Simple Machines Curriculum and Launch Pad for Learning Activity Kit
Alignment with Texas Pre-Kindergarten Guidelines

SM = Simple Machines Curriculum Kit (wheel/axle & screw, wedge & pulley, inclined plane & lever)
LPFL = Launch Pad for Learning Sampler Kit (the sun, clouds, the moon, stars, sensory discovery)
All = All Zula Kits and Curriculum
FK = Future Exploration Kits and Activities

Foundational Alignment

Introduction: General

- PreK guidelines align with TEKS—Zula science/math curriculum begins with preschool and extends into second grade (and aligns preschool to 2nd grade guidelines/framework).
- PreK guidelines describe outcomes for children in domain skill areas—Zula curriculum is multidisciplinary, supporting science, math, and language arts.
- Zula curriculum connects subject matter disciplines by organizing information into meaningful concepts and "missions."

Introduction: Families

- Family as 'Cognitive Agent: Zula lessons and activities include Home Missions for families or caregivers that provide various learning opportunities and advance children's development and capabilities.
- Engagement with Objects: Home Missions include household items, furniture, etc. The intent is to allow children to explore and discover the use of objects, improving cognitive and motor skills.
- Experiences with the Environment: Home Missions encourage naming of objects and animals, help explain how things work, suggest going to local places and describing encounters, and allow children to feel different textures and foods.
- Modeling of Language: Zula Exploration kits include readers that children take home to read/explore with parents or care providers. Questions are included that require children to think.
- Zula Home Missions and Readers support rich language experiences in the home.
- Zula Exploration kits include letters that go to parents/caregivers—that describe what was learned in class and how they can support additional discovery at home. This supports collaborative partnerships with families—and two way communication.
- The letters and home missions that are returned to class become part of an assessment process. The Zula program involves families in assessing children.
- The letters and home missions inform and involve families—and encourage them to talk, listen, and read to their preschool children.
- Zula activities, lessons, and kits provide specific ideas for how families can help children at home—thus increasing family expectations of children and supporting their learning.

Utilizing the TX PreK Guidelines in the Classroom: Monitoring Learning and Development

- Informal Assessment: Zula curriculum evaluation includes observation guidelines, reflection guidelines, collection of children's work (portfolio), charting, and journaling.
- Formal Assessment: More formal assessment includes black line master sheets which gauge specific, standardized (performance-based) understanding.

Linking the TX PreK Guidelines to School Readiness: Developmental Approach to Readiness

Zula Curriculum:

- provides flexibility in learning and play activities
- supports individualized instruction—and presents content in a way that addresses different learning styles and modalities
- incorporates scaffolding in content to continually encourage expansion of critical thinking skills and conceptual understanding
- presents new concepts multiple times and across a variety of contexts in order to solidify understanding
- provides much support to teachers, describing how they may act as guides to discovery and learning

Linking the TX PreK Guidelines to School Readiness: Effective Practices for School Readiness

Zula Curriculum:

- provides content that builds cognitive and social skills known to predict school readiness
- includes a balance of teaching strategies and flexible groupings of children for learning
- supports educators with teacher guidelines that encourage them to acknowledge and encourage children's efforts, create challenges, and support children in extending their capabilities
- provides opportunities to build multiple areas of learning within a single lesson, activity, or experience
- supports learning new concepts with closely repeated experiences—and with rich themes (aligns with being Purposeful, Planful, and Playful)
- builds skills necessary for school readiness, expands and builds on children's current level of understanding, and encourages the understanding of new information that has direct links to what children will need to succeed in kindergarten
- includes recommended reading lists (fiction and non-fiction books for group readings and which can be placed in centers).
- includes activities that take overlap among language, literacy, and math skill domains—and books, materials, activities, games, and discussion guides are engaging
- includes direct and indirect instruction
- encourages children participation through questioning, the use of "hands-on" materials, and physical exploration and movement
- positions teachers as multi-faceted guides of children's exploration, discovery, and play
- positions teachers as an organizer of the environment, facilitator, manager, and scribe.
- includes teacher-directed activities that lead to child-directed learning—and vice versa—child explorations and observations can lead to teachers setting up an experiment or task to build on the children's interest
- includes different types of groupings (one to one, pairings, small group, and large group).
- incorporates an inquiry process that necessitates that "all" children participate in class collaborations and discussions

Linking the TX PreK Guidelines to School Readiness: Professional Development

Zula offers Teacher Science-Math Workshops (one foundational session or ongoing professional development), Family or Parent Science-Math Workshops, and Afterschool Science-Math Program Workshops. Zula workshops:

- focus on what children should learn and how to address different problems they may have in learning the material
- include evaluation of multiple sources of information on outcomes for children and the instruction
- provide opportunities to understand the theory underlying the knowledge and skills being learned: the 5E guidelines, science inquiry, media literacy, multiple intelligences/different learning styles, multidisciplinary approach, and 21st century community learning skills
- support a comprehensive change process focused on improving student learning (critical thinking)

Learning Domain Alignment (with End of Prekindergarten Year Outcomes)

Science Domain Alignment

Physical Science Skills

- VI.A.1 Child describes, observes, and investigates properties and characteristics of common objects. (SM, LPFL, FK)
- VI.A.2 Child investigates and describes position and motion of objects. (SM, LPFL, FK)
- VI.A.3 Child uses simple measuring devices to learn about objects. (All)
- VI.A.4 Child investigates and describes sources of energy including light and heat. (FK—Light, Sun, Temperature)

Life

- VI.B.1 Child identifies and describes the characteristics of organisms. (FK—Plants and Animals)
- VI.B.2 Child describes life cycles of organisms. (FK—Frogs/the Life Cycle)
- VI.B.3 Child recognizes, observes, and discusses the relationship of organisms to their environments. **(FK—Habitats, Worms, TBD)**

Earth and Space Science Skills

- VI.C.1 Child identifies, compares, discusses Earth materials, and their properties and uses. (FK—the Earth, Rocks, Soil)
- VI.C.2 Child identifies, observes, and discusses objects in the sky. (LPFL, FK—Clouds, the Sun, Stars, the Moon, Temperature)
- V1.C.3 Child observes and describes what happens during changes in the earth and sky. (LPFL, FK—Weather, Wind, Shadows, the Sun, Shadows)
- V1.C.4 Child demonstrates the importance of caring for our environment and our planet. (FK—Greenhouse Effect)

Mathematics Domain Alignment

Classification and Pattern Skills

- V.E.1 Child sorts objects that are the same and different into groups and uses language to describe how the groups are similar and different. (SM, LPFL)
- V.E.2 Child collects data and organizes it in a graphic representation. (LPFL)
- V.E.3 Recognizes and creates patterns. (SM, LPFL)

Counting Skills

- V.A.1 Child knows that objects, or parts of an object can be counted. (SM, LPFL)
- V.A.3 Counts 1-10 items, with one count per item. (SM)
- V.A.5 Child counts up to 10 items, and demonstrates that the last count indicates how many items were counted. (SM)
- V.A.8 Child verbally identifies, without counting, the number of objects from 1 to 5. (SM)

Geometry and Spatial Sense Skills

- V.C.1 Child names common shapes. (SM, LPFL)
- V.C.2 Child creates shapes. (SM, LPFL)
- V.C.3 Demonstrates use of location words. (SM, LPFL)

Measurement Skills

- V.D.1 Child recognizes and compares heights or lengths of people or objects. (SM)
- V.D.3 Child informally recognizes and compares weights of objects or people. (SM)

Data Analysis

- Begins to use numbers and counting as a means for solving problems and measuring quantity.
- Develops growing abilities to collect, describe, and record information through a variety of means, including discussion, drawings, maps, charts, and graphs.
- Describes similarities and differences between objects.

Language and Communication Domain Alignment

Listening Comprehension Skills

- II.A.1 Child shows understanding by responding appropriately. (All)
- II.A.2 Child shows understanding by following two step oral directions and usually follows three-step directions. (All)

Speaking (Comprehension) Skills

- II.B.1 Child is able to use language for different purposes. (All)
- II.B.2 Child engages in conversations in appropriate ways. (All)

Vocabulary Skills

- II.D.1 Child uses a wide variety of words to label and describe people, places, things, and actions. (All)
- II.D.2 Child demonstrates understanding of terms used in the instructional language of the classroom.
- II.D.3 Child demonstrates understanding in a variety of ways of knowing the meaning of words (All)
- II.D.4 Child uses a large speaking vocabulary, adding several new words daily. (All)
- II.D.5 Child uses category labels to understand how words/objects relate to each other. (SM, LPFL)

Comprehension

- Retells or reenacts a story after it is read aloud.
- Uses information learned from books by describing, relating, categorizing, or comparing and contrasting.
- Asks and answers appropriate questions about a book.

Emergent Literacy—Reading Domain Alignment

Motivation to Read Skills

- III.A.1 Child engages in pre-reading and reading related activities. (All)

Comprehension of Text Read Aloud Skills

- III.D.2 Child uses information learned from books by describing, relating, categorizing, or comparing and contrasting. (All)
- III.D.3 Child asks and answers appropriate questions about the book. (All)

Emergent Literacy Writing Domain Alignment

Motivation to Write Skills

- IV.A.1 Child intentionally uses scribbles/writing to convey meaning. (All)

Independently Conveys Meaning Skills

- IV.B.1 Child independently uses letters or symbols to make words or parts of words. (All)

Social and Emotional Development Domain Alignment

Self Concept Skills

- I.A.4 Child shows initiative in independent situations and persists in attempting to solve problems. (All)

Control of Attention

- I.B.3.b Child remains focused on engaging group activities for about 20 minutes at a time. (SM)

Fine Arts Domain Alignment

Art Skills

- VIII.A.1 Child uses a variety of art materials and activities for sensory experience and exploration. (SM, LPFL)

Music Skills

- VIII.B.1 Child participates in classroom music activities. (SM, LPFL, FK)

Dramatic Expression Skills

- VIII.C.1 child creates or recreates stories, moods, or experiences through dramatic representations. (LPFL, FK)

Physical Development Domain Alignment

- IX.B.1 Child shows control of tasks that require small-muscle strength and control. (SM, LPFL, FK)
- IX.B.2 Child shows increasing control of tasks that require eye-hand coordination. (SM, LPFL, FK)

Technology Applications Domain Alignment

Technology and Devices Skills

- X.A.1 Child opens and navigates through software (web) programs designed to enhance development of appropriate concepts. (ZulaWorld)
- X.A.2 Child uses and names a variety of computer input devices, such as mouse, keyboard, voice/sound recorder, touch screen, etc. (ZulaWorld)
- X.A.4 Child uses software applications to create and express own ideas. (ZulaWorld)
- X.A.5 Child recognizes that information is accessible through the use of technology. (All)