



## **Simple Machines Explorer Kit and Launch Pad for Learning Sample Alignment with Preschool Learning Foundations**

LPFL = Launch Pad for Learning Sampler activity kit (with 15 level 1-PreK and 15 level 2-K-2 sun, clouds, moon, stars, sensory discovery activities)

SM = Simple Machines Exploration Mission curriculum (with 3 lesson plans focusing on wheel/axle/screw, lever and pulley, and wedge and inclined plane)

All = All Zula activities and lesson plans

FK = Future Mission Exploration Mission (curriculum programs)

### **Pre-Kindergarten**

#### **Language and Literacy**

##### *Listening and Speaking*

##### 1.0 Language Use and Conventions

1.1 Use language to communicate with others in both familiar and unfamiliar social situations for a variety of basic and advanced purposes, including reasoning, predicting, problem solving, and seeking new information. (All)

1.3 Use accepted language and style during communication with both familiar adults and children. (All)

1.4 Use language to construct extended narratives that are real or fictional. (All)

##### 2.0 Vocabulary

2.1 Understand and use an increasing variety and specificity of accepted words for objects, actions, and attributes encountered in both real and symbolic texts. (All)

2.2 Understand and use accepted words for categories of objects encountered in everyday life. (All)

2.3 Understand and use both simple and complex words that describe the relations between objects. (All)

##### *Reading*

##### 1.0 Concepts about Print

1.2 Understand that print is something that is read and has specific meaning. (All)

#### 4.0 Comprehension and Analysis of Age-Appropriate Text

4.2 Use information from informational text in a variety of ways, including describing, relating, categorizing, or comparing and contrasting. (All)

#### *Writing*

##### 1.0 Writing Strategies

1.2 Write letters or letter-like shapes to represent words or ideas. (All)

### **Mathematics**

#### *Number Sense*

1.0 Children expand their understanding of numbers and quantities in their everyday environment.

1.4 Count up to ten objects, using one-to-one correspondence with increasing accuracy. (SM, FK)

2.0 Children expand their understanding of number relationships and operations in their everyday environment.

2.1 Compare by counting or matching, two groups of up to five objects and communicate, “more,” “same as,” or “fewer”. (SM, FK)

2.3 Understand that putting two groups of objects together will make a bigger group and that a group of objects can be taken apart into smaller groups. (SM, FK)

#### *Algebra and Functions*

1.0 Children expand their understanding of sorting and classifying objects in their everyday environment.

1.1 Sort and classify objects by one or more attributes, into two or more groups, with increasing accuracy. (SM, FK)

#### *Measurement*

1.0 Children expand their understanding of comparing, ordering, and measuring objects.

1.1 Compare two objects by length, weight, or capacity directly or indirectly. (SM, FK)

1.2 Order four or more objects by size. (SM, FK)

1.3 Measure length using multiple duplicates of the same size concrete units laid end to end. (SM, FK)

#### *Geometry*

1.0 Children identify and use a variety of shapes in their everyday environment.

1.1 Identify, describe, and construct a variety of different shapes, including variations of a circle, triangle, rectangle, square, and other shapes. (SM, FK)

2.0 Children expand their understanding of positions in space.

2.1 Identify positions of objects and people in space, including in/on/under, up/down, inside/outside, beside/between, and in front/behind. (SM, FK)

## Science

### *Physical Sciences*

1. Properties of materials can be observed, measured, and predicted. As a basis for understanding this concept:
  - a. Students know objects can be described in terms of the materials they are made of (e.g., clay, cloth, paper) and their physical properties (e.g., color, size, shape, weight, texture, flexibility, attraction to magnets, floating, sinking). (SM, FK)
  - b. Students know water can be a liquid or a solid and can be made to change back and forth from one form to the other. (LPFL, FK)
  - c. Students know water left in an open container evaporates (goes into the air) but water in a closed container does not. (LPFL, FK)

### *Life Sciences*

2. Different types of plants and animals inhabit the earth. As a basis for understanding this concept:
  - a. Students know how to observe and describe similarities and differences in the appearance and behavior of plants and animals (e.g., seed-bearing plants, birds, fish, insects). (FK)
  - b. Students know stories sometimes give plants and animals attributes they do not really have. (FK)
  - c. Students know how to identify major structures of common plants and animals (e.g., stems, leaves, roots, arms, wings, legs). (FK)

### *Earth Sciences*

3. Earth is composed of land, air, and water. As a basis for understanding this concept:
  - a. Students know characteristics of mountains, rivers, oceans, valleys, deserts, and local landforms. (FK)
  - b. Students know changes in weather occur from day to day and across seasons, affecting Earth and its inhabitants. (LPFL, FK)
  - c. Students know how to identify resources from Earth that are used in everyday life and understand that many resources can be conserved. (FK)

### *Investigation and Experimentation*

4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:
  - a. Observe common objects by using the five senses. (All)
  - b. Describe the properties of common objects. (All)
  - c. Describe the relative position of objects by using one reference (e.g., above or below). (SM, FK)
  - d. Compare and sort common objects by one physical attribute (e.g., color, shape, texture, size, weight). (SM, FK)
  - e. Communicate observations orally and through drawings. (All)