

## SWALLOW SCHOOL DISTRICT CURRICULUM GUIDE

Curriculum Area: **Science**

Course Length: Full Year

Grade: **Kindergarten**

Date Last Approved: June 2015

### Stage 1: Desired Results

#### **Course Description and Purpose:**

In Kindergarten science, we will be studying five units. In the first two units, Motion and Stability and Energy students learn about force and how it affects an object's motion, as well as, how energy is transferred and conserved. In the third unit, student will study the needs of living things and animal habitats. The fourth unit concentrates on the weather and forecasting. Finally, students study how humans impact the environment, use natural resources and the effects of natural hazards in a unit on Earth and Human Activity.

#### **Enduring Understanding(s):**

1. Pushes and pulls can have different strengths and directions
2. Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it
3. When objects touch or collide they push on one another and can change motion
4. A bigger push or pull makes things speed up or slow down more quickly
5. Animals need food to live and grow
6. Animals get their food from plants and other animals
7. Plants need water and light to live and grow
8. Observations of natural/human designed habitats serve as evidence
9. Plant and animals change their environment
10. Living things need water, air, and resources from the land
11. Weather is a combination of sunlight, wind, snow or rain, and temperature
12. Weather is the study of a particular region at a particular time
13. Weather creates patterns over time
14. Weather forecasters predict severe weather to help communities prepare
15. Cause and effect??
16. Humans choices impact the land, air, water, and all living things
17. Sunlight warms the earth's surface

#### **Essential Question(s):**

1. How does change in force affect an objects motion?
2. How does a habitat influence the inhabitation?
3. What is weather and how does it compare over time?
4. How does weather forecasting impact human life?
5. What is the impact of humans on the environment?
6. How does the sunlight impact the earth?

#### **Learning Targets:**

1. Students can conduct investigations and use the scientific process (skill).
3. Students can organize and communicate information (skill).
6. Students can explain a model (skill).

7. Students can support a claim with evidence (Reasoning).

**Stage 2: Learning Plan**

**I. Motion and Stability (Forces and Interactions)**

- A. Forces and Motion
- B. Interactions
- C. Energy and Forces
- D. Engineering Problems

**Standards:** K-PS2-1, K-PS2-2

**Learning Targets Addressed:** 1, 3, 6, 7

**Assessment Map:**

Type	Level	Assessment Detail
Practice	Skill	Demonstrate how change in force affects motion
Formative	Skill	Students can conduct an investigation by changing the variable to show how different forces change motion
Summative	Skill	Students can construct a model and explain the interaction of forces and motion.

**II. Energy**

- A. Conservation of Energy
- B. Energy Transfer

**Standards:** K-PS3-1, K-PS3-2

**Learning Targets Addressed:** 1, 3, 6, 7

**Assessment Map:**

Type	Level	Assessment Detail
Practice	Skill	Students will research the effects sunlight has on the earth's surface.
Formative	Skill	Students will conduct an investigation using different materials and observe the effect that sunlight has on each.
Summative	Skill	Students will build a structure that will reduce the warming effect of sunlight.

**III. Molecules to Organisms (Structures and Processes)**

- A. Matter and Energy Flow in Organisms (Needs of Living Things)

**Standards:** K-LS1-1

**Learning Targets Addressed:** 1, 3, 6, 7

**Assessment Map:**

Type	Level	Assessment Detail
Practice	Skill	Students will research different living things and learn what they need to survive.
Formative	Skill	Students will conduct an investigation and observe the needs of different living things.
Summative	Skill	Students will compare/contrast different

habitat of living things.

#### IV. Earth's Systems

- A. Weather and Climate
- B. Bio-geology
- C. Human Impacts on Earth

**Standards:** K-ESS2-1, K-ESS2-2

**Learning Targets Addressed:** 1, 3, 6, 7

**Assessment Map:**

Type	Level	Assessment Detail
Practice	Skill	Students will observe daily weather conditions. Students will research the climate of living things. Students will research the impact of humans on the earth.
Formative	Skill	Students will look for patterns in local weather and record their conclusions.
Summative	Skill	Students will match various animals and different clothing types to pictures of various types of weather.

#### V. Earth and Human Activity

- A. Natural Resources
- B. Natural Hazards
- C. Human Impact on Earth
- D. Engineering and Design Solutions

**Standards:** K-ESS3-1, K-ESS3-2, K-ESS3-3

**Learning Targets Addressed:** 1, 3, 6, 7

**Assessment Map:**

Type	Level	Assessment Detail
Practice	Skill	Students will research natural resources and hazards. Students will discuss the impact of humans on Earth.
Formative	Skill	Students will sort different types of living things on a graphic organizer based on their resources needed.
Summative	Skill	Students will design a solution for human's undesirable impact on earth.