CEME
Technical Report

The Center for Educational Measurement and Evaluation

Alignment Report for Ignite by Hatch™
to NC Foundations and The NC Standard
Course of Study

Marah C. Lambert

Richard G. Lambert

.

THE CENTER FOR EDUCATIONAL
MEASUREMENT AND EVALUATION

Alignment Report for Ignite by Hatch™ to NC Foundations and The NC Standard Course of Study

Prepared by Marah C. Lambert, Department of Educational Leadership

The University of North Carolina at Charlotte

In partnership with Dr. Rich Lambert,
Director of the Center of Educational Measurement and Evaluation at The University of North Carolina at Charlotte

&

Alexandra Miller,
VP of Research and Content at Hatch Early Learning, Inc.

Table of Contents

Alignment Report for Ignite by Hatch™ to NC Foundations and The NC Standard Course of Study

Introduction

As part of a graduate student internship, an alignment study was completed for Ignite™ by Hatch®, in partnership between The University of North Carolina at Charlotte's Center for Educational Measurement and Evaluation and Hatch®. Ignite™ has 341 Core games amongst 7 domains to assist early childhood learners: Mathematics, Language and Communication Development, Literacy, Physical Development, Science and Technology, Social Studies, and Social-Emotional Development. This study was completed as part of an initiative to review the program's Core games and their respective alignment with appropriate learning standards. Although Ignite™ is utilized across the country, North Carolina (NC) was used as a case for this study, which serves as an example when considering other states' learning standards. The following items were used when matching game objectives from Ignite™ with corresponding learning standards:

- NC Foundations for Early Learning and Development

- The North Carolina Standard Course of Study – Kindergarten

- The North Carolina Standard Course of Study – Grade 1

- The North Carolina Standard Course of Study – Grade 2
  (NCDPI, n.d.; NCDHSS, n.d.)

After initially reviewing the documents for familiarity, the lead researcher virtually searched for a variety of keywords from the game objectives to find an appropriate match. Using keywords allowed for an efficient search, but standards were still comprehensively

reviewed. When keywords did not lead to a match, content areas were examined more thoroughly. However, for games that were unclear or there was no initial match, the lead researcher interacted with the game directly on the Ignite™ interface to get more familiar with the game's contents and objectives. This process was completed in three rounds. First, NC Foundation standards were used to match with game objectives for an initial attempt at the alignment because of the acknowledgment that 3-, 4-, and 5-year-olds are the target focus. Then, a second review was completed while including the Kindergarten and 1st Grade standards from The North Carolina Standard Course of Study. A final review was completed while also using the 2nd Grade standards from The NC Standard Course of Study.

Many alignment studies are completed for assessments or curriculum (e.g., Contino, 2022; DeLuca & Bellara, 2013; Martone & Sireci, 2009). Although this alignment study for Ignite™ may have had a different target, there was still a need for multiple, detail-oriented layers. For example, one study (Chi et al., 2011) explained the process of a "review committee", including multiple attempts to link the standards. Therefore, it is recommended to Hatch that the staff and leaders review the alignment report in great length (as explained in the conclusions section).

After coming to an agreement through multiple research team meetings, this alignment study used the following justification to label the alignment as Strong (Green), Moderate (Orange), Weak (Red), or Unclear (Gray):

A) Strong: There is a direct match between the game objective and the learning standard.
B) Moderate: There is a similar learning standard, but there is a different focus or an inadequate threshold set by the learning standard.
C) Weak: The skill needed for the game is not relevant to any learning standard found.
D) Unclear: Game objectives or learning standards seem to be too elusive or vague to find a direct match.

Findings are reported next—organized by domain, and then by strand (if applicable) and subdomains (alphabetically).

Alignment Results

Domain: Mathematics

Stand name: Counting and Cardinality　　　　*Subdomain name: Comparing Quantities*

Game #	Skill Level	Skill Description	Alignment	Standard
20	1	Places objects into a set structure that forces one-to-one correspondence	S	OLDER TODDLER: Place items in one-to-one correspondence during play and daily routines (one spoon at each plate; one doll in each toy car). **CD-10h**
34	2	Pairs objects using one-to-one correspondence to compare two sets	S	YOUNGER PRESCHOOLER: Compare visually two groups of objects that are obviously equal or unequal in quantity and communicate that they are the same or different, and which one has more (choose a plate with four cookies rather than a plate with one cookie). **CD-10l**
51	3	Correctly chooses the set of objects that has more or less when shown two sets that vary greatly in quantity	S	YOUNGER TODDLER: Recognize the difference between two small sets of objects (6 or under) that include a different number of objects (point to which set of crayons has more). **CD-10e** YOUNGER PRESCHOOLER: Compare visually two groups of objects that are obviously equal or unequal in quantity and communicate that they are the same or different, and which one has more (choose a plate with four cookies rather than a plate with one cookie). **CD-10l**
61	4	Counts sets of up to 5 objects to compare	S	OLDER PRESCHOOLER: Compare the amount of items in small sets of objects (up to 5 objects) by matching or counting and use language such as "more than" and "less than" to describe the sets of objects. **CD-10r**
86	5	Counts sets of up to 10 objects to compare when objects are the same or different sizes	M	OLDER PRESCHOOLER: Count up to 10 objects arranged in a line using one-to-one correspondence with increasing accuracy, and answer the question "How many?" **CD-10p** FIRST GRADE: Understand place value. **NC.1.NBT.2** Create sets up to 10. NC.1.NBT.3 Compare two groups of 10 or fewer items when the number of items in each group is similar.
220	6	Determines "how many" more are in the larger set when provided sets with up to 10	M	KINDERGARTEN: Compare numbers. **K.CC.6** Identify whether the number of objects in one group is more than, less than, or equal to the number of objects in another group, when the quantities are clearly different.

343	7	Counts sets of up to 20 objects to compare when objects are the same size	M	FIRST GRADE: Analyze addition and subtraction equations within 20. **NC.1.OA.7** Recognize two groups that have the same or equal quantity AND: Understand place value. **NC.1.NBT.2** Create sets up to 10. **NC.1.NBT.3** Compare two groups of 10 or fewer items when the number of items in each group is similar
377	8	Generates sets that are greater or less than a given number up to 20	S	SECOND GRADE: NUMBER AND OPERATIONS IN BASE TEN Understand place value. **NC.2.NBT.1** Represent numbers up to 30 with sets of tens and ones using objects in columns or arrays. **NC.2.NBT.2** Use concrete and pictoral representations to count up to 30 items by ones. **NC.2.NBT.3** Count sets (1 to 30) of concrete and pictoral representations, then identify the corresponding numeral. **NC.2.NBT.4** Compare sets of numbers or objects to determine greater than, less than, or equal.

Stand name: Counting and Cardinality *Subdomain name: Composing*

Game #	Skill Level	Skill Description	Alignment	Standard
308	6	Identifies the missing part to complete wholes up to 5		
345	7	Identifies the missing part to complete wholes up to 10		
378	8	Uses understanding of place value to compose numbers between 11-20	S	KINDERGARTEN: NUMBER AND OPERATIONS IN BASE TEN Build foundation for place value. **NC.K.NBT.1** Compose and decompose numbers from 11 to 19 into ten ones and some further ones by: Using objects or drawings; Recording each composition or decomposition by a drawing or expression; Understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. SECOND GRADE: Use place value understanding and properties of operations. **NC.2.NBT.5** Model the meaning of the symbols for addition (+) and subtraction (-) by using manipulatives to compose and decompose numbers up to 20.

Stand name: Counting and Cardinality   *Subdomain name: Decomposing*

Game #	Skill Level	Skill Description	Alignment	Standard
310	6	Given the whole (up to 5), identifies two parts that can be used to create the whole	M	KINDERGARTEN: **NC.K.OA.6** Recognize and combine groups with totals up to 5 (conceptual subitizing)
346	7	Given the whole (up to 10), identifies two parts that can be used to create the whole	M	KINDERGARTEN: **NC.K.OA.3** Decompose numbers less than or equal to 10 into pairs in more than one way using objects or drawings, and record each decomposition by a drawing or expression. FIRST GRADE: Add and subtract within 20. **NC.1.OA.9** Demonstrate fluency with addition and subtraction within 10.
379	8	Uses understanding of place value to decompose numbers between 11-20	S	KINDERGARTEN: NUMBER AND OPERATIONS IN BASE TEN Build foundation for place value. **NC.K.NBT.1** Compose and decompose numbers from 11 to 19 into ten ones and some further ones by: • Using objects or drawings. • Recording each composition or decomposition by a drawing or expression. • Understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Stand name: Counting and Cardinality   *Subdomain name: Number Sequencing*

Game #	Skill Level	Skill Description	Alignment	Standard
231	1	Listens to number chants and songs	-	
232	2	Orders quantities 0 to 5	-	
233	3	Recognizes numerals 0 to 5	M	OLDER PRESCHOOLER: Recognize some numerals and attempt to write them during play and daily activities. **CD-10v**
234	4	Recognizes numerals 0 to 10	M	NO MENTION OF UP TO 10. OLDER PRESCHOOLER: Recognize some numerals and attempt to write them during play and daily activities. **CD-10v**
235	5	Orders numerals 0 to 10 forwards and backwards	-	(No mention of backwards)
218	6	Orders numerals 0 to 10 forwards and backwards	-	(No mention of backwards)

340	7	Recognizes 11-20	M	OLDER PRESCHOOLER: Rote count in order to 20 with increasing accuracy. **CD-10n**
374	8	Names the number that comes before or after 11-20	M	KINDERGARTEN: **NC.K.CC.5** Count to answer "How many?" in the following situations: …. • Given up to 20 objects, name the next successive number when an object is added, recognizing the quantity is one more/greater.

Stand name: Counting and Cardinality   Subdomain name: Ordinal Numbers

Game #	Skill Level	Skill Description	Alignment	Standard
26	1	Identifies the "first" object arranged in a line	S	OLDER PRESCHOOLER: Show understanding of first, next, and last during play and daily activities (answer questions about who is first and last to slide down the slide; say, "The engine is first, and the caboose is last" when making a train). **CD-10w**
38	2	Identifies the "last" object arranged in a line	S	OLDER PRESCHOOLER: Show understanding of first, next, and last during play and daily activities (answer questions about who is first and last to slide down the slide; say, "The engine is first, and the caboose is last" when making a train). **CD-10w**
110	3	Identifies the "first" and "second" object arranged in a line	M	OLDER PRESCHOOLER: Show understanding of first, next, and last during play and daily activities (answer questions about who is first and last to slide down the slide; say, "The engine is first, and the caboose is last" when making a train). **CD-10w**
129	4	Identifies the position of the first, second, and last object arranged in a line	M	OLDER PRESCHOOLER: Show understanding of first, next, and last during play and daily activities (answer questions about who is first and last to slide down the slide; say, "The engine is first, and the caboose is last" when making a train). **CD-10w**
157	5	Arranges up to four objects using knowledge of ordinal positions	-	(Nothing for "arrange" based on positions)
213	6	Identifies ordinal numbers "first" through "fifth"	-	(NO MENTION OTHER THAN FIRST, NEXT and LAST)
344	7	Identifies ordinal numbers "first" through "tenth"	-	"

Stand name: Counting and Cardinality   *Subdomain name: Set Counting 1*

Game #	Skill Level	Skill Description	Alignment	Standard
18	1	Touches one object for each number said for sets up to 5	S	YOUNGER PRESCHOOLER: Count up to 5 objects arranged in a line using one-to-one correspondence with increasing accuracy, and answer the question "How many?" **CD-10k**
31	2	Counts up to 5 objects	S	YOUNGER PRESCHOOLER: Count up to 5 objects arranged in a line using one-to-one correspondence with increasing accuracy, and answer the question "How many?" **CD-10k**
79	3	Counts up to 10 objects	S	Count up to 10 objects arranged in a line using one-to-one correspondence with increasing accuracy, and answer the question "How many?" **CD-10p**
94	4	Produces sets of up to 5 objects	M	KINDERGARTEN: **NC.K.OA.6** Recognize and combine groups with totals up to 5 (conceptual subitizing).
124	5	Produces sets of up to 10 objects	S	FIRST GRADE: Understand place value. **NC.1.NBT.2** Create sets up to 10.
219	6	Counts sets of up to 20 objects	M	SECOND GRADE: GRADE: **NC.2.NBT.3** Count sets (1 to 30) of concrete and pictoral representations, then identify the corresponding numeral.
341	7	Produces sets of up to 20 objects	M	SECOND GRADE: GRADE: **NC.2.NBT.1** Represent numbers up to 30 with sets of tens and ones using objects in columns or arrays.
375	8	Counts sets of up to 30 objects	S	SECOND GRADE: GRADE: **NC.2.NBT.3** Count sets (1 to 30) of concrete and pictoral representations, then identify the corresponding numeral.

Stand name: Counting and Cardinality   *Subdomain name: Set Counting 2*

Game #	Skill Level	Skill Description	Alignment	Standard
246	1	Matches small sets of 1-3 objects	S	OLDER PRESCHOOLER: Compare the amount of items in small sets of objects (up to 5 objects) by matching or counting and use language such as "more than" and "less than" to describe the sets of objects. **CD-10r** Match numerals 1-5 to sets of objects, with guidance and support. **CD-10u**
247	2	Makes a small collection to match the same number as another collection that was shown quickly (no more than 4)	S	OLDER PRESCHOOLER: Compare the amount of items in small sets of objects (up to 5 objects) by matching or counting and use language such as "more than" and "less than" to describe the sets of objects. **CD-10r** Match numerals 1-5 to sets of objects, with guidance and support. **CD-10u**

Game #	Skill Level	Skill Description	Alignment	Standard
228	3	Instantly recognizes collections up to 4 in typical arrangements (perceptual subitizing)	S	KINDERGARTEN: Count to tell the number of objects. **NC.K.CC.4** Understand the relationship between numbers and quantities. ... • State the number of objects in a group, of up to 5 objects, without counting the objects (perceptual subitizing).
229	4	Instantly recognizes collections up to 4 in random arrangements (perceptual subitizing)	S	KINDERGARTEN: Count to tell the number of objects. **NC.K.CC.4** Understand the relationship between numbers and quantities. ... • State the number of objects in a group, of up to 5 objects, without counting the objects (perceptual subitizing).
230	5	Instantly recognizes collections up to 5 (perceptual subitizing)	S	KINDERGARTEN: Count to tell the number of objects. **NC.K.CC.4** Understand the relationship between numbers and quantities. ... • State the number of objects in a group, of up to 5 objects, without counting the objects (perceptual subitizing).
217	6	Instantly recognizes collections up to 5 when collections contains two colors (conceptual subitizing)	S	KINDERGARTEN: OPERATIONS AND ALGEBRAIC THINKING Understand addition and subtraction. **NC.K.OA.1** Represent addition and subtraction, within 10: ...**NC.K.OA.6** Recognize and combine groups with totals up to 5 (conceptual subitizing)
339	7	Instantly recognizes collections up to 10 that are made by combining two smaller groupers (conceptual subitizing)	S	KINDERGARTEN: OPERATIONS AND ALGEBRAIC THINKING Understand addition and subtraction. **NC.K.OA.1** Represent addition and subtraction, within 10: ... **NC.K.OA.6** Recognize and combine groups with totals up to 5 (conceptual subitizing)
373	8	Instantly recognizes collections up to 20 shown in tens frames (conceptual subitizing)	M	KINDERGARTEN: OPERATIONS AND ALGEBRAIC THINKING Understand addition and subtraction. **NC.K.OA.1** Represent addition and subtraction, within 10: ... **NC.K.OA.6** Recognize and combine groups with totals up to 5 (conceptual subitizing)

Strand name: Geometry   Subdomain: 2-D Shapes

Game #	Skill Level	Skill Description	Alignment	Standard
65	1	Matches 2 identical simple shapes (square, triangle, circle) that have the same size and orientation	S	YOUNGER PRESCHOOLER: Name or match a few shapes. **CD-12f**

101	2	Matches 2 identical simple shapes (square, triangle, circle) that have different sizes and orientations	M	YOUNGER PRESCHOOLER: Compare the size or weight of two objects and identify which one is longer/taller/heavier than the other ("That rock is heavier than this one; I can't lift it." "A snake is longer than a worm."). **CD-11h**
153	3	Names a circle, square, and triangle when shown a prototypical shape	M	OLDER TODDLER: • Name or match a few shapes. CD-12f YOUNGER PRESCHOOLER: Draw simple shapes and figures (square for block, circles). HPD-5j OLDER PRESCHOOLER: Name basic shapes and describe their characteristics using descriptive and geometric attributes ("That's a triangle; it's pointy." "It's a circle because it's round."). **CD-12m**
162	4	Completes a pattern block puzzle by choosing the correct shapes to fit in each piece	M	YOUNGER PRESCHOOLER: Recognize simple repeating patterns and attempt to create them during play (repeat a movement pattern during a song, make a line of blocks in alternating colors). CD-11k OLDER PRESCHOOLER: Duplicate and extend simple patterns using concrete objects (look at a pattern of beads and tell what bead comes next in the pattern). **CD-11q**
174	5	Identifies what 2-dimensional shapes create the faces of 3-dimensional objects	S	YOUNGER PRESCHOOLER: Draw simple shapes and figures (square for block, circles). **HPD-5j**
214	6	Describes attributes of basic 2-dimensional shapes	S	YOUNGER PRESCHOOLER: Find shapes in the environment and describe them in their own words. **CD-12j** OLDER PRESCHOOLER: Name basic shapes and describe their characteristics using descriptive and geometric attributes ("That's a triangle; it's pointy." "It's a circle because it's round."). **CD-12m** KINDERGARTEN: Analyze, compare, create, and compose shapes. **NC.K.G.4** Analyze and compare two- and three dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, attributes and other properties.
349	7	Compares 2-dimensional shapes	S	KINDERGARTEN: Analyze, compare, create, and compose shapes. **NC.K.G.4** Analyze and compare two- and three dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, attributes and other properties.
382	8	Identifies more complex shapes (pentagon, hexagon, rhombus, trapezoid, and oval)	M	KINDERGARTEN: **NC.K.G.2** Correctly name squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres regardless of their orientations or overall size. **NC.K.G.3** Identify squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres as two-dimensional or three-dimensional. FIRST GRADE: **NC.1.G.1** Distinguish between defining and non-defining attributes and create shapes with defining attributes by: • Building and drawing triangles, rectangles, squares, trapezoids, hexagons, circles.

			<td style="background-color:orange"></td>	SECOND GRADE: GEOMETRY Reason with shapes and their attributes. **NC.2.G.1** Recognize and draw triangles, quadrilaterals, pentagons, and hexagons, having specified attributes; recognize and describe attributes of rectangular prisms and cubes.

Stand name: Geometry   *Subdomain name: Composing Shapes*

Game #	Skill Level	Skill Description	Alignment	Standard
299	6	Draws basic 2-dimensional shapes	S	YOUNGER PRESCHOOLER: Draw simple shapes and figures (square for block, circles). **HPD-5j**
350	7	Composes simple shapes to form larger shapes	S	KINDERGARTEN: **NC.K.G.6** Compose larger shapes from simple shapes.
383	8	Partition shapes into simple shapes	M	KINDERGARTEN (REVERSED): **NC.K.G.6** Compose larger shapes from simple shapes. FIRST GRADE: **NC.1.G.3** Partition circles and rectangles into two and four equal shares. • Describe the shares as halves and fourths, as half of and fourth of. • Describe the whole as two of, or four of the shares. • Explain that decomposing into more equal shares creates smaller shares. AND FIRST GRADE: Reason with shapes and their attributes … **NC.1.G.3** Put together two pieces to make a shape that relates to the whole.

Stand name: Geometry   *Subdomain name: Spatial Relationships*

Game #	Skill Level	Skill Description	Alignment	Standard
56	1	Follows simple directions related to position (in, on, off, over, and under)	S	YOUNGER PRESCHOOLER: Show they understand positions in space by using position words during play and by following directions from an adult (say, "Stand behind the chair." "Put the ball in the box."). **CD-12h**
98	2	Follows simple directions related to direction (up and down)		NOT SURE IF SEPARATION FOR UP/DOWN within standards

113	3	Follows simple directions related to proximity (beside, between, next to)		NOT SURE IF SEPARATION FOR BESIDE/BETWEEN/NEXT TO within standards
126	4	Follows simple directions related to frames of reference (behind, left, right, in front of, to this side of, above, below)		Not specific to these
143	5	Appropriately responds to positional words indicating position, direction and distance		"DISTANCE" unclear within standards

Strand name: Math Applications   Subdomain: Classification and Data

Game #	Skill Level	Skill Description	Alignment	Standard
107	1	Identifies objects given a single attribute	S	OLDER PRESCHOOLER: Name basic shapes and describe their characteristics using descriptive and geometric attributes ("That's a triangle; it's pointy." "It's a circle because it's round."). **CD-12m**
117	2	Sorts objects based on a single attribute	S	YOUNGER PRESCHOOLER: Sort familiar objects into categories with increasing accuracy (tools for woodworking and utensils for cooking; rectangle blocks on one shelf and square blocks on another shelf). **CD-11j**
169	3	When shown two objects, decides whether those objects are similar or different.	S	YOUNGER PRESCHOOLER: Identify familiar objects as the same or different. **CD-11i**
184	4	Identifies objects given two attributes	M	OLDER PRESCHOOLER: Name basic shapes and describe their characteristics using descriptive and geometric attributes ("That's a triangle; it's pointy." "It's a circle because it's round."). **CD-12m**
191	5	Sorts objects based on two attributes	M	KINDERGARTEN: MEASUREMENT AND DATA Describe and compare measurable attributes. **K.MD.1** Classify objects by attributes, (long, short, heavy, light, big, small). Similarly, OLDER PRESCHOOLER: Sort a group of objects (0-10) using one attribute (color, size, shape, quantity) with increasing accuracy (sort blocks by shape and place like-shaped blocks on the shelf; sort beads by color). **CD-11p**

Game #	Skill Level	Skill Description	Alignment	Standard
222	6	Interprets simple picture graphs	S	**Picture graphs not mentioned until Second Grade*** SECOND GRADE: Represent and interpret data. **NC.2.MD.10** Organize, represent, and interpret data with up to four categories. • Draw a picture graph and a bar graph with a single-unit scale to represent a data set. • Solve simple put-together, take-apart, and compare problems using information presented in a picture and a bar graph.
348	7	Creates picture graphs with two categories	S	Represent and interpret data. **NC.2.MD.10** Organize, represent, and interpret data with up to four categories. • Draw a picture graph and a bar graph with a single-unit scale to represent a data set. • Solve simple put-together, take-apart, and compare problems using information presented in a picture and a bar graph. AND: Represent and interpret data. **NC.2.MD.10** Create picture graphs from collected measurement data.
381	8	Compares and contrasts data points on simple graphs	-	**Only picture and bar graphs mentioned in 2nd grade**

Stand name: Math Applications　　　　*Subdomain name: Measurement*

Game #	Skill Level	Skill Description	Alignment	Standard
104	1	Orders up to 3 objects by length and height	S	OLDER PRESCHOOLER: Directly compare more than two objects by size, length, or weight ("That rock is heavier than these others; I can't lift it." Look at three strings that are different lengths and select the longest string). CD-11n Put a few objects in order by length (arrange a group of 3 blocks in order from the shortest to the longest). **CD-11o**
133	2	Identifies the object that is longer, taller, or shorter	S	OLDER PRESCHOOLER: Directly compare more than two objects by size, length, or weight ("That rock is heavier than these others; I can't lift it." Look at three strings that are different lengths and select the longest string). **CD-11n**
167	3	Builds towers that are either shorter or taller than an object	M	**ABOVE STANDARDS** PLUS **YOUNGER PRESCHOOLER**: Represent what they learn during scientific exploration through drawing, modeling, building, movement, or other methods. **CD-15i**
176	4	Fills in containers with objects to compare volumes	-	"VOLUME" IS NOT MENTIONED IN MATH. ONLY SECOND GRADE SCIENCE: **2.P.2.2** Compare the amount (volume and weight) of water in a container before and after freezing.
182	5	Orders up to 10 objects by length and height	M	OLDER PRESCHOOLER: Directly compare more than two objects by size, length, or weight ("That rock is heavier than these others; I can't lift it." Look at three strings that are different lengths and select

Game #	Skill Level	Skill Description	Alignment	Standard
				the longest string). **CD-11n** Put a few objects in order by length (arrange a group of 3 blocks in order from the shortest to the longest). **CD-11o**
221	6	Indirectly compares the length of two objects by using a third object	M	FIRST GRADE: Measure lengths. **NC.1.MD.1** Order three objects by length; compare the lengths of two objects indirectly by using a third object.
347	7	Uses a nonstandard unit of measurement to measure and compare objects	S	SECOND GRADE: Measure and estimate lengths. **NC.2.MD.1** Measure the length of objects using non-standard units. **NC.2.MD.3** Order by length using non-standard units.
380	8	Uses standard measurement tools to compare two objects	S	SECOND GRADE: MEASUREMENT AND DATA Measure and estimate lengths. **NC.2.MD.1** Measure the length of an object in standard units by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. **NC.2.MD.2** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. **NC.2.MD.3** Estimate lengths in using standard units of inches, feet, yards, centimeters, and meters. **NC.2.MD.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Strand name: Operations & Algebraic Thinking   *Subdomain: Addition*

Game #	Skill Level	Skill Description	Alignment	Standard
54	1	Finds the total by joining groups and counting all the objects in situations where the sum is 4 or less	M	YOUNGER PRESCHOOLER: Show they understand that adding objects to a group will make a bigger group, and taking away objects will make a smaller group. **CD-10m** Use observation and counting (not always correctly) to find out how many things are needed during play and other daily activities (figure out how many spoons are needed for snack, find enough dolls so each person has one when playing in the dramatic play area). **CD-13c**
63	2	Identifies how two small groups can be composed to create a larger group of 5 or fewer objects	M	YOUNGER PRESCHOOLER: Show they understand that adding objects to a group will make a bigger group, and taking away objects will make a smaller group. **CD-10m** Rote count in order to 10 with increasing accuracy. **CD-10j** Count up to 5 objects arranged in a line using one-to-one correspondence with increasing accuracy, and answer the question "How many?" **CD-10k**
96	3	Finds the total when given a word problem or scenario by directly modeling the problem	S	KINDERGARTEN: **NC.K.OA.1** Represent addition and subtraction, within 10: • Use a variety of representations such as objects, fingers, mental images, drawings, sounds, acting out situations, verbal

		with objects and counting all the objects when the sum is 6 or less.		explanations, or expressions. • Demonstrate understanding of addition and subtraction by making connections among representations. FIRST GRADE: Represent and solve problems. **NC.1.OA.2** Represent and solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings, and equations with a symbol for the unknown number
131	4	Finds the total when given a word problem or scenario by directly modeling the problem with objects and counting all the objects when the sum is 8 or less	S	KINDERGARTEN: **NC.K.OA.1** Represent addition and subtraction, within 10: • Use a variety of representations such as objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, or expressions. • Demonstrate understanding of addition and subtraction by making connections among representations. FIRST GRADE: Represent and solve problems. **NC.1.OA.2** Represent and solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings, and equations with a symbol for the unknown number
158	5	Finds the total by counting on from the first addend with sums up to ten	S	KINDERGARTEN: Understand addition and subtraction. **NC.K.OA.2** Solve addition and subtraction word problems, within 10, using objects or drawings to represent the problem, when solving: • Add to/Take From-Result Unknown • Put Together/Take Apart (Total Unknown and Two Addends Unknown) **NC.K.OA.4** For any number from 0 to 10, find the number that makes 10 when added to the given number using objects or drawings, and record the answer with a drawing or expression.
211	6	Given a set of objects, adds on to the set to make a given total (i.e. there are 4 bears and the child is asked to make there be 7; child adds 3 more bears)	S	KINDERGARTEN: Understand addition and subtraction. **NC.K.OA.4** For any number from 0 to 10, find the number that makes 10 when added to the given number using objects or drawings, and record the answer with a drawing or expression.
337	7	Determines the missing addend by adding on objects (i.e. you have 5 balls and then get some more. Now you have 7 in all. How many did you get?)	S	KINDERGARTEN: Understand addition and subtraction. **NC.K.OA.2** Solve addition and subtraction word problems, within 10, using objects or drawings to represent the problem, when solving: • Add to/Take From-Result Unknown • Put Together/Take Apart (Total Unknown and Two Addends Unknown) **NC.K.OA.4** For any number from 0 to 10, find the number that makes 10 when added to the given number using objects or drawings, and record the answer with a drawing or expression.
371	8	Finds the total when given a word problem by modeling with manipulatives when the sum is 15 or less (manipulatives are not a direct	S	SECOND GRADE: Relate addition and subtraction to length. **NC.2.MD.5** Use addition and subtraction, within 100, to solve word problems involving lengths that are given in the same units, using equations with a symbol for the unknown number to represent the problem. AND: Use place value understanding and properties of operations. **NC.2.NBT.5** - Model the meaning of

		representation of the objects in the word problems)		the symbols for addition (+) and subtraction (-) by using manipulatives to compose and decompose numbers up to 20. … **NC.2.NBT.7** Use objects, representations, and numbers (0–20) to add and subtract.

Stand name: Operations & Algebraic Thinking   Subdomain name: Patterns

Game #	Skill Level	Skill Description	Alignment	Standard
120	1	Copies ABAB patterns	M	YOUNGER PRESCHOOLER: Recognize simple repeating patterns and attempt to create them during play (repeat a movement pattern during a song, make a line of blocks in alternating colors). **CD-11k**
138	2	Fills in and extends ABAB patterns	M	OLDER PRESCHOOLER: Duplicate and extend simple patterns using concrete objects (look at a pattern of beads and tell what bead comes next in the pattern). **CD-11q**
183	3	Creates simple repeating patterns	M	YOUNGER PRESCHOOLER: Recognize simple repeating patterns and attempt to create them during play (repeat a movement pattern during a song, make a line of blocks in alternating colors). **CD-11k** OLDER PRESCHOOLER: Duplicate and extend simple patterns using concrete objects (look at a pattern of beads and tell what bead comes next in the pattern). **CD-11q**
186	4	Copies AABBAA, ABCABC, and ABBABB patterns	-	
194	5	Extends and fills in missing parts of AABBAA, ABCABC, and ABBABB patterns	-	
216	6	Creates varied repeating patterns	-	
336	7	Fills and extends in patterns involving numbers	M	KINDERGARTEN: Know number names and the counting sequence.**NC.K.CC.1** Know number names and recognize patterns in the counting sequence by: • Counting to 100 by ones.• Counting to 100 by tens.
370	8	Creates patterns with numbers	M	KINDERGARTEN: Know number names and the counting sequence. **NC.K.CC.1** Know number names and recognize patterns in the counting sequence by: • Counting to 100 by ones. • Counting to 100 by tens.

Stand name: Operations & Algebraic Thinking   *Subdomain name: Subtraction*

Game #	Skill Level	Skill Description	Alignment	Standard
90	1	Finds the difference by separating objects when the whole is 4 or less	Skill level 1?	YOUNGER PRESCHOOLER: Compare visually two groups of objects that are obviously equal or unequal in quantity and communicate that they are the same or different, and which one has more (choose a plate with four cookies rather than a plate with one cookie). **CD-10l** OLDER PRESCHOOLER: Compare the amount of items in small sets of objects (up to 5 objects) by matching or counting and use language such as "more than" and "less than" to describe the sets of objects. **CD-10r**
100	2	Decomposes 5 or fewer objects into two groups	M	KINDERGARTEN: **NC.K.OA.3** Decompose numbers less than or equal to 10 into pairs in more than one way using objects or drawings, and record each decomposition by a drawing or expression.
150	3	Finds the difference when given a word problem or scenario by directly modeling the problem with objects and taking away some objects when the whole is 6 or less	S	YOUNGER PRESCHOOLER: Represent what they learn during scientific exploration through drawing, modeling, building, movement, or other methods. **CD-15i** Compare visually two groups of objects that are obviously equal or unequal in quantity and communicate that they are the same or different, and which one has more (choose a plate with four cookies rather than a plate with one cookie). **CD-10l** OLDER PRESCHOOLER: Compare the amount of items in small sets of objects (up to 5 objects) by matching or counting and use language such as "more than" and "less than" to describe the sets of objects. **CD-10r**
160	4	Finds the difference when given a word problem or scenario by directly modeling the problem with objects and taking away some objects when the whole is 8 or less	S	KINDERGARTEN: **NC.K.OA.2** Solve addition and subtraction word problems, within 10, using objects or drawings to represent the problem, when solving: • Add to/Take From-Result Unknown • Put Together/Take Apart (Total Unknown and Two Addends Unknown)
164	5	Finds the difference by counting backwards with a whole up to 10	-	"counting backwards" not used
212	6	Given a set of objects, takes away from the set to make a given total (i.e.	S	KINDERGARTEN: **NC.K.OA.2** Solve addition and subtraction word problems, within 10, using objects or drawings to represent the problem, when solving:

		there are 6 bears and the child is asked to make there be 3; child takes away three bears)		• Add to/Take From-Result Unknown • Put Together/Take Apart (Total Unknown and Two Addends Unknown)
338	7	Determines how many were taken away when given the starting total and the ending total (You had 8 cookies and gave some to your friend. Now you have 5 cookies. How many did you give to your friend?)	S	KINDERGARTEN: **NC.K.OA.2** Solve addition and subtraction word problems, within 10, using objects or drawings to represent the problem, when solving: • Add to/Take From-Result Unknown • Put Together/Take Apart (Total Unknown and Two Addends Unknown)
372	8	Finds the difference when given a word problem by modeling with manipulatives when the whole is 15 or less (manipulatives are not a direct representation of the objects in the word problems)	S	FIRST GRADE: Represent and solve problems. **NC.1.OA.1** Represent and solve addition and subtraction word problems, within 20, with unknowns, by using objects, drawings, and equations with a symbol for the unknown number to represent the problem, when solving: • Add to/Take from-Change Unknown • Put Together/Take Apart-Addend Unknown • Compare-Difference Unknown

Mathematics Domain Summary

Out of the 15 subdomains, six subdomains had at least one weak alignment, and three subdomains had at least one unclear alignment. In total, thirteen games had weak alignment and seven games had unclear alignment. Three of the weakly aligned game objectives require the students to work "backwards" with the given task, so it's recommended to review if working "backwards" (e.g., counting backwards) is appropriate for these learning standards. Complex skills, such as volume and graphs, are also recommended to review so the skills can be confirmed at the expected skill level. For example, picture graphs seem to be used first before simple graphs, so there may be a need to readjust the order of game appearance and/or skill levels. Lastly, there were three consecutive games that had weak alignment; however, the games may be too specific, thus not providing the opportunity for students to explore *unique* patterns. Overall, mathematics can be represented differently across contexts, so reviewing the technicality and terminology related to the games can assist to ensure the appropriate skills are being assessed.

Domain: Language & Communication Development

Strand name: N/A Subdomain: Academic Vocabulary

Game #	Skill Level	Skill Description	Alignment	Standard
263	4	Applies understanding of cross-curricular prekindergarten level tier 2 words		Overarching Vocabulary Standard: NC Foundations - **Goal LDC-7**: Children respond to and use a growing vocabulary. Uses a different vocab across several domains.
264	4	Applies understanding of cross-curricular prekindergarten level tier 2 words		"
265	4	Applies understanding of cross-curricular prekindergarten level tier 2 words		"
266	5	Applies understanding of some cross-curricular kindergarten level tier 2 words		"
267	5	Applies understanding of some cross-curricular kindergarten level tier 2 words		"
268	5	Applies understanding of some cross-curricular kindergarten level tier 2 words		"
269	6	Applies understanding of more cross-curricular		"

		kindergarten level tier 2 words		
270	6	Applies understanding of more cross-curricular kindergarten level tier 2 words		"
271	6	Applies understanding of more cross-curricular kindergarten level tier 2 words		"
385	7	Applies understanding of a range of cross-curricular kindergarten level tier 2 words		"
403	7	Applies understanding of a range of cross-curricular kindergarten level tier 2 words		"
404	7	Applies understanding of a range of cross-curricular kindergarten level tier 2 words		"
394	8	Applies understanding of some cross-curricular 1st grade level 2 tiers words		"
405	8	Applies understanding of some cross-curricular 1st grade level 2 tiers words		"
406	8	Applies understanding of some cross-curricular 1st grade level 2 tiers words		"

Strand name: N/A Subdomain: Conventions of Language

Game #	Skill Level	Skill Description	Alignment	Standard
387	7	Demonstrates understanding of irregular plural nouns	M	YOUNGER PRESCHOOLER: Make grammatical errors that follow language rules (say, "mouses" instead of "mice"). **LDC-6h** FIRST GRADE - **RF.1.4** Know and apply grade-level phonics and word analysis skills in decoding words ... g. Recognize and read grade-appropriate irregularly spelled words.
396	8	Demonstrates understanding of matching verbs to singular and plural nouns in basic sentences	S	FIRST GRADE - **LANGUAGE STANDARDS** Conventions of Standard English - **L.1.1** Demonstrate command of the conventions of standard English grammar and usage when writing or speaking; demonstrate proficiency within the K-1 grammar continuum. - Language Standards – Grammar Continuum: ... Use singular and plural nouns with matching verbs in basic sentences
272	3	Demonstrates understanding of regular plural nouns	S	YOUNGER PRESCHOOLER: Communicate in longer sentences and use more conventional grammar in their home language (plurals, tenses, prepositions). **LDC-6g** Make grammatical errors that follow language rules (say, "mouses" instead of "mice"). **LDC-6h**
273	4	Demonstrates understanding of simple past, progressive present, and simple future verb tenses.	-	No mention of past, progressive, or future verb tenses. Only these: YOUNGER PRESCHOOLER: Communicate in longer sentences and use more conventional grammar in their home language (plurals, tenses, prepositions). **LDC-6g** FIRST GRADE: **L.1.5** With guidance and support, demonstrate emerging understanding of word relationships. ... c. Demonstrate an understanding of present tense verbs
274	5	Demonstrates understanding of question words (who, what, where, when, why, how)	M	This is under: FIRST GRADE - LANGUAGE STANDARDS Conventions of Standard English - L.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking; demonstrate proficiency within the K-1 grammar continuum. - Language Standards – Grammar Continuum: ... **Understand and use question words**
275	6	Demonstrates understanding of prepositions within sentences	M	YOUNGER PRESCHOOLER: Communicate in longer sentences and use more conventional grammar in their home language (plurals, tenses, prepositions). **LDC-6g** FIRST GRADE - **LANGUAGE STANDARDS** Conventions of Standard English - **L.1.1** Demonstrate command of the conventions of standard English grammar and usage when writing or speaking; demonstrate proficiency within the K-1 grammar continuum. - Language Standards – Grammar Continuum: ... Use frequently occurring prepositions

Strand name: N/A Subdomain: Listening and Understanding

Game #	Skill Level	Skill Description	Alignment	Standard
4	1	Responds to one-step requests or questions	S	INFANTS: Respond to simple requests ("Come here." or "Do you want more?"). LDC-1d YOUNGER TODDLER: • Follow simple directions and/or visual cues ("Put your pillow on the mat." "Please sit by me."). **LDC-1g**
16	2	Carries out a one-step request that relates to a new or an unfamiliar activity or situation	M	INFANTS: Respond to simple requests ("Come here." Or "Do you want more?"). **LDC-1d** YOUNGER TODDLER: • Follow simple directions and/or visual cues ("Put your pillow on the mat." "Please sit by me."). **LDC-1g**
35	3	Follows two-step, oral directions that relate to familiar activity or situation	S	OLDER TODDLER: Follow two-step directions with visual cues if needed ("Pick up the paper and put it in the trash." "Get your cup and put it on the table."). **LDC-1j**
64	4	Carries out two-step requests that involve a new or unfamiliar activity or situation	M	OLDER TODDLER: Follow two-step directions with visual cues if needed ("Pick up the paper and put it in the trash." "Get your cup and put it on the table."). **LDC-1j**
111	5	Carries out multi-step requests that relate to familiar activities or situations	S	YOUNGER PRESCHOOLER: Follow simple multistep directions with visual cues if needed. LDC-1m OLDER PRESCHOOLER: Follow more detailed multistep directions. **LDC-1p**
261	6	Attends to multiple details in directions	S	OLDER PRESCHOOLER: Follow more detailed multistep directions. **LDC-1p**
384	7	Carries out multi-step directions with multiple details	S	OLDER PRESCHOOLER: Follow more detailed multistep directions. **LDC-1p**
393	8	Carries out multi-step directions with multiple details that involve a new or unfamiliar activity or situation	M	OLDER PRESCHOOLER: Follow more detailed multistep directions. **LDC-1p**

Strand name: N/A Subdomain: Receptive Language

Game #	Skill Level	Skill Description	Alignment	Standard
7	1	Shows understanding of basic words	S	OLDER TODDLER: Show they understand many new vocabulary words and a variety of concepts (big and little, in and out). **LDC-7j**
24	2	Responds to "what" questions		These specific question words not mentioned (besides 2nd grade reading).
41	3	Responds to "where" questions		"
78	4	Demonstrates understanding of complex and compound sentences	S	YOUNGER PRESCHOOLER: Show understanding of increasingly complex sentences. **LDC-1k**
130	5	Responds to "how" questions		These specific question words not mentioned.

Strand name: N/A Subdomain: Vocabulary

Game #	Skill Level	Skill Description	Alignment	Standard
14	1	Understands color words		
28	2	Sorts words into categories	S	KINDERGARTEN: **L.K.5** With guidance and support from adults, explore nuances in word meanings. a. Sort common objects into categories to gain a sense of the concepts the categories represent.1st GRADE: **L.1.5** With guidance and support from adults, demonstrate understanding of nuances in word meanings. a. Sort words into categories to gain a sense of the concepts the categories represent.
57	3	Demonstrates understanding of comparative adjectives	M	OLDER TODDLER: Show they understand many new vocabulary words and a variety of concepts (big and little, in and out). **LDC-7j**
67	4	Demonstrates understanding of common antonyms	S	KINDERGARTEN: **L.K.5** With guidance and support from adults, explore nuances in word meanings. a. Sort common objects into categories to gain a sense of the concepts the categories represent. b. Demonstrate understanding of frequently occurring verbs and adjectives by relating

				them to their opposites (antonyms). AND….OLDER TODDLER: Show they understand many new vocabulary words and a variety of concepts (big and little, in and out). **LDC-7j**
159	5	Demonstrates understanding of cross-curricular words	S	KINDERGARTEN: **NL.COD.2** Understand words and concepts presented in the language. **NL.COD.2.1** Understand how to respond to simple, memorized questions in the target language that focus on key concepts in classroom activities and different content areas. **NL.COD.2.2** Compare the vocabulary of the target and students' language in different content areas. **NL.COD.2.3** Recognize words in groups from other disciplines.
262	6	Demonstrates understanding of basic multiple meaning words	M	"LEVEL 4 EXPANDING" in the Speaking Interpretive Rubric of the WIDA™ Consortium* Grades 1-12: usage of words and expressions with multiple meanings or common idioms across content areas as appropriate
386	7	Makes connections between shades of verbs and adjectives	S	KINDERGARTEN: **L.K.5** With guidance and support from adults, explore nuances in word meanings. … c. Distinguish shades of meaning among verbs describing the same general action by acting out the meanings. 1ST GRADE: **L.1.5** With guidance and support from adults, demonstrate understanding of nuances in word meanings... c. Distinguish shades of meaning among verbs differing in manner and adjectives differing in intensity by defining or choosing them or by acting out the meanings
395	8	Uses sentence-level context as a clue to the meaning of a word or phrase	S	OLDER PRESCHOOLER: Infer the meaning of different kinds of new words from the context in which they are used (for example, hear "sandals" and "boots" used to describe two pairs of shoes, and infer that the unfamiliar shoes must be sandals because they know that the other pair of shoes are boots). **LDC-7q** SECOND GRADE: Vocabulary Acquisition and Use **L.2.4** Determine and/or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies: context clues, word parts, word relationships, and reference materials. **L.2.5** Demonstrate understanding of nuances in word meanings. a. Distinguish shades of meaning among closely related verbs and closely related adjectives

Language & Communication Development Domain Summary

Out of the five subdomains, only one subdomain had at least one weak alignment, and three subdomains had at least one unclear alignment. There was a total of one game that had weak alignment, and there were nineteen games that had unclear alignment. The weakly aligned game occurred because specific verb tense skills (such as progressive or future) were not relevant to the NC Standard Course of Study or NC Foundations, so there may be a better-suited grammar or vocabulary skill to address here or reinforce instead. The *Academic Vocabulary* subdomain was identified as unclear for 100% of the games because "tier 2" is not a universal understanding and there was no specific vocabulary list embedded in the NC Foundations or Standard Course of Study to be used as a comparison. Lastly, the game objectives relating to specific question prompts (i.e., what, where, and how) were unclear because these are important in communication but are not specifically identified in the course objectives.

Domain: Literacy

Strand name: Listening Comprehension   *Subdomain: Key Ideas and Details*

Game #	Skill Level	Skill Description	Alignment	Standard
71	1	Listens to fictional texts with simple details and story elements	S	OLDER TODDLER: Listen for short periods of time to storybooks, informational books stories, poetry, songs and finger plays. **LDC-8i** YOUNGER PRESCHOOLER: Listen to and discuss storybooks, simple information books, and poetry. **LDC-8l**
248	1	Listens to fictional texts with simple details and story elements	S	OLDER TODDLER: Listen for short periods of time to storybooks, informational books stories, poetry, songs and finger plays. **LDC-8i** YOUNGER PRESCHOOLER: Listen to and discuss storybooks, simple information books, and poetry. **LDC-8l**
249	1	Listens to fictional texts with simple details and story elements	S	OLDER TODDLER: Listen for short periods of time to storybooks, informational books stories, poetry, songs and finger plays. **LDC-8i** YOUNGER PRESCHOOLER: Listen to and discuss storybooks, simple information books, and poetry. **LDC-8l**
89	2	Listens to nonfiction texts with simple structures and elements	S	OLDER TODDLER: Listen for short periods of time to storybooks, informational books stories, poetry, songs and finger plays. **LDC-8i** YOUNGER PRESCHOOLER: Listen to and discuss storybooks, simple information books, and poetry. **LDC-8l**
189	2	Listens to nonfiction texts with simple structures and elements	S	OLDER TODDLER: Listen for short periods of time to storybooks, informational books stories, poetry, songs and finger plays. **LDC-8i** YOUNGER PRESCHOOLER: Listen to and discuss storybooks, simple information books, and poetry. **LDC-8l**
250	2	Listens to nonfiction texts with simple structures and elements	S	OLDER TODDLER: Listen for short periods of time to storybooks, informational books stories, poetry, songs and finger plays. **LDC-8i** YOUNGER PRESCHOOLER: Listen to and discuss storybooks, simple information books, and poetry. **LDC-8l**
152	3	Identifies the main character(s) in a story	M	KINDERGARTEN: **RL.K.3** With prompting and support, identify characters, settings, and major events in a story

251	3	Identifies the main character(s) in a story	M	KINDERGARTEN: **RL.K.3** With prompting and support, identify characters, settings, and major events in a story
252	3	Identifies the main character(s) in a story	M	KINDERGARTEN: **RL.K.3** With prompting and support, identify characters, settings, and major events in a story
165	4	Recalls key details from a story	M	YOUNGER PRESCHOOLER: With prompting and support, discuss storybooks by responding to questions about what is happening and predicting what will happen next. **LDC-9n** KINDERGARTEN: **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and event. KINDERGARTEN **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
171	4	Recalls key details from a story	M	YOUNGER PRESCHOOLER: With prompting and support, discuss storybooks by responding to questions about what is happening and predicting what will happen next. **LDC-9n** KINDERGARTEN: **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and event. KINDERGARTEN **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
253	4	Recalls key details from a story	M	YOUNGER PRESCHOOLER: With prompting and support, discuss storybooks by responding to questions about what is happening and predicting what will happen next. **LDC-9n** KINDERGARTEN: **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and event. KINDERGARTEN **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
180	5	Recalls the order of events in a story	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
254	5	Recalls the order of events in a story	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
255	5	Recalls the order of events in a story	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances. **K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
256	6	Recalls several facts from expository text	M	FIRST GRADE: Key Ideas and Evidence **RL.1.1** Ask and answer questions about key details in a text. **RL.1.2** Retell stories, including key details, and demonstrate understanding of their central message or lesson. **RL.1.3** Describe characters, settings, and major events in a story, using key details.
257	6	Recalls several facts from expository text	M	FIRST GRADE: Key Ideas and Evidence **RL.1.1** Ask and answer questions about key details in a text. **RL.1.2** Retell stories, including key details, and demonstrate understanding of their central message or lesson. **RL.1.3** Describe characters, settings, and major events in a story, using key details.

258	6	Recalls several facts from expository text	M	FIRST GRADE: Key Ideas and Evidence **RL.1.1** Ask and answer questions about key details in a text. **RL.1.2** Retell stories, including key details, and demonstrate understanding of their central message or lesson. **RL.1.3** Describe characters, settings, and major events in a story, using key details.
329	7	Makes text to text connections	S	KINDERGARTEN: **RI.K.3** With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. FIRST GRADE: **RI.1.3** Describe the connection between two individuals, events, ideas, or pieces of information in a text.
330	7	Makes text to text connections	S	KINDERGARTEN: **RI.K.3** With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. FIRST GRADE: **RI.1.3** Describe the connection between two individuals, events, ideas, or pieces of information in a text.
331	7	Makes text to text connections	S	KINDERGARTEN: **RI.K.3** With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. FIRST GRADE: **RI.1.3** Describe the connection between two individuals, events, ideas, or pieces of information in a text.
365	8	Draws picture to summarize text and labels key details	M	***Not text specific*** KINDERGARTEN: **W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. FIRST GRADE: **W.1.2** Select a familiar topic and use drawing, dictating, or writing to share information about it.
363	8	Draws picture to summarize text and labels key details	M	***Not text specific*** KINDERGARTEN: **W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. FIRST GRADE: **W.1.2** Select a familiar topic and use drawing, dictating, or writing to share information about it.
364	8	Draws picture to summarize text and labels key details	M	***Not text specific*** KINDERGARTEN: **W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. FIRST GRADE: **W.1.2** Select a familiar topic and use drawing, dictating, or writing to share information about it. SECOND GRADE: Text Types, Purposes, and Publishing **W.2.1** Select a topic and use drawing, dictating, or writing to state an opinion about it.

Strand name: Phonics   Subdomain: Alphabet Knowledge

Game #	Skill Level	Skill Description	Alignment	Standard
240	2	Listens to alphabet chants and songs	-	NOTHING SPECIFIC TO "ALPHABET SONG". YOUNGER PRESCHOOLER: Demonstrate an interest in learning the alphabet. LDC-12b (OLDER PRESCHOOLER, LDC-12e)
46	3	Recognizes 10 uppercase letters	M	**(No uppercase/lowercase mentioned in NC Foundations; no progression)** Kindergarten: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print. ... d. Recognize and name all upper- and lowercase letters of the alphabet.
49	4	Recognizes 18 uppercase and 15 lowercase letters	M	"
52	4	Recognizes 18 uppercase and 15 lowercase letters	M	"
80	4	Recognizes 18 uppercase and 15 lowercase letters	M	"
88	5	Recognizes 26 uppercase and 20 lowercase letters	M	"
27	5	Recognizes 26 uppercase and 20 lowercase letters	M	"
241	5	Recognizes 26 uppercase and 20 lowercase letters	M	"
128	6	Identifies all 26 uppercase and lowercase letters	S	"
132	6	Identifies all 26 uppercase and lowercase letters	S	"
242	6	Identifies all 26 uppercase and lowercase letters	S	"
136	6	Identifies all 26 uppercase and lowercase letters	S	"
140	6	Identifies all 26 uppercase and lowercase letters	S	"

Game #	Skill Level	Skill Description	Alignment	Standard
316	7	Rapidly identifies all 26 uppercase and lowercase letters	-	NOTHING ABOUT "RAPIDLY"
317	7	Rapidly identifies all 26 uppercase and lowercase letters	-	NOTHING ABOUT "RAPIDLY"
314	7	Rapidly identifies all 26 uppercase and lowercase letters	-	NOTHING ABOUT "RAPIDLY"
315	7	Rapidly identifies all 26 uppercase and lowercase letters	-	NOTHING ABOUT "RAPIDLY"

Strand name: Phonics   *Subdomain: Decoding*

Game #	Skill Level	Skill Description	Alignment	Standard
294	6	Decode CVC words with short vowel sounds	M	KINDERGARTEN: Phonological Awareness **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). … d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)
320	7	Decode CCVC words with consonant diagraphs	-	
355	8	Decodes CVCe words with long vowel sounds	-	

Strand name: Phonics   Subdomain: Letter-Sound Correspondence

Game #	Skill Level	Skill Description	Alignment	Standard
83	4	Identifies 10 uppercase letters based on their sounds	M	***Not sound based*** KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
87	4	Identifies 10 uppercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
44	5	Identifies 15 uppercase and 10 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
244	5	Identifies 15 uppercase and 10 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
245	5	Identifies 15 uppercase and 10 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
166	6	Identifies all uppercase and 20 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
188	6	Identifies all uppercase and 20 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
283	6	Identifies all uppercase and 20 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
284	6	Identifies all uppercase and 20 lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
318	7	Identifies all 26 uppercase and lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.

Game #	Skill Level	Skill Description	Alignment	Standard
319	7	Identifies all 26 uppercase and lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
353	7	Identifies all 26 uppercase and lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
402	7	Identifies all 26 uppercase and lowercase letters based on their sounds	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print… d. Recognize and name all upper- and lowercase letters of the alphabet.
354	8	Identifies vowels based on long vowel sounds	M	KINDERGARTEN: Phonics and Word Recognition **RF.K.4** Know and apply grade-level phonics and word analysis skills in decoding words. … b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. FIRST GRADE: Phonological Awareness **RF.1.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Distinguish long from short vowel sounds in spoken single-syllable words SECOND GRADE: Phonics and Word Recognition **RF.2.4** Know and apply grade-level phonics and word analysis skills in decoding words. a. Distinguish long and short vowels when reading regularly spelled one-syllable words.

Strand name: Phonological Awareness   Subdomain: Alliteration

Game #	Skill Level	Skill Description	Alignment	Standard
19	1	Listens to songs and chants that have repeating initial sounds	M	OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k**
23	2	Recognize when groups of words begin with the same onset	S	OLDER PRESCHOOLER: Associate sounds with specific words, such as awareness that different words begin with the same sound. **LDC-11l**
39	3	Distinguishes if two words start with the same onset	S	OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k** Associate sounds with specific words, such as awareness that different words begin with the same sound. **LDC-11l**

102	4	Isolates the onset in words	S	OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k** Associate sounds with specific words, such as awareness that different words begin with the same sound. **LDC-11l**
121	5	Sorts words by onset	S	OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k** Associate sounds with specific words, such as awareness that different words begin with the same sound. **LDC-11l**
207	6	Sorts words with initial diagraphs by onset	M	FIRST GRADE: Phonics and Word Recognition **RF.1.4** Know and apply grade-level phonics and word analysis skills in decoding words. a. Know the spelling-sound correspondences for common consonant digraphs. …

Strand name: Phonological Awareness   *Subdomain: Blending*

Game #	Skill Level	Skill Description	Alignment	Standard
59	1	Adds missing word to form compound word.	M	NO MENTION OF COMPOUND WORDS. However, this is the closest: YOUNGER PRESCHOOLER: Participate in experiences with songs, poems, and books that have rhyme and wordplay, and learn words well enough to complete refrains and fill in missing words and sounds. **LDC-11f**
82	2	Combines two words to make a compound word.	M	NO MENTION OF COMPOUND WORDS. However, this is the closest: YOUNGER PRESCHOOLER: Participate in experiences with songs, poems, and books that have rhyme and wordplay, and learn words well enough to complete refrains and fill in missing words and sounds. **LDC-11f**
106	3	Combines syllables to form words	S	Kindergarten Phonological Awareness **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). … b. Count, pronounce, blend, and segment syllables in spoken words.
109	4	Blends onsets and rimes to make one-syllable words	S	Kindergarten **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). … b. Count, pronounce, blend, and segment syllables in spoken words. c. Blend and segment onsets and rimes of single-syllable spoken words.
146	5	Blends phonemes to form simple words	S	Kindergarten Phonological Awareness **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). … d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)

Game #	Skill Level	Skill Description	Alignment	Standard
			M	e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words
204	6	Blend phonemes to form simple words quickly	M	***Just not "quickly"*** Kindergarten Phonological Awareness **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). … d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.) e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words
312	7	Blends phonemes to form one-syllable word with consonant digraphs	S	1st grade - Phonics and Word Recognition **RF.1.4** Know and apply grade-level phonics and word analysis skills in decoding words. a. Know the spelling-sound correspondences for common consonant digraphs. b. Decode regularly spelled one-syllable words.
351	8	Blends phonemes to form one-syllable words with consonant blends	S	1st grade - Phonological Awareness **RF.1.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). … b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.

Strand name: Phonological Awareness   *Subdomain: Rhyming*

Game #	Skill Level	Skill Description	Alignment	Standard
11	1	Listens to a variety of rhymes (songs, chants, etc.)	M	YOUNGER PRESCHOOLER: Repeat familiar songs, chants, or rhymes. **LDC-7k**
91	2	Determines if two words rhyme	S	YOUNGER PRESCHOOLER: Play with the sounds of language and begin to identify rhymes (make up silly sounding words, repeat rhyming words). LDC-11h
149	3	Matches rhyming words	S	YOUNGER PRESCHOOLER: Play with the sounds of language and begin to identify rhymes (make up silly-sounding words, repeat rhyming words). **LDC-11h** OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k**

	4	Determines which word does not rhyme	M	YOUNGER PRESCHOOLER: Play with the sounds of language and begin to identify rhymes (make up silly-sounding words, repeat rhyming words). **LDC-11h** OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k**
163				
172	5	Demonstrates the ability to fill in rhyming words	S	YOUNGER PRESCHOOLER: Play with the sounds of language and begin to identify rhymes (make up silly-sounding words, repeat rhyming words). **LDC-11h** OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, **create some rhymes,** and recognize the first sounds in some words. **LDC-11k**
206	6	Fill in rhyming words	S	YOUNGER PRESCHOOLER: Play with the sounds of language and begin to identify rhymes (make up silly-sounding words, repeat rhyming words). **LDC-11h** OLDER PRESCHOOLER: Play with the sounds of language, identify a variety of rhymes, **create some rhymes,** and recognize the first sounds in some words. **LDC-11k**

Strand name: Phonological Awareness *Subdomain: Segmenting*

Game #	Skill Level	Skill Description	Alignment	Standard
8	1	Identifies separate words within a sentence	M	OLDER PRESCHOOLER: Demonstrate understanding of some basic print conventions (the concept of what a letter is, the concept of words, directionality of print). **LDC-10o**
13	2	Segments compound words into two words	M	OLDER TODDLER: Combine two and three words. **LDC-6f**
33	3	Deletes word from a compound word	M	OLDER TODDLER: Combine two and three words. **LDC-6f**
73	4	Segments words into syllables	M	OLDER PRESCHOOLER: Repeat a variety of rhythmic patterns in poems and songs using words, clapping, marching, and/or instruments to repeat the rhythm or beat syllables. **LDC-11j**
115	5	Explores segmenting simple words into individual phonemes	S	FIRST GRADE: **RF.1.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Recognize rhyming words. b. With guidance and support, identify the picture or word that corresponds to orally presented segmented phonemes (e.g., C-A-T). c. Identify a single syllable spoken word with the same onset (beginning sound) as a familiar word. d. With guidance and support, substitute individual sounds (phonemes) in simple, one-syllable words to make new words

205	6	Isolates final sounds in CVC words	S	KINDERGARTEN: Phonological Awareness **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). ... d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)
313	7	Isolates medial vowel sounds in CVC words (short vowels only)	S	KINDERGARTEN: Phonological Awareness **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). ... d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)
352	8	Identifies consonants that are combined to form a consonant blend	S	FIRST GRADE: Phonological Awareness **RF.1.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). .... b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.

Strand name: Reading   Subdomain: Comprehension - Fiction

Game #	Skill Level	Skill Description	Alignment	Standard
295	6	Answers simple recall questions about a text with short, predictable sentences that directly relate to illustrations	S	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events. ... AND Integration of Ideas and Analysis **RL.K.7** With prompting and support, describe how the words and illustrations work together to tell a story. FRIST GRADE: Integration of Ideas and Analysis **RI.1.7** Use the illustrations and details in a text to describe its key ideas.
303	6	Answers simple recall questions about a text with short, predictable sentences that directly relate to illustrations	S	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events. ... AND Integration of Ideas and Analysis **RL.K.7** With prompting and support, describe how the words and illustrations work together to tell a story. FRIST GRADE: Integration of Ideas and Analysis **RI.1.7** Use the illustrations and details in a text to describe its key ideas.
296	6	Answers simple recall questions about a text with short, predictable sentences that directly relate to illustrations	S	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events. ... AND Integration of Ideas and Analysis **RL.K.7** With prompting and support, describe how the words and illustrations work together to tell a story. FRIST GRADE: Integration of Ideas and Analysis **RI.1.7** Use the illustrations and details in a text to describe its key ideas.

322	7	Recalls order of events after reading a text	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
324	7	Recalls order of events after reading a text	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
323	7	Recalls order of events after reading a text	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events.
356	8	Makes simple prediction and inferences about a text	M	SECOND GRADE: **NM.CLL.2.4** Infer conclusions from simple spoken and written passages about familiar topics, using context clues and cognates
357	8	Makes simple prediction and inferences about a text	M	SECOND GRADE: **NM.CLL.2.4** Infer conclusions from simple spoken and written passages about familiar topics, using context clues and cognates
358	8	Makes simple prediction and inferences about a text	M	SECOND GRADE: **NM.CLL.2.4** Infer conclusions from simple spoken and written passages about familiar topics, using context clues and cognates

Strand name: Reading   Subdomain: Comprehension – Non-Fiction

Game #	Skill Level	Skill Description	Alignment	Standard
300	6	Answers simple recall questions about texts with short, predictable sentences that directly relate to illustrations	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events. … AND: Integration of Ideas and Analysis **RL.K.7** With prompting and support, describe how the words and illustrations work together to tell a story. FRIST GRADE: Integration of Ideas and Analysis **RI.1.7** Use the illustrations and details in a text to describe its key ideas.
301	6	Answers simple recall questions about texts with short, predictable sentences that directly relate to illustrations	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events. … AND: Integration of Ideas and Analysis **RL.K.7** With prompting and support, describe how the words and illustrations work together to tell a story. FRIST GRADE: Integration of Ideas and Analysis **RI.1.7** Use the illustrations and details in a text to describe its key ideas.
302	6	Answers simple recall questions about texts with short, predictable sentences that directly relate to illustrations	M	KINDERGARTEN: **K.A.1** Analyze literary texts and performances.**K.A.1.1** Recall the basic parts of a story, such as characters, setting, and events. … AND: Integration of Ideas and Analysis **RL.K.7** With prompting and support, describe how the words and illustrations work together to tell a story. FRIST GRADE: Integration of Ideas and Analysis **RI.1.7** Use the illustrations and details in a text to describe its key ideas.

325	7	Demonstrates understanding of content specific vocabulary used in a text	M	***Same standard in K and 1? This doesn't relate specifically to text*** KINDERGARTEN AND FIRST GRADE: **NL.COD.1** Use the language to engage in interpersonal communication. **NL.COD.1.1** Carry out simple exchanges of information using memorized content vocabulary. AND **NL.COD.2.2** Compare the vocabulary of the target and students' language in different content areas
326	7	Demonstrates understanding of content specific vocabulary used in a text	M	KINDERGARTEN AND FIRST GRADE: **NL.COD.1** Use the language to engage in interpersonal communication. **NL.COD.1.1** Carry out simple exchanges of information using memorized content vocabulary. AND **NL.COD.2.2** Compare the vocabulary of the target and students' language in different content areas
327	7	Demonstrates understanding of content specific vocabulary used in a text	M	KINDERGARTEN AND FIRST GRADE: **NL.COD.1** Use the language to engage in interpersonal communication. **NL.COD.1.1** Carry out simple exchanges of information using memorized content vocabulary. AND **NL.COD.2.2** Compare the vocabulary of the target and students' language in different content areas
359	8	Recalls order of procedures after reading a procedural text	-	
360	8	Recalls order of procedures after reading a procedural text	-	
361	8	Recalls order of procedures after reading a procedural text	-	

Strand name: Reading   *Subdomain: Concepts of Print*

Game #	Skill Level	Skill Description	Alignment	Standard
70	1	Identifies appropriate book orientation	S	YOUNGER TODDLER AND OLDER TODDLER AND YOUNGER PRESCHOOLER: Engage in reading behaviors independently (choose books, turn pages but not always in order, tell the story). **LDC-8j** **LDC-8h . LDC-8d**
75	2	Distinguishes print from pictures	S	YOUNGER PRESCHOOLER: Recognize letters of the alphabet as a special category of print, different from pictures, shapes, and numerals. **LDC-12c**
85	3	Demonstrates understanding of print directionality	-	

122	4	Identifies book parts and features	-	
173	5	Distinguishes letters from words	S	YOUNGER PRESCHOOLER: Recognize letters of the alphabet as a special category of print, different from pictures, shapes, and numerals. **LDC-12c** OLDER PRESCHOOLER: Show they know that letters function to represent sounds in spoken words. **LDC-12f**
210	6	Distinguishes between uppercase and lowercase letters	M	KINDERGARTEN: Print Concepts **RF.K.1.** Demonstrate understanding of the organization and basic features of print. … d. Recognize and name all upper- and lowercase letters of the alphabet.
321	7	Tracks written text along with spoken text		

Strand name: Reading   *Subdomain: High-Frequency Words*

Game #	Skill Level	Skill Description	Alignment	Standard
297	6	Identifies the following sight words: the, can, is, a, I, see, on, he, she, at		Sight words not mentioned in standards- Only: KINDERGARTEN: Phonics and Word Recognition - **RF.K.4** Know and apply grade-level phonics and word analysis skills in decoding words. … c. Read common high-frequency words by sight.
328	7	Identifies the following sight words: to, in, you, it, was, that, his, and, for, are		"
362	8	Identifies the following sight words: of, with, they, be, this, have, from, we, look, my		"

Strand name: Writing   Subdomain: Writing Development

Game #	Skill Level	Skill Description	Alignment	Standard
92	1	Makes scribble marks	S	YOUNGER TODDLER: • Make marks, scribble, and paint (e.g., cover easel paper with big crayon or paint marks, make marks with marker or crayon). **LDC-13a** YOUNGER PRESCHOOLER: Represent thoughts and ideas through marks, scribbles, drawings, and paintings (draw a picture of something they did during the day, indicate what they want for lunch with a mark under the picture of the food they want). **LDC-13c**
116	2	Draws pictures to convey meaning	S	YOUNGER PRESCHOOLER: Represent thoughts and ideas through marks, scribbles, drawings, and paintings (draw a picture of something they did during the day, indicate what they want for lunch with a mark under the picture of the food they want). **LDC-13c** OLDER PRESCHOOLER: Represent thoughts and ideas in drawings and by writing letters or letter-like forms. **LDC-13f**
125	3	Writes shape like symbols	M	**NC.1.OA.2** Represent and solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, by using objects, drawings, and equations with a symbol for the unknown number
142	4	Writes letter strings	M	OLDER PRESCHOOLER: Draw and write smaller figures with more detail (faces with features, letters, or letter-like forms). **HPD-5m** Represent thoughts and ideas in drawings and by writing letters or letter-like forms. **LDC-13f** Independently engage in writing behaviors for various purposes (e.g., write symbols or letters for names, use materials at writing center, write lists with symbols/letters in pretend play, write messages that include letters or symbols). **LDC-13h** Show they know that written words are made up of particular letters (point to the first letter of their own name, find the first letter of their own name in a list of letters). **LC-14b** KINDERGARTEN: **RF.K.2** With guidance and support, selects or produces letters when asked to write.
185	5	Writes letter strings with spaces	M	OLDER PRESCHOOLER: Imitate adult writing conventions that they have observed (write groups of letter-like forms separated by spaces, try to write on a line, press Enter key on computer after typing a series of "words"). **LC-15j** KINDERGARTEN: **RF.K.1.** Demonstrate understanding of the organization and basic features of print. ... c. Understand that words are separated by spaces in print.
215	6	Labels picture with at least the initial sound	M	OLDER PRESCHOOLER: •Play with the sounds of language, identify a variety of rhymes, create some rhymes, and recognize the first sounds in some words. **LDC-11k** • Associate sounds with specific words, such as awareness that different words begin with the same sound. **LDC-11** KINDERGARTEN: **RF.K.3** Demonstrate understanding of spoken words, syllables, and sounds (phonemes). ... d. Isolate and pronounce the initial, medial vowel, and final

			🟧	sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)
335	7	Uses invented or phonetic spelling	S	KINDERGARTEN AND 1ST GRADE CONTINIUUM: Spell simple words phonetically, drawing on knowledge of sound-letter relationships. CONTINUUM FROM: **L.K.2** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing; demonstrate proficiency within the K-1 conventions continuum. (1st grade it continues this)
369	8	Uses capital letters at the beginning of a sentence and ending punctuation	S	KINDERGARTEN: **L.K.2** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing; demonstrate proficiency within the K-1 conventions continuum. (1st grade it continues this) SECOND GRADE LANGUGAE STANDARD: **L.2.2** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing; demonstrate proficiency within the 2-3 conventions continuum.

Literacy Domain Summary

Out of the thirteen subdomains, four subdomains had at least one weak alignment, and two subdomains had at least one unclear alignment—for a total of thirteen games that had weak alignment and three games that had unclear alignment. For the first weakly aligned game, it was surprising to not find the alphabet song to be a specific learning objective. However, this may signify that the alphabet song may simply be a learning tool and not the true learning outcome. Similarly, game objectives that required speed (e.g., rapid identification) were designated as weak alignment because speed was not required in the learning objectives. For the remaining weakly aligned games, there are concerns about specific tasks not relating to grade-level learning objectives appropriately, such as the Kindergarten standards within The NC Standard Course of Study only mentioning CVC decoding in phonics and there being a generic understanding of what "print"/"text" is (instead of focusing on the *directionality* of the text). Overall, games are recommended to be reviewed to focus on learning outcomes that can properly assess students' understanding. Relatedly, the games with unclear alignment may be too specific (e.g., what the sight words are expected to be).

Domain: Physical Development

Strand name: N/A Subdomain: Health & Safety

Game #	Skill Level	Skill Description	Alignment	Standard
45	1	Demonstrates understanding of personal safety practices and routines	S	YOUNGER PRESCHOOLER: Usually recognize and avoid objects and situations that might cause harm. **HPD-8j** • Usually follow basic safety rules. **HPD-8k** YOUNGER TODDLER: Show some caution about unfamiliar and/or unsafe situations. **HPD-8d** Respond to simple warnings that prevent harm ("Stop!" "Hot!" "Wait!"). **HPD-8e**
74	2	Identifies ways to play safely	S	YOUNGER PRESCHOOLER: Know what their bodies can do, and play within their abilities to avoid injury to self or others. **HPD-8i** FIRST GRADE: **1.PCH.3** Understand necessary steps to prevent and respond to unintentional injury. **1.PCH.3.1** Identify safety hazards in the home and injury prevention strategies.
114	3	Identifies behaviors that promote health and safety	S	***health?*** YOUNGER PRESCHOOLER: Know what their bodies can do, and play within their abilities to avoid injury to self or others. **HPD-8i**
137	4	Applies knowledge and skills related to health promotion, disease prevention, and health maintenance	S	YOUNGER PRESCHOOLER: Use adaptive equipment, ask for help with positioning and movement, and/or participate in medical care routines as needed. **HPD-7j** Follow basic hygiene practices with reminders (brush teeth, wash hands, use toilet, cough into elbow). **HPD-7l**
196	5	Identifies, avoids, and alerts others to danger	S	YOUNGER PRESCHOOLER: Call a trusted adult when someone gets injured or is in an unsafe situation. **HPD-8l**

Strand name: N/A Subdomain: Nutrition

Game #	Skill Level	Skill Description	Alignment	Standard
17	1	Identifies a variety of nutritious foods	S	YOUNGER PRESCHOOLER: Communicate that some foods are good for them (fresh fruits, vegetables, milk) and some are not healthy (potato chips, soda). **HPD-1r** OLDER PRESCHOOLER: Given a selection of familiar foods, identify which foods are nutritious and

Game #	Skill Level	Skill Description	Alignment	Standard
				which are not. **HPD-1u** Talk about variety and amount of foods needed to be healthy (can identify what is missing from their meal). **HPD-1v** Name foods and beverages that help to build healthy bodies. **HPD-1w**
32	2	Identifies healthy versus unhealthy foods	S	YOUNGER PRESCHOOLER: Communicate that some foods are good for them (fresh fruits, vegetables, milk) and some are not healthy (potato chips, soda). **HPD-1r** OLDER PRESCHOOLER: Given a selection of familiar foods, identify which foods are nutritious and which are not. **HPD-1u** Talk about variety and amount of foods needed to be healthy (can identify what is missing from their meal). **HPD-1v** Name foods and beverages that help to build healthy bodies. **HPD-1w**
105	3	Creates a healthy breakfast menu	M	OLDER PRESCHOOLER: • Talk about variety and amount of foods needed to be healthy (can identify what is missing from their meal). **HPD-1**
119	4	Creates healthy lunch and dinner menu	M	OLDER PRESCHOOLER: • Talk about variety and amount of foods needed to be healthy (can identify what is missing from their meal). **HPD-1**
179	5	Creates a shopping list with healthy foods		NOT SPECIFIC TO CREATING A LIST

Strand name: N/A Subdomain: Self-Care

Game #	Skill Level	Skill Description	Alignment	Standard
5	1	Identifies self-care routines and scenarios	S	OLDER TODDLER: Use words or sign language to ask for the things they need (food when hungry, drink when thirsty, go outdoors when they need to be physically active). **HPD-6e** Soothe themselves when needed (find a quiet area for alone time, look at book before nap). **HPD-6** YOUNGER PRESCHOOLER: Use words or sign language to ask for the things they need (food when hungry, drink when thirsty, go outdoors when they need to be physically active). **HPD-6g** Use different strategies to calm themselves when needed (self-talk, deep breathing, cozy corner). **HPD-6h**
10	2	Identifies basic processes for self-care (hand washing, feeding, toileting)	S	YOUNGER PRESCHOOLER: Follow basic hygiene practices with reminders (brush teeth, wash hands, use toilet, cough into elbow). **HPD-7l** Serve food for themselves. HPD-7m
68	3	Identifies objects needed for basic self-care activities		"objects" not specifically identified within standards

| 84 | 4 | Identifies daily routine activities | S | YOUNGER PRESCHOOLER: Follow basic hygiene practices with reminders (brush teeth, wash hands, use toilet, cough into elbow). **HPD-7l** Help with routine care of the indoor and outdoor learning environment (recycle, care for garden). **HPD-7n** |
| 190 | 5 | Identifies steps in daily routine and self-care processes | S | OLDER TODDLER: Initiate self-care routines and complete with guidance (put on some clothes, undress, throw away paper towel, begin to show an interest in toileting). **HPD-7f** YOUNGER PRESCHOOLER: Follow basic hygiene practices with reminders (brush teeth, wash hands, use toilet, cough into elbow). **HPD-7l** Help with routine care of the indoor and outdoor learning environment (recycle, care for garden). **HPD-7n** |

Physical Development Domain Summary

Within this domain, there were no games with weak alignment. Out of the three subdomains, two subdomains had at least one unclear alignment—for a total of two games that had unclear alignment. Both games with unclear alignment were connected to relevant and appropriate topics (healthy food and self-care routines), but the specific task being assigned did not clearly match the age-appropriate learning standard and the overarching topic of understanding. Similar to other domains, these games should be reviewed for the overarching skill (i.e., learning objective) being assessed, instead of the specific task being named within the game. This will help ensure the match is appropriate, including if it's on grade level.

Domain: Science & Technology

Strand name: N/A Subdomain: Earth Science

Game #	Skill Level	Skill Description	Alignment	Standard
48	1	Identifies materials in the environment	S	KINDERGARTEN: **K.P.2** Understand how objects are described based on their physical properties and how they are used... **K.P.2.2** Compare the observable physical properties of different kinds of materials (clay, wood, cloth, paper, etc.) from which objects are made and how they are used. FIRST GRADE: EARTH SYSTEMS, STRUCTURES AND PROCESSES **EX.1.E.2** Identify differences in Earth Materials. **EX.1.E.2.1** Identify change in an object (color, size, shape) using one or more of the senses. **EX.1.E.2.2** Identify earth Materials (rocks, soils and water)
62	2	Identifies changes and properties in the Earth's environment	M	**Weather focus?** KINDERGARTEN: EARTH SYSTEMS, STRUCTURES AND PROCESSES **K.E.1** Understand change and observable patterns of weather that occur from day to day and throughout the year. **K.E.1.1** Infer that change is something that happens to many things in the environment based on observations made using one or more of their senses. **K.E.1.2** Summarize daily weather conditions noting changes that occur from day to day and throughout the year. **K.E.1.3** Compare weather patterns that occur from season to season.
95	3	Analyzes patterns in weather and the effects of weather on the Earth's environment	S	KINDERGARTEN: EARTH SYSTEMS, STRUCTURES AND PROCESSES **K.E.1** Understand change and observable patterns of weather that occur from day to day and throughout the year. **K.E.1.1** Infer that change is something that happens to many things in the environment based on observations made using one or more of their senses. **K.E.1.2** Summarize daily weather conditions noting changes that occur from day to day and throughout the year. **K.E.1.3** Compare weather patterns that occur from season to season.
154	4	Evaluates changes to the Earth's environment	M	**Weather focus?** KINDERGARTEN: EARTH SYSTEMS, STRUCTURES AND PROCESSES **K.E.1** Understand change and observable patterns of weather that occur from day to day and

| 161 | 5 | Demonstrates understanding of causes and the effects of the environment | M | throughout the year.
K.E.1.1 Infer that change is something that happens to many things in the environment based on observations made using one or more of their senses.
K.E.1.2 Summarize daily weather conditions noting changes that occur from day to day and throughout the year.
K.E.1.3 Compare weather patterns that occur from season to season.

May be too narrow? KINDERGARTEN: EARTH SYSTEMS, STRUCTURES AND PROCESSES **EX.K.E.1** Explore changes when manipulating objects. **EX.K.E.1.1** Use objects to make things happen (cause/effect). |

Strand name: N/A Subdomain: Life Science

Game #	Skill Level	Skill Description	Alignment	Standard
2	1	Identifies at least one living thing	M	. YOUNGER PRESCHOOLER: Notice and describe characteristics of plants and animals, such as appearance, similarities, differences, behavior, and habitat. **CD-14g** KINDERGARTEN: **K.L.1** Compare characteristics of animals that make them alike and different from other animals and nonliving things...**K.L.1.2** Compare characteristics of living and nonliving things in terms of their: • Structure • Growth• Changes• Movement• Basic needs
29	2	Identifies at least 3 living things	M	. YOUNGER PRESCHOOLER: Notice and describe characteristics of plants and animals, such as appearance, similarities, differences, behavior, and habitat. **CD-14g** KINDERGARTEN: **K.L.1** Compare characteristics of animals that make them alike and different from other animals and nonliving things...**K.L.1.2** Compare characteristics of living and nonliving things in terms of their: • Structure • Growth• Changes• Movement• Basic needs
42	3	Identifies living things and begins to identify their basic needs (air, water, food, shelter)	S	KINDERGARTEN: **K.L.1** Compare characteristics of animals that make them alike and different from other animals and nonliving things. … **K.L.1.2** Compare characteristics of living and nonliving things in terms of their:• Structure • Growth• Changes• Movement• **Basic needs**
81	4	Identifies how living things change over time	S	YOUNGER PRESCHOOLER: Notice changes that happen over time (seasons, self or others growing bigger). **CD-9c** KINDERGARTEN: **K.L.1** Compare characteristics of animals that make them alike and different from other animals

Gam e #	Skill Level	Skill Description	Alignment	Standard
			S	and nonliving things. ...**K.L.1.2** Compare characteristics of living and nonliving things in terms of their:• Structure • Growth• **Changes**• Movement• Basic needs
127	5	Identifies living things and their basic needs, and how they grow and change over time	S	YOUNGER PRESCHOOLER: Notice changes that happen over time (seasons, self or others growing bigger). **CD-9c** KINDERGARTEN: **K.L.1** Compare characteristics of animals that make them alike and different from other animals and nonliving things. ...**K.L.1.2** Compare characteristics of living and nonliving things in terms of their:• Structure • **Growth• Changes**• Movement• **Basic needs**

Strand name: N/A Subdomain: Physical Science

Gam e #	Skill Level	Skill Description	Alignment	Standard
25	1	Identifies at least 3 of 5 senses and can identify a property of a natural and/or humanmade material	S	INFANTS: Observe and explore natural phenomena indoors and outdoors, using all senses (rub hands over grass, lift face to feel wind, pat family dog, splash water). **CD-14a** YOUNGER TODDLER: Use abilities to observe and explore natural phenomena indoors and outdoors with focus, using all senses (notice and interact with small insects, smell flowers, catch falling snow, shuffle through leaves). **CD-14b** Use all senses to examine the environment carefully (reach out to touch rain, stop playing to watch shadows, gaze at moon). **CD-15c** YOUNGER PRESCHOOLER: Use all available senses, tools, and a variety of strategies to explore the environment (drop objects in water to see if they sink or float). **APL-2j**
43	2	Identifies 4 of 5 senses and demonstrates understanding of the texture of materials	S	INFANTS: Observe and explore natural phenomena indoors and outdoors, using all senses (rub hands over grass, lift face to feel wind, pat family dog, splash water). **CD-14a** YOUNGER TODDLER: Use abilities to observe and explore natural phenomena indoors and outdoors with focus, using all senses (notice and interact with small insects, smell flowers, catch falling snow, shuffle through leaves). **CD-14b** Use all senses to examine the environment carefully (reach out to touch rain, stop playing to watch shadows, gaze at moon). **CD-15c** YOUNGER PRESCHOOLER: Use all available senses, tools, and a variety of strategies to explore the environment (drop objects in water to see if they sink or float). **APL-2j**

Game #	Skill Level	Skill Description	Alignment	Standard
53	3	Identifies 5 senses and demonstrates understanding of what our senses do	S	INFANTS: Observe and explore natural phenomena indoors and outdoors, using all senses (rub hands over grass, lift face to feel wind, pat family dog, splash water). **CD-14a** YOUNGER TODDLER: Use abilities to observe and explore natural phenomena indoors and outdoors with focus, using all senses (notice and interact with small insects, smell flowers, catch falling snow, shuffle through leaves). **CD-14b** Use all senses to examine the environment carefully (reach out to touch rain, stop playing to watch shadows, gaze at moon). **CD-15c** YOUNGER PRESCHOOLER: Use all available senses, tools, and a variety of strategies to explore the environment (drop objects in water to see if they sink or float). **APL-2j**
93	4	Sorts, groups, or classifies objects based on one or more properties	S	YOUNGER PRESCHOOLER: Group familiar objects that go together (shoe and sock, brush and paint, hammer and nail). **CD-1j** Sort familiar objects into categories with increasing accuracy (tools for woodworking and utensils for cooking; rectangle blocks on one shelf and square blocks on another shelf). **CD-11j** OLDER PRESCHOOLER: Organize and use information through matching, grouping, and sequencing. **CD-1n** Sort a group of objects (0-10) using one attribute (color, size, shape, quantity) with increasing accuracy (sort blocks by shape and place like-shaped blocks on the shelf; sort beads by color). **CD-11p**
134	5	Identifies the effects magnets have on some items	S	FIRST GRADE: FORCES AND MOTION **1.P.1** Understand how forces (pushes or pulls) affect the motion of an object. …. **1.P.1.2** Explain how some forces (pushes and pulls) can be used to make things move without touching them, such as magnets.

Strand name: N/A Subdomain: Simple Tools

Game #	Skill Level	Skill Description	Alignment	Standard
37	1	Identifies simple tools	M	YOUNGER PRESCHOOLER: Use simple tools to investigate objects and materials, with guidance and support (magnifying glass, sifter, ramps for rolling balls and cars). **CD-15l**

72	2	Identifies simple tools that help us	M	YOUNGER PRESCHOOLER: Use simple tools to investigate objects and materials, with guidance and support (magnifying glass, sifter, ramps for rolling balls and cars). **CD-15l**
112	3	Identifies simple tools used to observe and quantify similarities and differences	S	YOUNGER PRESCHOOLER: se simple measurement tools with guidance and support to measure objects (a ruler, measuring cup, scale). **CD-11g** OLDER PRESCHOOLER: Use an increasing variety of tools to investigate the world around them (measuring tools, balance, prism, droppers). **CD-15q**
187	4	Identifies simple tools and understands how the tools help us	S	YOUNGER PRESCHOOLER: se simple measurement tools with guidance and support to measure objects (a ruler, measuring cup, scale). **CD-11g** Use simple tools to investigate objects and materials, with guidance and support (magnifying glass, sifter, ramps for rolling balls and cars). **CD-15l** OLDER PRESCHOOLER: Use an increasing variety of tools to investigate the world around them (measuring tools, balance, prism, droppers). **CD-15q**
195	5	Correctly identifies phenomena that is observable through the use of scientific tools	S	YOUNGER PRESCHOOLER" Use simple tools to investigate objects and materials, with guidance and support (magnifying glass, sifter, ramps for rolling balls and cars). **CD-15l**

Science & Technology Domain Summary

Within the four subdomains, fortunately, no games were identified as weak or unclear alignment. Moderate alignment was given to some games because of the inconsistency between learning objectives and course objectives. For example, how related are earth patterns to weather patterns; are the earth/environmental patterns within the game sufficient to meet the learning needs of weather patterns? In general, the Science & Technology domain has the potential to be strongly aligned, overall, but there are some games that did not exactly match the learning objectives (including with the skill levels that were named). It's recommended to review these games alongside elementary education experts to assess the natural progression of these early childhood standards.

Domain: Social Studies

Strand name: N/A Subdomain: Community Awareness

Game #	Skill Level	Skill Description	Alignment	Standard
40	1	Draws a picture of a neighborhood	M	***Not specific to neighborhood*** YOUNGER PRESCHOOLER: Represent thoughts and ideas through marks, scribbles, drawings, and paintings (draw a picture of something they did during the day, indicate what they want for lunch with a mark under the picture of the food they want). **LDC-13c** OLDER PRESCHOOLER: Represent thoughts and ideas in drawings and by writing letters or letter-like forms. **LDC-13f**
69	2	Identifies characteristics of a neighborhood	S	YOUNGER PRESCHOOLER: Describe characteristics of the places where they live and play (say, "My house is big and there are trees in my yard." "The playground has swings and a sandbox."). **CD-9b** OLDER PRESCHOOLER: Describe characteristics of the places where they live and play (say, "My house is big and there are trees in my yard." "The playground has swings and a sandbox."). **CD-9f**
108	3	Shows understanding of how places and things within a neighborhood are commonly utilized		*Neighborhood specific items are not specific in NC Foundations*
178	4	Demonstrates understanding of physical features of neighborhoods/communities	M	YOUNGER PRESCHOOLER: Describe characteristics of the places where they live and play (say, "My house is big and there are trees in my yard." "The playground has swings and a sandbox."). **CD-9b** OLDER PRESCHOOLER: Describe characteristics of the places where they live and play (say, "My house is big and there are trees in my yard." "The playground has swings and a sandbox."). **CD-9f**
198	5	Identify community helpers (within a community/neighborhood)	S	YOUNGER PRESCHOOLER: Recognize and identify the roles of some community helpers (police, fire fighters, garbage collectors). **CD-6j** OLDER PRESCHOOLER: Recognize and identify the roles of a wide variety of community helpers (police, fire fighters, garbage collectors, doctors, dentists). **CD-6mER**

Strand name: N/A Subdomain: Self-Identity

Game #	Skill Level	Skill Description	Alignment	Standard
1	1	Draws a self-portrait	M	YOUNGER PRESCHOOLER: Describe self (characteristics that can be seen, things they can do, things they like, possessions). **ESD-1k**
22	2	Draws a picture of his/her home	M	YOUNGER PRESCHOOLER: Express goals or plans and follow through on them ("I'm going to draw my house."). **APL-7i** Describe characteristics of the places where they live and play (say, "My house is big and there are trees in my yard." "The playground has swings and a sandbox."). **CD-9b**
60	3	Draws a picture that resembles his/her family	M	YOUNGER PRESCHOOLER: Talk about close family members, name their relationships to each other, and describe family routines ("Marika is my sister." "My grandma takes care of me at night."). **CD-6h**
97	4	Identifies various characteristics and interests that appeal to him/herself	S	OLDER TODDLER: Put self into categories based on age, gender, and physical characteristics ("I'm a girl." "I have long hair."). **CD-7c** Show awareness of some of their own characteristics and things they can do (recognize themselves in pictures, say, "I help Daddy!"). **ESD-1h** YOUNGER PRESCHOOLER: Describe self (characteristics that can be seen, things they can do, things they like, possessions). **ESD-1k**
135	5	Draws a self-portrait with (at least one) characteristic or interests included	M	Discover things that interest and amaze them and seek to share them with others. **APL-1j**

Social Studies Domain Summary

Out of the two subdomains, no games were identified to have weak alignment, but one subdomain had one game that had unclear alignment. This game's objective ("Shows understanding of how places and things within a neighborhood are commonly utilized") seemed to be too specific with the term "neighborhood"; however, community awareness and community experiences are important in general within the NC Foundations learning standards (e.g., Goal CD-9: Children explore concepts connected with their daily experiences in their community). Focusing on the community (instead of a neighborhood) may allow for better alignment. Lastly, the moderately aligned games focused on "drawing", when drawing is not the true skill being assessed in relation to learning standards. It's recommended to review these games to ensure the concepts are accurately matching learning objectives and expectations within this Social Studies domain, such as making sure that the drawing aspect of the games is not overshadowing the learning objective.

Domain: Social-Emotional Development

Strand name: N/A Subdomain: Identifying Emotions

Game #	Skill Level	Skill Description	Alignment	Standard
3	1	Identifies basic emotions (happy, sad, angry/mad, and scared)	S	INFANTS: Express a range of emotions (happiness, sadness, fear, and anger) with their face, body, and voice. ...to... **ESD-6a** YOUNGER/OLDER PRESCHOOLER: Express a range of emotions (happiness, sadness, fear, anger, disgust, tenderness, hostility, shame, guilt, satisfaction, and love) with their face, body, vocal sounds, and words. **ESD-6l . ESD-6o**
9	2	Demonstrates causes of basic emotions	S	INFANTS: Express a range of emotions (happiness, sadness, fear, and anger) with their face, body, and voice. ...to... **ESD-6a** YOUNGER/OLDER PRESCHOOLER: Express a range of emotions (happiness, sadness, fear, anger, disgust, tenderness, hostility, shame, guilt, satisfaction, and love) with their face, body, vocal sounds, and words. **ESD-6l . ESD-6o**
76	3	Identifies more complex emotions (calm, surprised, embarrassed, and disappointed)	M	YOUNGER/OLDER PRESCHOOLER: Express a range of emotions (happiness, sadness, fear, anger, disgust, tenderness, hostility, shame, guilt, satisfaction, and love) with their face, body, vocal sounds, and words. **ESD-6l . ESD-6o**
118	4	Demonstrates causes of more complex emotions	S	YOUNGER PRESCHOOLER: Describe reasons for their feelings ("I'm sad because Grandma's leaving." "That makes me mad when you do that!"). **ESD-6n**
139	5	Identifies a variety of facial expressions as they relate to basic emotions	S	OLDER TODDLER: Recognize facial expressions or actions associated with different emotions. **ESD-7i**
260	6	Connects basic emotions to a variety of facial expressions and body language cues	S	YOUNGER TODDLER: Use body language, facial expression, and sometimes words to communicate feelings (clap when happy, pout and hunch shoulders when sad, shout "Whee!" when excited). **ESD-6e**

Game #	Skill Level	Skill Description	Alignment	Standard
389	7	Identifies a variety of facial expressions as they relate to more complex emotions		*Not complex and facial expressions*
398	8	Connects more complex emotions to a variety of facial features and body language cues		*Not complex and facial expressions*

Strand name: N/A Subdomain: Responding to Emotions

Game #	Skill Level	Skill Description	Alignment	Standard
276	1	Engages in breathing exercises to learn to calm self	S	YOUNGER PRESCHOOLER: Use different strategies to calm themselves when needed (self-talk, deep breathing, cozy corner). **HPD-6h**
278	2	Identifies appropriate ways to respond to basic negative emotions (scared, mad, sad)	S	OLDER TODDLER: Manage emotions and control impulses with guidance and support (Say "I don't like that!" instead of hitting; wait by door instead of running ahead when excited to go out). **ESD-6j** YOUNGER PRESCHOOLER: Use a variety of words or signs to express and manage feelings more clearly. **ESD-6m** OLDER PRESCHOOLER: Independently manage and express feelings effectively most of the time. **ESD-6p** Use a larger vocabulary for talking about different feelings ("I'm frustrated with that puzzle!" "I'm excited about our trip."). **ESD-6q**
279	3	Identifies appropriate ways to manage basic negative emotions (scared, mad, sad)	S	OLDER TODDLER: Manage emotions and control impulses with guidance and support (Say "I don't like that!" instead of hitting; wait by door instead of running ahead when excited to go out). **ESD-6j** YOUNGER PRESCHOOLER: Use a variety of words or signs to express and manage feelings more clearly. **ESD-6m** OLDER PRESCHOOLER: Independently manage and express feelings effectively most of the time. **ESD-6p** Use a larger vocabulary for talking about different feelings ("I'm frustrated with that puzzle!" "I'm excited about our trip."). **ESD-6q**
280	4	Identifies appropriate ways to respond to basic positive emotions (happy)	S	OLDER TODDLER: Manage emotions and control impulses with guidance and support (Say "I don't like that!" instead of hitting; wait by door instead of running ahead when excited to go out). **ESD-6j** YOUNGER PRESCHOOLER: Use a variety of words or signs to express and manage feelings more clearly. **ESD-6m**

Game #	Skill Level	Skill Description	Alignment	Standard
				OLDER PRESCHOOLER: Independently manage and express feelings effectively most of the time. **ESD-6p** Use a larger vocabulary for talking about different feelings ("I'm frustrated with that puzzle!" "I'm excited about our trip."). **ESD-6q**
281	5	Identifies appropriate ways to respond to more complex negative emotions (embarrassed, disappointed, surprised)	S	FIRST GRADE: **1.MEH.1** Understand the relationships among healthy expression of emotions, mental health, and healthy behavior. **1.MEH.1.1** Use effective communication to express and cope with emotions. **1.MEH.1.2** Use methods of positive coping with disappointment and failure.
282	6	Identifies appropriate ways to manage more complex negative emotions (embarrassed, disappointed, surprised)	S	FIRST GRADE: **1.MEH.1** Understand the relationships among healthy expression of emotions, mental health, and healthy behavior. **1.MEH.1.1** Use effective communication to express and cope with emotions. **1.MEH.1.2** Use methods of positive coping with disappointment and failure.
390	7	Identifies appropriate ways to respond to more complex positive emotions (calm, surprised)	S	FIRST GRADE: **1.MEH.1** Understand the relationships among healthy expression of emotions, mental health, and healthy behavior. **1.MEH.1.1** Use effective communication to express and cope with emotions. **1.MEH.1.2** Use methods of positive coping with disappointment and failure.
399	8	Recognizes that others may have a different emotional response than their own	S	YOUNGER PRESCHOOLER: Show awareness that other people have different feelings ("I like raisins but he doesn't." "I'm scared on that ride but she isn't."). **ESD-7m**

Strand name: N/A Subdomain: Self-Management

Game #	Skill Level	Skill Description	Alignment	Standard
TBD	2	Explores using trial and error to complete an activity	S	INFANT: Use trial and error to get something done, get what they want, or solve simple problems. **APL-6c**

TBD	3	Explores various materials to accomplish a goal	M	INFANTS: Try over and over to make things happen (make sounds to get attention, work to get to something that is out of reach). **APL-9a** YOUNGER TODDLER: Try one or two strategies to get what they want or solve a problem (try giving a peer an alternate toy to get a toy from him/ her; try to put a ball in a box—if it will not fit, gets a bigger box). **APL-6d** Vary actions on purpose to solve a problem (bang, then turn shape to fit in sorter; shake handle, then pull, to open a drawer). **APL-6g** Keep trying to accomplish tasks that they are not able to do immediately (put on a jacket, engage a busy adult in play). **APL-9b**
TBD	4	Explores simple observations to make a prediction	S	YOUNGER PRESCHOOLER: Make predictions about what will happen using what they know. **CD-2r** Describe and predict changes that take place when mixing and manipulating materials. **CD-15m** OLDER PRESCHOOLER: Improve their ability to make predictions and explain why things happen using what they know. **CD-2w** Make and check predictions through observations and experimentation, with adult support and guidance. **CD-15r**
TBD	5	Uses persistence to engage in a challenging activity and asks for help when needed	S	YOUNGER TODDLER: After unsuccessful attempt to solve a problem, ask for help from an adult (point, gesture, speak). **APL-6f** OLDER TODDLER: Seek help from others to complete a challenging activity. APL-9c YOUNGER PRESCHOOLER: Seek help from others to complete a challenging activity (ask a teacher for help putting a puzzle away on a high shelf; ask a friend for help in naming an unfamiliar animal in a picture). **APL-9e** When something does not work, try different ways to complete the task (when a block tower falls, try putting the blocks together in a different way to build the tower again). **APL-9f** Keep working to complete tasks, including those that are somewhat difficult. **APL-9g** OLDER PRESCHOOLER: Seek help from others to complete a challenging activity (ask a teacher for help putting a puzzle away on a high shelf; ask a friend for help in naming an unfamiliar animal in a picture). **APL-9h**
TBD	6	Uses persistence to complete an activity with unknown challenges	-	*Unsure to see how different they are by previous levels; not available in application*
TBD	7	Uses trial and error to solve a problem	-	"
TBD	8	Uses problem-solving to create an activity using cause and effect	-	"

Strand name: N/A Subdomain: Solving Social Problems

Game #	Skill Level	Skill Description	Alignment	Standard
66	1	Recognize social problems	S	YOUNGER PRESCHOOLER: Seek out trusted teachers and caregivers as needed (for emotional support, physical assistance, social interaction, problem-solving, and approval). **ESD-3m** Demonstrate social skills when interacting with other children (turn taking, conflict resolution, sharing). **ESD-4k** Follow social rules, transitions, and routines that have been explained to them, with reminders and practice. **ESD-5k**
99	2	Identifies pro-social behaviors	S	OLDER PRESCHOOOLER: Adapt their communication to meet social expectations (speak quietly in library, speak politely to older relative). **LDC-4k**
123	3	Identifies classroom routines and procedures that prevent social problems from occurring	S	YOUNGER PRESCHOOLER: Follow social rules, transitions, and routines that have been explained to them, with reminders and practice. **ESD-5k** OLDER PRESCHOOLER: Anticipate consequences and plan ways to solve problems effectively, with guidance and support. **ESD-5t** Use a variety of strategies to solve problems and conflicts with increasing independence.**ESD-5u**
170	4	Identifies appropriate solutions to social conflicts	S	YOUNGER PRESCHOOLER: Seek out trusted teachers and caregivers as needed (for emotional support, physical assistance, social interaction, problem-solving, and approval). **ESD-3m** Demonstrate social skills when interacting with other children (turn taking, conflict resolution, sharing). **ESD-4k** Follow social rules, transitions, and routines that have been explained to them, with reminders and practice. **ESD-5k**
201	5	Identifies strategies for addressing their own emotions in social situations	S	YOUNGER PRESCHOOLER: Use a variety of words or signs to express and manage feelings more clearly. **ESD-6m**
259	6	Applies strategies for solving social problems in familiar situations	M	General Standards throughout The NC Standard Course of Study: **I.SE.2** Understand the relationship between self and others in the broader world. **I.SE.2.1** Exemplify how peer pressure can be both a negative and positive influence. **I.SE.2.2** Evaluate one's own behaviors in a variety of situations, making adjustments as needed to produce more positive results. **EI.SE.3** Use communication strategies to share information effectively for a variety of purposes and audiences. **EI.SE.3.1** Use communication strategies that are appropriate for the situation and setting.

| 388 | 7 | Identifies appropriate solutions for social problems involving more complex emotions | M | General Standards throughout The NC Standard Course of Study: **I.SE.2** Understand the relationship between self and others in the broader world. **I.SE.2.1** Exemplify how peer pressure can be both a negative and positive influence. **I.SE.2.2** Evaluate one's own behaviors in a variety of situations, making adjustments as needed to produce more positive results. **EI.SE.3** Use communication strategies to share information effectively for a variety of purposes and audiences. **EI.SE.3.1** Use communication strategies that are appropriate for the situation and setting. |
| 397 | 8 | Applies strategies for solving social problems in new situations | M | General Standards throughout The NC Standard Course of Study: **I.SE.2** Understand the relationship between self and others in the broader world. **I.SE.2.1** Exemplify how peer pressure can be both a negative and positive influence. **I.SE.2.2** Evaluate one's own behaviors in a variety of situations, making adjustments as needed to produce more positive results. **EI.SE.3** Use communication strategies to share information effectively for a variety of purposes and audiences. **EI.SE.3.1** Use communication strategies that are appropriate for the situation and setting. |

Social-Emotional Development Domain Summary

Out of the four subdomains, zero subdomains had at least one weak alignment, and two subdomains had at least one unclear alignment—for a total of five games that had unclear alignment. It's unclear what "complex" emotions and facial expressions are in relation to the NC Foundations and the NC Standard Course of Study, especially in relation to identifying them. Within the NC Foundations, students are needing to express and manage a range of emotions (not identifying and connecting with facial expressions). Lastly, the self-management domain is unclear because the games are still in development, and the researcher was unable to review the games within the application.

Conclusions

In conclusion, most of the games had strong or moderate alignment with NC Foundations or NC Standard Course of Study standards. This indicates that the games, overall, were developed with age-appropriate learning objectives. However, it's also evident that there are still some uncertainties, warranting a need for continued conversations about specific alignment details. When looking at the bigger picture, there are some conclusions that can be made to provide immediate and direct guidance. For example, upon completion of the Alignment process, there were a few subdomains that mostly had moderate to weak alignment:

Mathematics

Stand name: Counting and Cardinality; *Subdomain name: Number Sequencing*

Stand name: Counting and Cardinality; *Subdomain name: Ordinal Numbers*

Stand name: Operations & Algebraic Thinking; *Subdomain name: Patterns*

Literacy

Strand name: Phonics; *Subdomain: Alphabet Knowledge*

Strand name: Phonics; *Subdomain: Letter-Sound Correspondence*

Strand name: Phonics; *Subdomain: Decoding*

Strand name: Reading; *Subdomain: Comprehension – Non-Fiction*

These specific areas are recommended to be first areas for review. With math and literacy domains representing a wide range of skills and learning standards, it's not surprising that these may be the most challenging to accurately represent for the wide range of subdomains.

However, by taking a comprehensive look at the alignment across domains and strands (as shown in Table 1), most strands and domains have a high overall percentage of having strong or moderate alignment. For the large domains, using the strands helps to get a more comprehensive picture. Although, as described above, there may be a few "subdomains" with weak alignment, there are only two domains/stands that show an alarming rate of alignment overall: 1) Language & Communication Development (Domain) and 2) Reading (Strand) within the Literacy Domain.

Table 1

Alignment by Domain

Domain	Total Number of Games in Each Domain/Subdomain	*% of Games with Strong Alignment*	*% of Games with Moderate Alignment*	*Total (% of Games with Strong & Moderate*
Mathematics	**101**	**47.5% (48)**	**32.7% (33)**	**80.2% (81)**
Strand: Counting and Cardinality	41	51.2% (21)	36.6% (15)	87.8% (36)
Strand: Geometry	16	43.8% (7)	31.3% (5)	75% (12)
Strand: Math Applications	16	56.3% (9)	31.3% (5)	87.5% (14)
Strand: Operations & Algebraic Thinking	24	45.8% (11)	33.3% (8)	79.2% (19)
Language & Communication Development	**42**	**33.3% (14)**	**19.0% (8)**	**52.4% (22)**
Literacy	**122**	**33.6% (41)**	**53.3% (65)**	**86.9% (106)**
Strand: Listening Comprehension	24	37.5% (9)	62.5% (15)	100% (24)
Strand: Phonics	34	14.7% (5)	64.7% (22)	79.4% (27)
Strand: Phonological Awareness	28	60.7% (17)	39.3% (11)	100% (28)
Strand: Reading	28	21.4% (6)	46.4% (13)	67.9% (19)
Strand: Writing	8	50.0% (4)	50.0% (4)	100% (8)

Physical Development	15	73.3% (11)	13.3% (2)	86.7% (13)
Science & Technology	20	65% (13)	35% (7)	100% (20)
Social Studies	10	30% (3)	60% (6)	90% (9)
Social-Emotional Development	31	67.7% (21)	16.1% (5)	83.9% (26)

Note. Only Mathematics and Literacy have games broken into "Strands". Strands were used to help break up the large domains.

However, qualitatively, the games generally seem to support the different content areas of learning. During team conversations, there may be a few, specific restrictions with game design that impact a true, strong alignment.

Also, there were some items that had alarming skills represented at lower skill levels. It's recommended to do a comprehensive review of items and their standards based on skill level. For example, these are the ones that immediately stood out in the Science & Technology Domain that seemed to be misaligned based on skill level:

Game #	Skill Level	Skill Description
48	1	Identifies materials in the environment
2	1	Identifies at least one living thing

Overall, these are the recommended next steps for Hatch leadership:

1. Representatives at Hatch should closely review the document providing their added expertise and flagging discrepancies.
2. Closely review the strands, subdomains, and domains flagged above.
3. Match Standard Level to Skill Level and assess for accurate skill level description.

Completing Step 1 will provide additional reliability and validity evidence to this alignment study. Completing Steps 2 and 3 will help flag additional items that need to be reviewed. The lead researcher was focused on the games aligning with learning standards in

general, not necessarily on whether the learning standard was appropriate with the game skill level. Matching skill levels with

learning standard levels would be a natural progression moving forward from this alignment study.

References

Chi, Y., Garcia, R. B., Surber, C., & Trautman, L. (2011). Alignment study between the Common Core State Standards in English

language arts and mathematics and the WIDA English language proficiency standards, 2007 edition, prekindergarten through

grade 12. *Education. Norman, OK, USA: The University of Oklahoma Educational Training, Evaluation, Assessment, and*

Measurement (E-TEAM). Retrieved from

https://csaa.wested.org/wp-content/uploads/2019/11/757e9a929569858cc67533a45b10709bb88d.pdf

Contino, J. (2013). A Case study of the alignment between curriculum and assessment in the New York State earth science standards-

based system. *Journal of Science Education and Technology*, *22*(1), 62–72. https://doi.org/10.1007/s10956-012-9376-x

DeLuca, C., & Bellara, A. (2013). The current state of assessment education: Aligning policy, standards, and teacher education

curriculum. *Journal of Teacher Education*, *64*(4), 356–372. https://doi.org/10.1177/0022487113488144

Martone, A., & Sireci, S. G. (2009). Evaluating alignment between curriculum, assessment, and instruction. *Review of Educational*

Research, *79*(4), 1332–1361. http://www.jstor.org/stable/40469099

North Carolina Department of Public Instruction (NCDPI). (n.d.). *Standard Course of Study.*

https://www.dpi.nc.gov/districts-schools/classroom-resources/academic-standards/standard-course-study

North Carolina Department of Health and Human Services (NCDHSS). (n.d.). *North Carolina Foundations for Early Learning and*

Development. https://ncchildcare.ncdhhs.gov/Foundations-for-Early-Learning-and-Development