $5.00 or less. **Recommended: Decimal Money**
3.6b	The student will determine compare the value of two sets of coins or two sets of coins and bills. **Recommended: Decimal Money**
3.6c	The student will make change from $5.00 or less. **Recommended: Decimal Money**
3.7b	The student will estimate and use U.S. Customary and metric units to measure liquid volume in cups, pints, quarts, gallons, and liters. **Recommended: Measuring Temperature and Volume**
3.8a	The student will measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units. **Recommended: Area and Intro to Perimeter**
3.8b	The student will count the number of square units needed to cover a given surface in order to determine its area. **Recommended: Multiplication and Area; Area and Intro to Perimeter**

continued on next page

MG - Measurement and Geometry (continued)

Standard	Objective(s)
3.9a	The student will tell time to the nearest minute, using analog and digital clocks. **Recommended: Time to the Minute**
3.9b	The student will solve practical problems related to elapsed time in one-hour increments within a 12- hour period. **Recommended: Time to the Minute**
3.10	The student will read temperature to the nearest degree. **Recommended: Measuring Temperature and Volume**
3.11	The student will identify and draw representations of points, lines, line segments, rays, and angles. **Recommended: Lines of Symmetry (G3)**
3.12a	The student will define polygon. *Related: Shapes*
3.12b	The student will identify and name polygons with 10 or fewer sides. **Recommended: Shapes**
3.12c	The student will combine and subdivide polygons with three or four sides and name the resulting polygon(s). *Related: Shapes*

PS - Probability and Statistics

Standard	Objective(s)
3.14	The student will investigate and describe the concept of probability as a measurement of chance and list possible outcomes for a single event. **Recommended: Outcomes (G3)**
3.15a	The student will collect, organize, and represent data in pictographs or bar graphs. **Recommended: Scale and Measurement in Graphing; Line Plots and Mode**
3.15b	The student will read and interpret data represented in pictographs and bar graphs. **Recommended: Scale and Measurement in Graphing; Line Plots and Mode**

PFA - Patterns, Functions, and Algebra

Standard	Objective(s)
3.16	The student will identify, describe, create, and extend patterns found in objects, pictures, numbers and tables. **Recommended: Number Patterns** *Related: Shapes*

JOURNEY AND BONUS JOURNEY OBJECTIVES

Place Value

Standards Coverage:

Recommended: 4.1a

Game Name	Game Description
Petals Multiple Choice	Represent ones, tens, hundreds and thousands using words, numerals and visual models.
How Many Petals	Write the numeral for how many petals are in a given pile.
Petals Place Value	Given a four-digit whole number, identify the number of thousands, hundreds, tens, and ones.
Petals Regrouping	Given a model of boxes of flowers (thousands), 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 Regrouping Random	Find the total number of petals by counting the boxes (thousands), bouquets (hundreds), flowers (tens), and ones (individual petals) and regrouping using mental arithmetic.

Using Place Value

Standards Coverage:

Recommended: 4.1a

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.

Comparing Whole Numbers

Standards Coverage:

Recommended: 4.1b

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.

Rounding Whole Numbers

Standards Coverage:

Recommended: 4.1a, 4.1c

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 Situations

Standards Coverage:

Related: 4.4c, 4.16

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.
Fair Sharing Symbolic	Determine how many boxes each creature gets and how many remain in an equal sharing game.
Multiplication Facts	Practice multiplication facts. This game reinforces place value concepts as well by having students give their answers as tens and ones.
Select Box Symbolic	Add using visual models and numerals.

Exploring Lines and Shapes

Standards Coverage:

Recommended: 4.10a, 4.10b

Related: 4.11

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.

Multiplicative Comparison

Standards Coverage:

Related: 4.4a, 4.4b

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.

Mixed Numbers

Standards Coverage:

Recommended: 4.5b, 4.2b

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: 4.2a, 4.2b, 4.3c, 4.3d

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

Factors and Multiples

Standards Coverage:

Recommended: 4.5a

Game Name	Game Description
Multiples	Identify multiples of a given whole number.
Factors	Identify factors of a given whole number.
Multiples and Factors	Identify factors or multiples of a given whole number.
Find the Primes	Identify which of the numbers in a given set are primes.
Prime Factorization	Find prime factorizations for given whole numbers using tree diagrams.
Prime Factorization Bubble	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.
Prime Factorization Bubble Symbolic	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.

Patterns in Number and Shape

Standards Coverage:

Recommended: 4.5a, 4.15

Related: 4.4b

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.

Line Plots and Range

Standards Coverage:

Recommended: 4.14a, 4.14b

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.

Multi-Step Addition and Subtraction Problems

Standards Coverage:

Related: 4.4d, 4.8d

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.

Temperature and Capacity

Standards Coverage:

Related: 4.4b, 4.4d, 4.8c

Game Name	Game Description
Measure It	Measure the length of a gap in US customary units using a ruler.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.
Weight Conversions	Convert between pounds and ounces using visual scales. Enter converted values into a table.
Problem Solving With Mass	Solve multi-step situations involving weight conversions.

Decimal Fractions

Standards Coverage:

Recommended: 4.3d

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.

Modeling Fraction Addition and Subtraction

Standards Coverage:

Recommended: 4.5b

Related: 4.2b

Game Name	Game Description
Fraction Robot Addition	Add proper and improper fractions with like and unlike denominators using rectangular diagrams displaying equal parts of a whole.
Crank Pies Addition	Add fractions and mixed numbers with like and unlike denominators using circular diagrams displaying equal parts of a whole.
Equivalent Fractions	Identify equivalent fractions using rectangular diagrams displaying equal parts of a whole. The concept of including all fractional parts to make a whole is also covered.
Fraction Robot Subtraction	Subtract proper and improper fractions with like and unlike denominators using rectangular diagrams displaying equal parts of a whole.
Crank Pies Subtraction	Subtract fractions and mixed numbers with like and unlike denominators using circular diagrams displaying equal parts of a whole.

Modeling Fraction Addition and Subtraction Symbolic

Standards Coverage:

Recommended: 4.5b

Related: 4.2b

Game Name	Game Description
Fraction Robot Addition Symbolic	Add proper and improper fractions with like and unlike denominators.
Crank Pies Addition Symbolic	Add fractions and mixed numbers with like and unlike denominators.
Fraction Robot Subtraction Symbolic	Subtract proper and improper fractions with like and unlike denominators.
Crank Pies Subtraction Symbolic	Subtract fractions and mixed numbers with like and unlike denominators.

Common Denominators and Equivalent Fractions

Standards Coverage:

Recommended: 4.5b

Related: 4.5a, 4.2b

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	Partion fractions to create common denominators using models.
Pie Monster	Implicitly add two fractions together.

Adding and Subtracting Fractions with Unlike Denominators (G4)

Standards Coverage:

Recommended: 4.5b

Related: 4.5c

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.

Addition and Subtraction with Decimals

Standards Coverage:

Recommended: 4.4a, 4.6a, 4.6b

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.

Multi-Digit Multiplication

Standards Coverage:

Recommended: 4.4a, 4.4b

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.

Multi-Digit Division

Standards Coverage:

Recommended: 4.4c

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.

Volume and Weight

Standards Coverage:

Recommended: 4.8b

Related: 4.8c, 4.1b

Game Name	Game Description
Arctic Volume Addition and Subtraction	Solve one-step addition and subtraction problems involving liquid volumes using beakers with a measurement scale.
Arctic Volume Multiplication and Division	Solve one-step multiplication and division problems involving liquid volumes using beakers with a measurement scale.
Slinky Objects	Compare and order familiar objects by weight using a balance.
Slinky Weights	Compare and order objects by weight using a balance.
Slinky with Units	Weigh objects and compare weights using U.S customary units.

Measurement and Conversions

Standards Coverage:

Recommended: 4.4d, 4.8a, 4.8c

Game Name	Game Description
Measure It	Measure the length of a gap in US customary units using a ruler.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.
Weight Conversions	Convert between pounds and ounces using visual scales. Enter converted values into a table.
Problem Solving With Mass	Solve multi-step situations involving weight conversions.

Intervals of Time

Standards Coverage:

Recommended: 4.9

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.

Lines and Angles

Standards Coverage:

Recommended: 4.10a, 4.10b

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.

Quadrilaterals

Standards Coverage:

Recommended: 4.10a, 4.10b, 4.11

Related: 4.12

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.

Using Data and Graphs

Standards Coverage:

Recommended: 4.14a, 4.14b

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.

Outcomes

Standards Coverage:

Recommended: 4.13a, 4.13b

Game Name	Game Description
Least Most Probability	Answer probability questions by describing events as likely, unlikely, probable, or improbable.
High, Low, Certain and Impossible Probability	Identify the outcome that matches the given description - certain, impossible, likely or unlikely.
Estimate Probability with Marbles	Estimate the probability of selecting or not selecting a particular type of marble from the given jar.
Estimate Probability with Spinner	Estimate the probability of the spinner landing inside or outside of a given region.
Estimate Probability Dice	Estimate the probability of a particular outcome of a roll of a die.

Multi-Step Problems Using 4 Operations

Standards Coverage:

Related: 4.4d

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.

Addition and Subtraction Algorithm

Standards Coverage:

Recommended: 4.4b

Game Name	Game Description
Arithmetic Number Line	Add and subtract whole numbers (up to five digits) and estimate sums and differences on a number line.
Addition and Subtraction Algorithm	Add and subtract whole numbers (up to five digits) using the standard algorithm.
Missing Digits	Fill in the missing digit(s) in a multi-digit addition or subtraction computation.

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.

Fraction Multiples

Game Name	Game Description
Alien Bridge	Learn to multiply fractions by a whole number using a visual model.
Alien Bridge Symbolic	Learn to multiply fractions by a whole number using a visual model. This game integrates the symbolic notation for recording the multiplication equation displayed in the visual model.
Crank Pies Fraction Multiplication	Multiply fractions by whole numbers using visual models.
Fraction Multiplication on the Number Line	Multiply fractions and estimate the locations of the products on a number line.

Lines of Symmetry

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.

OPTIONAL OBJECTIVES

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 represenation.
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.

Advanced Shapes

Game Name	Game Description
Lines of Symmetry	Identify lines of symmetry in a variety of shapes.
Ice Caves	Shoot lasers through blocks of ice along lines of symmetry. Students identify line-symmetric and asymmetric figures.
Shape Types	Identify different types of triangles (equilateral, acute, etc.) and different types of polygons (rectangle, rhombus, etc).

STANDARDS INDEX

NNS - Number and Number Sense

Standard	Objective(s)
4.1a	The student will read, write, and identify the place and value of each digit in a nine-digit whole number. **Recommended: Place Value; Using Place Value; Rounding Whole Numbers**
4.1b	The student will compare and order whole numbers expressed through millions. **Recommended: Comparing Whole Numbers** *Related: Volume and Weight*
4.1c	The student will round whole numbers expressed through millions to the nearest thousand, ten thousand, and hundred thousand. **Recommended: Rounding Whole Numbers**
4.2a	The student will compare and order fractions and mixed numbers, with and without models. **Recommended: Fraction Equivalence**
4.2b	The student will represent equivalent fractions. **Recommended: Mixed Numbers; Fraction Equivalence** *Related: Modeling Fraction Addition and Subtraction; Modeling Fraction Addition and Subtraction Symbolic; Common Denominators and Equivalent Fractions*

continued on next page

NNS - Number and Number Sense (continued)

Standard	Objective(s)
4.3c	The student will compare and order decimals. **Recommended: Fraction Equivalence**
4.3d	given a model, write the decimal and fraction equivalents. **Recommended: Fraction Equivalence; Decimal Fractions**

CE - Computation and Estimation

Standard	Objective(s)
4.4a	The student will demonstrate fluency with multiplication facts through 12 x 12, and the corresponding division facts. **Recommended: Addition and Subtraction with Decimals; Multi-Digit Multiplication** *Related: Multiplicative Comparison*
4.4b	The student will estimate and determine sums, differences, and products of whole numbers. **Recommended: Multi-Digit Multiplication; Addition and Subtraction Algorithm** *Related: Multiplicative Comparison; Patterns in Number and Shape; Temperature and Capacity*

continued on next page

CE - Computation and Estimation (continued)

Standard	Objective(s)
4.4c	The student will estimate and determine quotients of whole numbers, with and without remainders. **Recommended: Multi-Digit Division** *Related: Multiplication and Division Situations*
4.4d	The student will create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication, and single-step practical problems involving division with whole numbers. **Recommended: Measurement and Conversions** *Related: Multi-Step Addition and Subtraction Problems; Temperature and Capacity; Multi-Step Problems Using 4 Operations*
4.5a	The student will determine common multiples and factors, including least common multiple and greatest common factor. **Recommended: Factors and Multiples; Patterns in Number and Shape** *Related: Common Denominators and Equivalent Fractions*
4.5b	The student will add and subtract fractions and mixed numbers having like and unlike denominators. **Recommended: Mixed Numbers; Modeling Fraction Addition and Subtraction; Modeling Fraction Addition and Subtraction Symbolic; Common Denominators and Equivalent Fractions; Adding and Subtracting Fractions with Unlike Denominators (G4)**

continued on next page

CE - Computation and Estimation (continued)

Standard	Objective(s)
4.5c	The student will add and subtract with decimals. *Related: Adding and Subtracting Fractions with Unlike Denominators (G4)*
4.6a	The student will add and subtract with decimals. **Recommended: Addition and Subtraction with Decimals**
4.6b	The student will solve single-step and multistep practical problems involving addition and subtraction with decimals.. **Recommended: Addition and Subtraction with Decimals**

MG - Measurement and Geometry

Standard	Objective(s)
4.8a	The student will estimate and measure length and describe the result in U.S. Customary and metric units. **Recommended: Measurement and Conversions**
4.8b	The student will estimate and measure weight/mass and describe the result in U.S. Customary and metric units. **Recommended: Volume and Weight**
4.8c	The student will given the equivalent measure of one unit, identify equivalent measures of length, weight/mass, and liquid volume between units within the U.S. Customary system. **Recommended: Measurement and Conversions** *Related: Temperature and Capacity; Volume and Weight*
4.8d	The student will solve practical problems that involve length, weight/mass, and liquid volume in U.S. Customary units. *Related: Multi-Step Addition and Subtraction Problems*
4.9	The student will solve practical problems related to elapsed time in hours and minutes within a 12-hour period. **Recommended: Intervals of Time**

continued on next page

MG - Measurement and Geometry (continued)

Standard	Objective(s)
4.10a	The student will identify and describe points, lines, line segments, rays, and angles, including endpoints and vertices. **Recommended: Exploring Lines and Shapes; Lines and Angles; Quadrilaterals**
4.10b	The student will identify and describe intersecting, parallel, and perpendicular lines. **Recommended: Exploring Lines and Shapes; Lines and Angles; Quadrilaterals**
4.11	The student will identify, describe, compare, and contrast plane and solid figures according to their characteristics (number of angles, vertices, edges, and the number and shape of faces) using concrete models and pictorial representations. **Recommended: Quadrilaterals** *Related: Exploring Lines and Shapes*
4.12	The student will classify quadrilaterals as parallelograms, rectangles, squares, rhombi, and/or trapezoids. *Related: Quadrilaterals*

PS - Probability and Statistics

Standard	Objective(s)
4.13a	The student will determine the likelihood of an outcome of a simple event. **Recommended: Outcomes**
4.13b	The student will represent probability as a number between 0 and 1, inclusive. **Recommended: Outcomes**
4.14a	The student will collect, organize, and represent data in bar graphs and line graphs. **Recommended: Line Plots and Range; Using Data and Graphs**
4.14b	The student will interpret data represented in bar graphs and line graphs. **Recommended: Line Plots and Range; Using Data and Graphs**

PFA - Patterns, Functions, and Algebra

Standard	Objective(s)
4.15	The student will identify, describe, create, and extend patterns found in objects, pictures, numbers, and tables. **Recommended: Patterns in Number and Shape**
4.16	The student will recognize and demonstrate the meaning of equality in an equation. *Related: Multiplication and Division Situations*

JOURNEY AND BONUS JOURNEY OBJECTIVES

Decimal Place Value

Standards Coverage:

Related: 5.2a

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: 5.2b

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.

Rounding Decimals

Standards Coverage:

Recommended: 5.1

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.

Prime Factors

Standards Coverage:

Recommended: 5.3a

Game Name	Game Description
Factors	Identify factors of a given whole number.
Find the Primes	Identify which of the numbers in a given set are primes.
Prime Factorization	Find prime factorizations for given whole numbers using tree diagrams.
Prime Factorization Fill in	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.
Prime Factorization Bubble	Find prime factorizations for given whole numbers and fill in the bubbles to create the prime factorization expression.

Fraction and Decimal Concepts

Standards Coverage:

Recommended: 5.6a, 5.2a

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.

Using Parentheses

Standards Coverage:

Recommended: 5.7, 5.19a

Related: 5.19b, 5.19c

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.

Patterns and Relationships

Standards Coverage:

Recommended: 5.18, 5.19a

Related: 5.19b, 5.19c

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.

Multiplication Algorithm

Standards Coverage:

Recommended: 5.4

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: 5.4

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.

Addition and Subtraction with Decimals

Standards Coverage:

Recommended: 5.5a

Related: 5.5b

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.

Multiplying Decimals

Standards Coverage:

Recommended: 5.5a

Related: 5.5b

Game Name	Game Description
Money Multiplication	Multiply money amounts by whole numbers.
Multiplying Decimals	Multiply decimals by whole numbers.

Dividing Decimals

Standards Coverage:

Related: 5.5b

Game Name	Game Description
Money Division	Divide whole dollar money amounts by whole numbers resulting in decimal money amounts.
Decimal Quotients	Divide whole numbers by whole numbers resulting in decimal quotients.
Dividing Dollars and Cents	Divide money amounts by whole numbers.
Dividing Decimals	Divide decimals by whole numbers.

Adding and Subtracting Fractions with Unlike Denominators

Standards Coverage:

Related: 5.6a

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.

Intervals of Time

Standards Coverage:

Recommended: 5.11

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.

Area and Perimeter

Standards Coverage:

Recommended: 5.8a, 5.8b

Game Name	Game Description
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. This game deepens the student's knowledge of the concepts of area and perimeter.
Area Perimeter with Units	Learn the units for measuring area and perimeter and explore pairs of different rectangles with equivalent perimeters or areas.
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.

Volume

Standards Coverage:

Recommended: 5.8a, 5.8b

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.

Fraction Multiplication

Standards Coverage:

Related: 5.6b

Game Name	Game Description
Alien Bridge	Learn to multiply fractions by a whole number using a visual model.
Alien Bridge Symbolic	Learn to multiply fractions by a whole number using a visual model. This game integrates the symbolic notation for recording the multiplication equation displayed in the visual model.
Crank Pies Fraction Multiplication	Multiply fractions by whole numbers using visual models.
Fraction Multiplication on the Number Line	Multiply fractions and estimate the locations of the products on a number line.

Classifying Shapes

Standards Coverage:

Recommended: 5.13b

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).

Angles

Standards Coverage:

Recommended: 5.12, 5.14b

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.

Variables and Equations

Standards Coverage:

Recommended: 5.19a

Related: 5.19b, 5.19c

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.

Linear Functions

Standards Coverage:

Recommended: 5.18, 5.19a

Related: 5.19b, 5.19c

Game Name	Game Description
Helicopter	Identify the number of stacks the helicopter should drop in order to fill the hole in the ground. Teaches proportional relationships.
Helicopter Table	Fill in the empty boxes in the table with the correct number of blocks for the given the number of helicopters or with the number of helicopters given the number of blocks.
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 Function	Find the output that results from applying a linear function to a whole number.
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.
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.

Line Plot Intro Decimals and Mode

Standards Coverage:

Recommended: 5.16a, 5.16b

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

Line Plots Median and Mean

Standards Coverage:

Recommended: 5.16a, 5.16b

Related: 5.17d

Game Name	Game Description
Median Diamond Catcher	Order a group of whole numbers, fractions, or decimals in order to find the median value.
Median in the Middle	Identify the median of a group of numbers. This game includes whole numbers, fractions, and decimals, and both an even and odd number of values.
Median Diamond Catcher Symbolic	Identify the median of the given numbers and then locate it on a number line.
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.

Probability

Standards Coverage:

Recommended: 5.15

Related: 5.16a, 5.16b

Game Name	Game Description
Least Most Probability	Answer probability questions by describing events as likely, unlikely, probable, or improbable.
High, Low, Certain and Impossible Probability	Identify the outcome that matches the given description - certain, impossible, likely or unlikely.
Estimate Probability with Marbles	Estimate the probability of selecting or not selecting a particular type of marble from the given jar.
Estimate Probability with Spinner	Estimate the probability of the spinner landing inside or outside of a given region.
Estimate Probability Dice	Estimate the probability of a particular outcome of a roll of a die.

Converting Measurements

Standards Coverage:

Recommended: 5.8a, 5.8b, 5.9a

Related: 5.7, 5.9b

Game Name	Game Description
Rate Objects	Find an equivalent rate to the one given.
Capacity	Learn how to convert between cups, pints, quarts and gallons. Practice converting liquid quantities between different units.
Weight Conversions	Convert between pounds and ounces using visual scales. Enter converted values into a table.
Problem Solving Mass Conversions	Solve multi-step situations involving weight conversions.
Unit Conversion	Convert between different units of time using a number line.

Whole Number Operations

Standards Coverage:

Recommended: 5.4, 5.19a

Related: 5.19b, 5.19c

Game Name	Game Description
Intro to Building	Fill in the missing addend to make a sum of 100 or 1000.
Building Blocks	Fill in the missing addend to make a sum of 100 or 1000.
Addition and Subtraction Algorithm	Add and subtract whole numbers (up to six digits) using the standard algorithms.
Multiplication Table Parts	Decompose whole numbers up to 100 into products by finding the square(s) in the multiplication table corresponding to the given number(s).
Two Digit Multiplication	Multiply two-digit whole numbers using visual models.
Area Divide	Explore the concept of division using an array model to practice division facts.
Long Division	Divide multi-digit whole numbers by one-digit divisors using a place value based visual model.
Long Division Symbolic	Divide multi-digit whole numbers by one-digit divisors using the standard algorithm.
Division Algorithm	Divide multi-digit whole numbers by one- and two-digit divisors using the standard algorithm.

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

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 represenation.
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.

The Coordinate Plane

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.

STANDARDS INDEX

NNS - Number and Number Sense

Standard	Objective(s)
5.2a	The student will represent and identify equivalencies among fractions and decimals, with and without models. **Recommended: Fraction and Decimal Concepts** *Related: Decimal Place Value*
5.2b	The student will compare and order fractions, mixed numbers, and/or decimals in a given set, from least to greatest and greatest to least. **Recommended: Comparing with Decimals**
5.3a	The student will identify and describe the characteristics of prime and composite numbers. **Recommended: Prime Factors**

CE - Computation and Estimation

Standard	Objective(s)
5.4	The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division of whole numbers. **Recommended: Multiplication Algorithm; Division Algorithm Strategies; Whole Number Operations**
5.5a	The student will estimate and determine the product and quotient of two numbers involving decimals. **Recommended: Addition and Subtraction with Decimals; Multiplying Decimals**
5.5b	The student will create and solve single-step and multistep practical problems involving addition, subtraction, and multiplication of decimals, and create and solve single-step practical problems involving division of decimals. *Related: Addition and Subtraction with Decimals; Multiplying Decimals; Dividing Decimals*
5.6a	The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers. **Recommended: Fraction and Decimal Concepts** *Related: Adding and Subtracting Fractions with Unlike Denominators*
5.6b	The student will solve single-step practical problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction, with models. *Related: Fraction Multiplication*

continued on next page

CE - Computation and Estimation (continued)

Standard	Objective(s)
5.7	The student will simplify whole number numerical expressions using the order of operations. **Recommended: Using Parentheses** *Related: Converting Measurements*

MG - Measurement and Geometry

Standard	Objective(s)
5.8a	The student will solve practical problems that involve perimeter, area, and volume in standard units of measure. **Recommended: Area and Perimeter; Volume; Converting Measurements**
5.8b	The student will differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation. **Recommended: Area and Perimeter; Volume; Converting Measurements**
5.9a	The student will given the equivalent measure of one unit, identify equivalent measurements within the metric system. **Recommended: Converting Measurements**

continued on next page

MG - Measurement and Geometry (continued)

Standard	Objective(s)
5.9b	The student will solve practical problems involving length, mass, and liquid volume using metric units. *Related: Converting Measurements*
5.10	The student will identify and describe the diameter, radius, chord, and circumference of a circle. **Recommended: Rounding Decimals**
5.11	The student will solve practical problems related to elapsed time in hours and minutes within a 24-hour period. **Recommended: Intervals of Time**
5.12	The student will classify and measure right, acute, obtuse, and straight angles. **Recommended: Angles**
5.13b	The student will investigate the sum of the interior angles in a triangle and determine an unknown angle measure. **Recommended: Classifying Shapes**
5.14b	The student will investigate and describe the results of combining and subdividing polygons. **Recommended: Angles**

PS - Probability and Statistics

Standard	Objective(s)
5.15	The student will determine the probability of an outcome by constructing a sample space or using the Fundamental (Basic) Counting Principle. **Recommended: Probability**
5.16a	The student will represent data in line plots and stem-and-leaf plots. **Recommended: Line Plot Intro Decimals and Mode; Line Plots Median and Mean** *Related: Probability*
5.16b	The student will interpret data represented in line plots and stem-and-leaf plots. **Recommended: Line Plot Intro Decimals and Mode; Line Plots Median and Mean** *Related: Probability*
5.17d	The student will determine the mean, median, mode, and range of a set of data. *Related: Line Plots Median and Mean*

PFA - Patterns, Functions, and Algebra

Standard	Objective(s)
5.18	The student will identify, describe, create, express, and extend number patterns found in objects, pictures, numbers and tables. **Recommended: Patterns and Relationships; Linear Functions**
5.19a	The student will investigate and describe the concept of a variable. **Recommended: Using Parentheses; Patterns and Relationships; Variables and Equations; Linear Functions; Whole Number Operations**
5.19b	The student will write an equation to represent a given mathematical relationship, using a variable. *Related: Using Parentheses; Patterns and Relationships; Variables and Equations; Linear Functions; Whole Number Operations*
5.19c	The student will use an expression with a variable to represent a given verbal expression involving one operation. *Related: Using Parentheses; Patterns and Relationships; Variables and Equations; Linear Functions; Whole Number Operations*