



Common Core State Standards Alignment with Zula Exploration Mission Modules

SM = Simple Machines Exploration Mission Module

MSCR = Mixtures, Solutions, and Chemical Reactions Exploration Mission Module

FR = Force Exploration Mission Module

HB = Habitats Exploration Mission Module

MA = Matter Exploration Mission Module

LT = Light Exploration Mission Module

H2O = Water Exploration Mission Module

PALC = Plants, Animals, and Life Cycles Mission Module

RS = Rocks and Soil Mission Module

WE = Weather Mission Module

All = All current and future Zula activities and lesson plans

FK = Future Mission Exploration Modules

Kindergarten

Language Arts

I. Reading: Literature

Key Ideas and Details

1. With prompting and support, ask and answer questions about key details in a text. (ALL)
2. With prompting and support, retell familiar stories, including key details. (ALL)
3. With prompting and support, identify characters, settings, and major events in a story. (ALL)

Craft and Structure

5. Recognize common types of texts (e.g., storybooks, poems). (ALL)
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story. (ALL)

Integration of Knowledge and Ideas

7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts). (ALL)
9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories. (ALL)

Range of Reading and Level of Text Complexity

10. Actively engage in group reading activities with purpose and understanding. (ALL)

II. Reading: Informational Text

Key Ideas and Details

1. With prompting and support, ask and answer questions about key details in a text. (ALL)
2. With prompting and support, identify the main topic and retell key details of a text. (ALL)
3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. (ALL)

Craft and Structure

5. Identify the front cover, back cover, and title page of a book. (ALL)
6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text. (ALL)

Integration of Knowledge and Ideas

7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts). (ALL)
8. With prompting and support, identify the reasons an author gives to support points in a text. (ALL)
9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). (ALL)

Range of Reading and Level of Text Complexity

10. Actively engage in group reading activities with purpose and understanding. (ALL)

III. Reading: Foundational Skills

Print Concepts

1. Demonstrate understanding of the organization and basic features of print.

Fluency

4. Read emergent-reader texts with purpose and understanding. (ALL)

IV. Writing

Text Types and Purposes

1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is...). (ALL)
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. (ALL)
3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. (ALL)

Production and Distribution of Writing

5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed. (ALL)

Research to Build and Present Knowledge

7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (ALL)
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (ALL)

V. Speaking & Listening

Comprehension and Collaboration

1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. (ALL)
2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. (ALL)
3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (ALL)

Presentation of Knowledge and Ideas

4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail. (ALL)
5. Add drawings or other visual displays to descriptions as desired to provide additional detail. (ALL)
6. Speak audibly and express thoughts, feelings, and ideas clearly. (ALL)

VI. Language

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (ALL)

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content. (ALL)

5. With guidance and support from adults, explore word relationships and nuances in word meanings. (ALL)
6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts. (ALL)

Mathematics

I. Counting & Cardinality

Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality. (SM, FR, H2O, RS, HB, PALC, MSCR, FK)
5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. (MA, RS, HB, PALC, MSCR, H2O, SM, FK)

Compare numbers.

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (RS, HB, MSCR, FR, SM, FK)

IV. Measurement & Data

Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (HB, LT, FR, MSCR, SM, H2O, WE, MA, FK)
2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. (HB, LT, FR, MSCR, SM, H2O, WE, MA, FK)

Classify objects and count the number of objects in each category.

3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (SM, RS, HB, PALC, LT, FR, MSCR, H2O, FK)

V. Geometry

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. (SM, LT, MSCR, FR, FK)
2. Correctly name shapes regardless of their orientations or overall size. (SM, FR, H2O, FK)
3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). (SM, FR, FK)

Analyze, compare, create, and compose shapes.

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g.,

number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length). (SM, FR, FK)

5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. (SM, FR, FK)

First Grade

Language Arts

I. Reading: Literature

Key Ideas and Details

1. Ask and answer questions about key details in a text. (ALL)
2. Retell stories, including key details, and demonstrate understanding of their central message or lesson. (ALL)
3. Describe characters, settings, and major events in a story, using key details. (ALL)

Craft and Structure

4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses. (ALL)
5. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types. (ALL)
6. Identify who is telling the story at various points in a text. (ALL)

Integration of Knowledge and Ideas

7. Use illustrations and details in a story to describe its characters, setting, or events. (ALL)
9. Compare and contrast the adventures and experiences of characters in stories. (ALL)

II. Reading: Informational Text

Key Ideas and Details

1. Ask and answer questions about key details in a text. (ALL)
2. Identify the main topic and retell key details of a text. (ALL)
3. Describe the connection between two individuals, events, ideas, or pieces of information in a text. (ALL)

Craft and Structure

4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. (ALL)
5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text. (ALL)
6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text. (ALL)

Integration of Knowledge and Ideas

7. Use the illustrations and details in a text to describe its key ideas. (ALL)
8. Identify the reasons an author gives to support points in a text. (ALL)

9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures). (ALL)

Range of Reading and Level of Text Complexity

10. With prompting and support, read informational texts appropriately complex for grade 1. (ALL)

III. Reading: Foundational Skills

Fluency

4. Read with sufficient accuracy and fluency to support comprehension. (ALL)

IV. Writing

Text Types and Purposes

1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure. (ALL)
2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. (ALL)
3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. (ALL)

Production and Distribution of Writing

5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. (ALL)

Research to Build and Present Knowledge

7. Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (ALL)
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (ALL)

V. Speaking & Listening

Comprehension and Collaboration

1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. (ALL)
2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media. (ALL)
3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. (ALL)

Presentation of Knowledge and Ideas

4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. (ALL)
5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (ALL)

VI. Language

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (ALL)

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies. (ALL)

5. With guidance and support from adults, demonstrate understanding of figurative language, word relationships and nuances in word meanings. (ALL)

6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., because). (ALL)

Mathematics

III. Measurement & Data

Measure lengths indirectly and by iterating length units.

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. (SM, LT, FR, HB, RS, FK)

2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. (SM, LT, FR, HB, RS, FK)

Represent and interpret data.

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. (SM, LT, WE, MA, PALC, HB, RS, FK)

IV. Geometry

Reason with shapes and their attributes.

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) ; build and draw shapes to possess defining attributes. (SM, FR, FK)

2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (SM, FR, FK)

3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and

quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. (SM, FR, FK)

Second Grade

Language Arts

I. Reading: Literature

Key Ideas and Details

1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (ALL)
2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral. (ALL)
3. Describe how characters in a story respond to major events and challenges. (ALL)

Craft and Structure

5. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action. (ALL)
6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud. (ALL)

Integration of Knowledge and Ideas

7. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot. (ALL)

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range. (ALL)

II. Reading: Informational Text

Key Ideas and Details

1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. (ALL)
2. Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text. (ALL)
3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (ALL)

Craft and Structure

4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. (ALL)
6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe. (ALL)

Integration of Knowledge and Ideas

7. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text. (ALL)
8. Describe how reasons support specific points the author makes in a text. (ALL)
9. Compare and contrast the most important points presented by two texts on the same topic. (ALL)

Range of Reading and Level of Text Complexity

10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range. (ALL)

III. Reading: Foundational Skills

Fluency

4. Read with sufficient accuracy and fluency to support comprehension. (ALL)

IV. Writing

Text Types and Purposes

1. Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section. (ALL)
2. Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. (ALL)
3. Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. (ALL)

Production and Distribution of Writing

5. With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. (ALL)

Research to Build and Present Knowledge

7. Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (ALL)
8. Recall information from experiences or gather information from provided sources to answer a question. (ALL)

V. Speaking & Listening

Comprehension and Collaboration

1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. (ALL)
2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (ALL)
3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. (ALL)

Presentation of Knowledge and Ideas

4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences. (ALL)

VI. Language

Vocabulary Acquisition and Use

4. Determine 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. (ALL)

6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy). (ALL)

Mathematics

III. Measurement & Data

Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. (SM, LT, FR, HB, RS, FK)

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. (SM, LT, FR, HB, RS, FK)

3. Estimate lengths using units of inches, feet, centimeters, and meters. (SM, FR, FK)

4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. (SM, LT, FR, HB, RS, FK)

Represent and interpret data.

10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (SM, LT, WE, MA, PALC, HB, RS, FK)

IV. Geometry

Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (SM, FR, FK)

3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. (SM, FR, FK)

Third Grade

Language Arts

I. Reading: Literature

Key Ideas and Details

1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (ALL)
2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text. (ALL)
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events. (ALL)

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
6. Distinguish their own point of view from that of the narrator or those of the characters. (ALL)

Integration of Knowledge and Ideas

7. Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting). (ALL)
9. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series). (ALL)

Range of Reading and Complexity of Text

10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficiently. (ALL)

II. Reading: Informational Text

Key Ideas and Details

1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (ALL)
2. Determine the main idea of a text; recount the key details and explain how they support the main idea. (ALL)
3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (ALL)

Craft and Structure

4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area. (ALL)
6. Distinguish their own point of view from that of the author of a text. (ALL)

Integration of Knowledge and Ideas

7. Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). (ALL)
8. Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence). (ALL)
9. Compare and contrast the most important points and key details presented in two texts on the same topic. (ALL)

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently. (ALL)

III. Reading: Foundational Skills

Fluency

4. Read with sufficient accuracy and fluency to support comprehension. (ALL)

IV. Writing

Text Types and Purposes

1. Write opinion pieces on topics or texts, supporting a point of view with reasons. (ALL)
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (ALL)
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. (ALL)

Production and Distribution of Writing

4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (ALL)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (ALL)

Research to Build and Present Knowledge

7. Conduct short research projects that build knowledge about a topic. (ALL)
8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (ALL)

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. (ALL)

V. Speaking & Listening

Comprehension and Collaboration

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. (ALL)

2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. (ALL)
3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. (ALL)

Presentation of Knowledge and Ideas

4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (ALL)

VI. Language

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. (ALL)
6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., After dinner that night we went looking for them). (ALL)

Mathematics

IV. Measurement & Data

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters. (SM, H2O, MSCR, RS, FK)

Represent and interpret data.

3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets. (SM, LT, WE, MA, PALC, HB, RS, FK)

V. Geometry

Reason with shapes and their attributes.

1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. (SM, FR, FK)
2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape. (SM, FR, FK)