

# Ganado Unified School District #20

## (Science/4<sup>th</sup> grade)

### PACING Guide SY 2017-2018

Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
<b>First Quarter</b> <b>August 2017 – October 2017</b> Life Science Unit A: Living Things Chapter 1, 2, and 4 in the Textbook				
<b>Science</b> <b>A Closer Look</b> <b>Teacher’s Edition</b>  <b>Reading and Writing</b> <b>workbook</b>  <b>Visual Literacy</b> <b>workbook</b>  <b>Activity Lab book</b>  <b>Assessment</b> <b>Workbook</b>  <b>Activity Flipchart</b>  <b>School to Home</b> <b>Activities workbook</b>	<b>Strand 4: Life Science</b> <b>Concept 1: Characteristics of Organisms</b> P.O. 1 Compare structures in plants (e.g., roots, stems, leaves, flowers) and animals (e.g., muscles, bones, nerves) that serve different functions in growth and survival.  P.O. 2 Classify animals by identifiable group characteristics: <ul style="list-style-type: none"> <li>• Vertebrates – mammals, birds, fish, reptiles, amphibians</li> <li>• Invertebrates – insects, arachnids.</li> </ul> <b>Concept 3: Organisms and Environments</b> PO 1. Describe ways various resources (e.g., air, water, plants, animals, soil) are utilized to meet the needs of a population.	Chapter 1: Kingdoms of life Big Idea: What are living things and how are they classified?  Lesson 1: Essential Question: How are living things grouped?  Lesson 2 Essential Question How are living things grouped?	Lesson 1 KFO: <ul style="list-style-type: none"> <li>• I can summarize five functions of living things.</li> <li>• I can compare plant and animal cells.</li> </ul> Lesson 2 KFO: <ul style="list-style-type: none"> <li>• I can define and compare the kingdoms of living things.</li> <li>• I can describe different types of microorganisms.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cell</li> <li>▪ Oxygen</li> <li>▪ Organism</li> <li>▪ Tissue</li> <li>▪ Organ</li> <li>▪ Organ system</li> </ul> <ul style="list-style-type: none"> <li>▪ Trait</li> <li>▪ Kingdom</li> </ul> <ul style="list-style-type: none"> <li>▪ Root</li> <li>▪ Root hair</li> <li>▪ Stem</li> <li>▪ Photosynthesis</li> </ul>

## Key Concept Cards

Online tools at:  
<https://connected.mcgraw-hill.com>

PO 2. Differentiate renewable resources from nonrenewable resources.  
PO 3. Analyze the effect that limited resources (e.g., natural gas, minerals) may have on an environment.

PO 4. Describe ways in which resources can be conserved (e.g., by reducing, reusing, recycling, finding substitute).  
**Concept 4: Diversity, Adaptation, Behavior**

PO 1. Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment.

PO 2. Give examples of adaptations that allow plants and animals to survive.

- Camouflage – horned lizards, coyotes.
- Mimicry – Monarch and Viceroy butterflies
- Physical – cactus spines
- Mutualism – species of acacia that harbor ants, which repel other harmful insects.

### Strand 1: Inquiry Process

#### Concept 1: Inquiry Process

PO 1. Differentiate inferences from observation.

#### Concept 2: Scientific Testing (Investigating and Modeling)

PO 4. Measure using appropriate tools (e.g., related to erosion, plant life cycles, weather, magnetism) in life, physical, and Earth and space sciences.

PO 5. Record data in an organized and appropriate (e.g., t-chart, table, list, written log).

#### Concept 3: Analyze and Conclusions

Lesson 3  
Essential Question  
What are plants?

Lesson 4  
Essential Question:  
How do seed plants grow and reproduce?

Chapter 2:  
Big Idea:  
How are animals different from one another?

Lesson 1  
Essential Question:  
How do animals compare?

Lesson 2  
Essential Question:  
Which animals have backbones?

Lesson 3 KFO:

- I can describe the functions of roots, stem, and leaves.
- I can explain the processes of photosynthesis and respiration.

Lesson 4:

- I can describe pollination in flowering plants.
- I can explain the life cycle of a flowering plant.

Chapter 2 KFO:

Lesson 1 KFO:

- I can define and list the basic needs and characteristics of animals.
- I can summarize the characteristics of groups of invertebrates.

Lesson 2 KFO:

- I can define vertebrates and describe their characteristics.

- Stomata
- Transpiration
- Respiration
- Spore

- Seed
- Reproduction
- Ovary
- Pollination
- Fertilization
- Germination
- Life cycle

- Invertebrate
- Sponge
- Cnidarian
- Mollusk
- Echinoderm
- Endoskeleton
- Arthropod
- Exoskeleton

- Vertebrate
- Warm-blooded
- Cold-blooded
- Amphibian
- Reptile
- Bird
- Mammal

- Skeletal system

PO 1. Analyze data obtained in a scientific investigation to identify.

**Concept 4: Communication**

**PO 3.** Communicate with other groups or individuals to compare the results of a common investigation.

Lesson 3  
Essential Question:  
How do systems help animals survive?

Lesson 4  
Essential Question:  
How do animals grow and reproduce?  
Chapter 4 KFOs:  
Big Idea:  
Why do plants and animals live in different places and what happens when those places change?

Lesson 1  
Essential Question:  
How do animals survive in their environments?

- I can describe the seven groups of vertebrates.

Lesson 3: KFO:

- I can identify seven organ systems of animals.
- I can summarize the structures and functions of the seven organ systems.

Lesson 4 KFO:

- I can compare incomplete metamorphosis to complete metamorphosis.
- I can summarize how traits are passed from parent to offspring.

Lesson 1 KFO:

- I can define adaptation and give examples of how adaptations help animals to survive in their habitats.
- I can define and describe the types of symbiotic relationships.

- Muscular system
- Nervous system
- Respiratory system
- Circulatory system
- Excretory system
- Digestive system
  
- Life cycle
- Life span
- Metamorphosis
- Clone
- Heredity
- Inherited behavior
- Instinct
- Learned behavior

- Adaptation
- Hibernate
- Camouflage
- Mimicry

- Stimulus

Lesson 2  
Essential Question  
How do plants survive  
their environments?

Lesson 2 KFO:

- I can describe ways in which plants respond to their environments.
- I can describe plant adaptations.

▪ Tropism

Lesson 3  
Essential Question  
How can changes in an  
environment affect the  
organisms that live  
there?

Lesson 3 KFO:

- I can describe how living and nonliving things cause ecosystems to change.
- I can understand that changes to ecosystems affect living organisms.

▪ Accommodation  
▪ Endangered  
▪ extinct



