

Ganado Unified School District #20

(Science/4th grade)

PACING Guide SY 2017-2018

Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Second Quarter October 2017 to December 2017 Chapter 5, 6 & 7				
Science A Closer Look Teacher's Edition Reading and Writing workbook Visual Literacy workbook Activity Lab book Assessment Workbook Activity Flipchart School to Home Activities workbook Key Concept Cards	Strand 6: Earth and Space Science Concept 2: Earth's Processes and Systems PO 1. Identify the Earth processes that cause erosion. PO 2. Describe how the currents and wind cause erosion and land changes. PO 3. Describe the role that water plays in the following processes that alter the Earth's surface features: <ul style="list-style-type: none"> • Erosion • Deposition • Weathering PO 4. Compare rapid and slow processes that change the Earth's surface, including: <ul style="list-style-type: none"> • Rapid – earthquakes, volcanoes, floods. • Slow – wind, weathering 	Chapter 5 Big Idea: What causes Earth's surface to change? Lesson 1 Essential Question: What are Earth's features above the ground and below the ground? Lesson 2 Essential Question How can Earth's crust change?	Chapter 5 KFO: <ul style="list-style-type: none"> • I can what lichen is and how it grows on rocks. Lesson 1 KFO: <ul style="list-style-type: none"> • I can identify Earth's landforms and the features of the ocean floor. • I can describe the layers of Earth. Lesson 2 KFO: <ul style="list-style-type: none"> • I can describe how the movement of plates builds mountains and causes earthquakes and volcanoes. • I can explain how scientist use seismic 	<ul style="list-style-type: none"> ▪ Crust ▪ Mantle ▪ Outer core ▪ Inner core ▪ Fault ▪ Plateau ▪ Fold ▪ Mountain ▪ Earthquake ▪ Seismic wave ▪ Seismograph ▪ Volcano

**Vocabulary Cards
English Language
Learner Teacher's
Guide**

PO 5. Identify the Earth events that cause changes in atmospheric conditions (e.g., volcanic eruptions, forest fires).
PO 6. Analyze evidence that indicates life and environmental conditions have changed (e.g., tree rings, fish fossils in desert regions, ice cores).

**Strand 1: Inquiry Process
Concept 1: Observations,
Questions, and Hypotheses**

PO 2. Formulate a relevant question through observations that can be tested by an investigation.

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

PO 2. Plan a simple investigation that identifies the variables to be controlled.

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

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

**Concept 3: Analysis and
Conclusion**

Lesson 3
Essential Question
What forces shape and change Earth's landforms?



Lesson 4
Essential Question
How does weather shape and change the land?
Chapter 6
Big Idea:
What are Earth's resources and how can we conserve them?

Lesson 1
Essential Question:
Why are there so many different kinds of rock?

waves to study earthquakes.

Lesson 3 KFO:

- I can define and give examples of physical and chemical weathering.
- I can explain how erosion helps to break down and build up Earth's land.

- Weathering
- Erosion
- Deposition
- Terminus
- Moraine

Lesson 4 KFO:

- I can describe the effects of floods, fires, tornadoes, and hurricanes.
- I can explain causes and effects of landslides and avalanches.

- Flood
- Tornado
- Hurricane
- Landslide
- Avalanche

Lesson 1 KFO:

- I can describe the properties used to identify and classify minerals.
- I can compare the three types of rocks.

- Mineral
- Igneous rock
- Sedimentary rock
- Relative age
- Metamorphic rock
- Rock cycle
- Resource

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

Concept 4. Communication

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

Lesson 2
Essential Question:
How does soil differ from place to place?

Lesson 2 KFO:

- I can describe the different layers of soil and how they foil?
- I can define the texture, porosity, and permeability of soil.

- Humus
- Horizon
- Soil profile
- Top soil
- Subsoil
- Pore spaces
- Porous
- Permeability

Lesson 3
Essential Question:
What are fossils and fossil fuels?

Lesson 3 KFO:

- I can describe the different kinds of fossils, the ways they form, and how they provide evidence of Earth's past.
- I can explain why fossil fuels are a valuable and nonrenewable resource.

- Fossil
- Amber
- Mold
- Cast
- Imprint
- Fossil fuel
- Nonrenewable resource
- Renewable resource

Lesson 4
Essential Question:
How do people obtain and use water?

Lesson 4 KFO:

- I can explain how the water cycle renews Earth's freshwater.
- I can describe ways people use and obtain freshwater.

- Soil water
- Groundwater
- Watershed
- Reservoir
- Well
- Runoff
- Irrigation

Lesson 5
Essential Question:
How can people reduce pollution and conserve resources?

Lesson 5 KFO:

- I can identify the effects of pollution to land, water, and air.

- Environment
- Pollution
- Acid rain
- Conservation

Chapter 7 KFO:
Big Idea:
What are weather and climate?

- I can describe ways to reduce pollution and conserve resources.

- Compost
- Reduce
- Reuse
- Recycle

Lesson 1
Essential Question:
How can you tell that air is around you?

Lesson 1 KFO:

- I can define the atmosphere as a mixture of different gases.
- I can describe four properties of weather that can be measured and the tools used to measure them.

- Atmosphere
- Temperature
- Humidity
- Air pressure
- Thermometer
- Wind vane
- Barometer
- Rain gauge

Lesson 2
Essential Question:
How is water recycled?

Lesson 2 KFO:

- I can sequence the steps of the water cycle
- I can identify and describe types of clouds and precipitation?

- Evaporation
- Water vapor
- Condensation
- Cloud
- Freeze
- Precipitation
- Water cycle
- Melt

Lesson 3
Essential Question:
How do fronts and air masses change the weather?

Lesson 3 KFO:

- I can explain how air masses form and identify the types of weather they cause.
- I can forecast the weather by interpreting data on a weather map.

- Air mass
- Front
- Warm front
- Cold front
- Stationary front
- Forecast

Lesson 4
Essential Question:
Why do weather patterns
change?

Lesson 4 KFO:

- I can define and give examples of climate.
- I can explain the main factors that determine climate.

- Climate
- current

