SWALLOW SCHOOL DISTRICT CURRICULUM GUIDE	
Curriculum Area: **Science**	Course Length: Full Year
Grade: **2nd**	Date Last Approved: June 2015

Stage 1: Desired Results

Course Description and Purpose:
In second grade science, students will be studying 4 units. In the first unit, Matter and its interactions, students will learn about the structures, properties and states of matter. In the Ecosystems unit, students will study diverse ecosystems and the animal habitats within them. They will also learn about the needs of animals and how they impact the survival of a species. In the Earth Systems unit, students will learn about the history of Earth and how to read maps of the Earth. Topics of erosion (wind and water) and the role of water on Earth are also covered.

Enduring Understanding(s):
1. Plants depend on water and light to grow and animals for pollination or to move their seeds around. The stability and shape of plants and seeds are related to their function and needs.
2. All living species have identifiable structures and characteristics that allow for survival.
3. Matter can be described and classified by its observable properties. Different properties are suited for different purposes.
4. Energy is necessary for change to occur in matter.
5. There are many different kinds of living things in any area, and they exist in different places on land and in water.
6. The Earth may change slowly or rapidly.
7. Wind and water can change the shape of the land.
8. A map can show the shapes and kinds of land and water in any area. Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.

Essential Question(s):
1. How do properties of materials influence their uses?
2. How can changes in matter be reversible or irreversible?
3. How is the survival of a species impacted by their needs?
4. How do different habitats support the diversity of plants and animals?
5. How does the time of Earth events vary?
6. What factors influence how and why land changes?
7. What are the different kinds of land and bodies of water?

Learning Targets:
1. Students can conduct investigations and use the scientific process (skill)
3. Students can organize and communicate information (skill)
6. Students can design and compare and contrast models (product)
7. Students can support a claim with evidence (reasoning)

Stage 2: Learning Plan

I. Matter and its Interactions
A. Structures of Matter
B. Properties of Matter

NGSS: 2-PS1-1, 2-PS1-2, 2-PS1-3, 2-PS1-4

Learning Targets Addressed:
Target 1, Target 7

C. States of Matter

D. Changes in the States of Matter

Assessment Map:

Type	Level	Assessment Detail
Practice	knowledge	● Investigate that matter can be described and classified by its observable properties
Formative	knowledge	● Analyze data collected that show materials have the properties that are best suited for an intended use
Summative	reasoning	● Students can construct an argument about what material is best suited for an intended purpose and support their claim with evidence

II. Ecosystems

A. Interdependent Relationships

NGSS: 2-LS2-1, 2-LS2-2

Learning Targets Addressed:
Target 1
Target 6

Assessment Map:

Type	Level	Assessment Detail
Practice	knowledge	● identify the needs of plants
Formative	product	● match pictures of animals and how they help disperse seeds or pollinate plants
Summative	skill product	● conduct an investigation to determine plants need sunlight and water to grow ● create and label a design that shows how an animal helps with dispersal of seeds or pollinating plants and support your design with evidence

III. Biological Evolution: Unity and Diversity

A. Diversity of Life in Different Habitats

NGSS: 2-LS4-1

Learning Targets Addressed:
Target 6

Assessment Map:

Type	Level	Assessment Detail
Practice	knowledge	● students can identify the characteristics of habitats

Formative	knowledge	• match animals or plants to correct habitat
Summative	product	• design a habitat for a given animal or plant and support your choices with evidence, include other plants and animals that would live in the same habitat

IV. Earth's Place in the Universe

A. The History of Earth

NGSS: 2-ESS1-1

Learning Targets Addressed:
Target 3
Target 7

Assessment Map:

Type	Level	Assessment Detail
Practice	knowledge	• identify different Earth events
Formative	knowledge	• sort Earth events into change that happen quickly or slowly
Summative	reasoning	• Students will be given an Earth event and students will decide if it is a slow or rapid change event, students will support their argument with evidence

V. Earth's Systems

A. Erosion (wind and water)

B. Earth Maps

C. The Role of Water (solid and liquid)

NGSS: 2-ESS2-1. 2-ESS2-2, 2-ESS2-3

Learning Targets Addressed:
Target 6
Target 7

Assessment Map:

Type	Level	Assessment Detail
Practice	knowledge	• identify how wind and water has changed the shape of land
Formative	knowledge	• identify where water is found on Earth and where it is found as a liquid or solid
Summative	product	• develop and label a model to represent the shapes and kinds of land and water in an area, support your model with evidence