


# Ganado Unified School District

## (SCIENCE/3<sup>rd</sup> Grade)

### PACING Guide SY 2015-2016

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
1 <sup>st</sup> Quarter UNIT 1  Week 1 Lesson 1 <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 2</li> </ul>	<b>The Nature of Science and S.T.E.M</b>  <b>INVESTIGATION QUESTIONS</b>  <b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge	<ul style="list-style-type: none"> <li>• How do Scientists investigate questions?</li> <li>• How do scientists help animals survive?</li> <li>• What is science?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Use observations to make inferences</li> <li>* Explain different ways that science questions can be investigated</li> <li>* Explain how models may be used in investigations</li> <li>* Follow directions for an investigation to make inferences</li> <li>* Plan and conduct an investigation to answer questions about magnets</li> </ul>	Observe Infer Questions Predict Investigation Hypothesis Experiment Variable Model Conclusion
1 <sup>st</sup> Quarter UNIT 1  Week 2 Lesson 2 <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> </ul>	<b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge  <b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing  <b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth	<ul style="list-style-type: none"> <li>• How can you use a model?</li> <li>• What is the question you will try to answer with this investigation?</li> <li>• What is the variable you plan to test?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Ask questions about the natural world</li> <li>* Use models</li> <li>* Record observations</li> <li>* Investigate through free exploration</li> </ul>	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze extend

<ul style="list-style-type: none"> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 3</li> </ul>	<p>and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> <li>● How will you know whether the variable you changed worked?</li> </ul>		
<p>1<sup>st</sup> Quarter UNIT 1</p> <p>Week 3 Lesson 3</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 4</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO2</b> Plan a simple investigation based on the formulated questions</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> <li>● How do scientists use tools?</li> <li>● What other tools make objects look bigger?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Describe tools that are used to make observations</li> <li>* List reasons for differences in measurement groups</li> <li>* Record observations accurately in different ways</li> <li>* Follow directions for an investigation to compare different tools for magnifying objects</li> <li>* Plan and conduct an investigation about measuring objects</li> </ul>	<p>Compare</p> <p>Contrast</p> <p>Microscope</p> <p>Graduated cylinder</p> <p>Temperature</p> <p>Cause and Effect</p>
<p>1<sup>st</sup> Quarter UNIT 1</p> <p>Week 4 Lesson 4</p>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p>	<ul style="list-style-type: none"> <li>● How can you measure length?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Identify which tools should be used to make specific measurements</li> <li>* Compare and contrast observations</li> </ul>	<p>Set a purpose</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>

<ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 5</li> </ul>	<p><b>S1.C2.PO1</b> Demonstrate safe behavior and appropriate procedures in all science inquiry.</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C2.PO4</b> Use metric and US customary units to measure objects</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>		<ul style="list-style-type: none"> <li>* Record observations</li> <li>* investigate</li> </ul>	<p>Measure</p> <p>Communicate</p>
<p>1<sup>st</sup> Quarter UNIT 1</p> <p>Week 5 Lesson 5</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 6</li> </ul>	<p><b>S1.C4.PO 1</b> Communicate investigations and explanations using evidence and appropriate terminology</p> <p><b>S1.C4. PO2</b> Describe an investigation in ways that enable others to repeat it</p> <p><b>S1.C4.PO3</b> Communicate with other groups to describe the results of an investigation</p>	<ul style="list-style-type: none"> <li>• How do scientists use data?</li> <li>• What are three other ways they can share data and discuss evidence?</li> <li>• What are some ways to display data?</li> <li>• How do create a graph?</li> <li>• How do graphs help us share?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Describe ways scientists record and display data to communicate results</li> <li>* Communicate results with other groups and explain any differences</li> <li>* Explain that data can be used to explain a conclusion</li> <li>* Follow directions for an investigation to gather and communicate data</li> <li>* Plan and conduct an investigation in which data are collected and displayed</li> </ul>	<p>Main Idea</p> <p>Data</p> <p>Evidence</p> <p>Chart</p> <p>Data table</p> <p>Bar graph</p> <p>Maps</p>
<p>1<sup>st</sup> Quarter</p>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of</p>		<p>I will be able to:</p>	<p>Set a purpose</p>

<p><b>UNIT 1</b></p> <p><b>Week 6</b> <b>Lesson 6</b></p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 7</li> <li>○ Unit 1 Review pgs. 49-52</li> </ul>	<p>objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C3.PO3</b> Compare the results of the investigation to predictions made prior to the investigation</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> <li>• How do your results compare?</li> </ul>	<ul style="list-style-type: none"> <li>* Compare results of an investigation with students</li> <li>* Explain conclusions based upon evidence that has been gathered</li> </ul>	<p>State your hypothesis</p> <p>Procedure</p> <p>Record data</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>
<p>1<sup>st</sup> Quarter</p> <p><b>UNIT 2</b></p> <p><b>Week 7</b> <b>Lesson 1</b></p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 8</li> </ul>	<p><b>THE ENGINEERING PROCESS</b></p> <p><b>S1.C4.PO 1</b> Communicate investigations and explanations using evidence and appropriate terminology</p> <p><b>S1.C4. PO2</b> Describe an investigation in ways that enable others to repeat it</p> <p><b>S1.C4.PO3</b> Communicate with other groups to describe the results of an investigation</p>	<ul style="list-style-type: none"> <li>• How do engineers use the design process?</li> <li>• How do designs get better over time?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Describe the purpose of the design process</li> <li>* Describe the steps of the design process</li> </ul>	<p>Design process</p>
			<p>I will be able to:</p>	<p>Set a purpose</p>



<p>1<sup>st</sup> Quarter UNIT 2</p> <p>Week 8 Lesson 2</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 9</li> <li>○</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> <li>• How can you design a tree house?</li> <li>• What is the first thing a builder needs to do after making a design?</li> <li>• How does a builder use measurement?</li> </ul>	<ul style="list-style-type: none"> <li>* Identify the goal of a design</li> <li>* Select and use materials based on their physical properties to develop a solution</li> <li>* Plan and draw the design in a notebook</li> <li>* Evaluate and test</li> </ul>	<p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>extend</p>
<p>1<sup>st</sup> Quarter UNIT 2</p> <p>Week 9 Lessons 3 &amp; 4</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 10 &amp; 11</li> <li>○ Unit 2 Review pgs. 85-88-Write In</li> </ul>	<p><b>S3.C2.PO1</b> Identify ways that people use tools and techniques to solve problems</p> <p><b>S3.C2.PO2</b> Describe the development of different technologies in response to resources, needs, and values.</p> <p><b>S1.C4.PO 1</b> Communicate investigations and explanations using evidence and appropriate terminology</p> <p><b>S1.C4. PO2</b> Describe an investigation in ways that enable others to repeat it</p> <p><b>S1.C4.PO3</b> Communicate with other groups to describe the results of an investigation</p>	<ul style="list-style-type: none"> <li>• What is technology?</li> <li>• How are technology and society related?</li> <li>• How can we improve a design?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain the term technology</li> <li>* Discuss how technology has changed over time</li> <li>* Explain how technology has affected society</li> <li>* Explain how society has affected technology</li> <li>* Discuss how to make a bridge that can support a toy car</li> </ul>	<p><b>Lesson 3</b></p> <p>Details</p> <p>Technology</p> <p><b>Lesson 4</b></p> <p>Set a purpose</p> <p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>

# Ganado Unified School District

## (SCIENCE/3<sup>RD</sup> Grade)

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Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
2 <sup>ND</sup> Quarter UNIT 3  Week 1 Lesson 1 <ul style="list-style-type: none"> <li>Vocabulary Cards</li> <li>Science Notebooks</li> <li>Inquiry Flipchart p. 12</li> </ul>	<b>LIFE SCIENCE</b>  <b>PLANTS AND ANIMALS</b>  <b>S4.C1.PO1</b> Describe the function of the following plant structures: roots (absorbs nutrients), stems (provide support), leaves (synthesize food), and flowers (attract pollinators and produce seeds for reproduction)  <b>S4.C2.PO1</b> Compare life cycles of various plants	<ul style="list-style-type: none"> <li>Where do seeds come from?</li> <li>What are some plants life cycles?</li> <li>Do all plants make seeds?</li> <li>\</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Define the life cycle</li> <li>* Explain that different plants have different life cycles</li> <li>* Explain that a flowering plant helps plants reproduce</li> <li>* Explain that pollinations must occur for flowering plants to produce seeds</li> <li>* Describe ways that seeds can be dispersed</li> <li>* Explain that seeds do not always reproduce through seeds</li> </ul>	Design process Compare Contrast Life cycle Germinates Flower Reproduce Cones Pollen Pollination Spores
2 <sup>ND</sup> Quarter UNIT 3  Week 2 Lesson 2 <ul style="list-style-type: none"> <li>Vocabulary Cards</li> </ul>	<b>S4.C2.PO1</b> Compare life cycles of various plants  <b>S4.C2.PO2</b> Explain how growth, death, and decay are part of the plant life cycle	<ul style="list-style-type: none"> <li>What are some animal life cycles?</li> <li>What changes did the insects go through after they hatched from eggs?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Define the term life cycle</li> <li>* Explain that all life cycles include birth/hatching, growth/development, maturity, and reproduction</li> <li>* Describe the difference between complete and incomplete metamorphosis</li> </ul>	Sequence Metamorphosis Egg Larva Pupa Adult Reproduce

<ul style="list-style-type: none"> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 13</li> </ul>		<ul style="list-style-type: none"> <li>• Which features do they share?</li> <li>• Which features are different?</li> </ul>		
<p>2<sup>ND</sup> Quarter UNIT 3</p> <p>Week 3 Lesson 3</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 14</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> <li>• How do living things change?</li> <li>• Why do you think scientists make many observations?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Plant, observe, and measure the growth of bean seeds</li> <li>* Display data in a graph</li> </ul>	<p>Set a purpose</p> <p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze extend</p>
<p>2<sup>ND</sup> Quarter UNIT 3</p> <p>Week 4 Lesson 4</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> </ul>	<p><b>S4.C4.PO1</b> Identify adaptations of plants and animals that allow them to live in specific environments</p> <p><b>S4.C4.PO2</b> Describe ways that species adapt when introduced into new environments</p>	<ul style="list-style-type: none"> <li>• What are structural adaptations?</li> <li>• How does its adaptation help them survive?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain adaptation, camouflage, and mimicry</li> <li>* Explain how adaptations help plants and animals survive in their environment</li> </ul>	<p>Visual aids</p> <p>Adaptation</p> <p>Defense adaptations</p> <p>Camouflage</p> <p>Mimicry</p> <p>Plant adaptations</p>

<ul style="list-style-type: none"> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 15</li> </ul>	<b>S4.C3.PO4</b> Describe how plants and animals cause change in their environment			
2 <sup>ND</sup> Quarter UNIT 3  Week 5 Lesson 5  <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 16</li> </ul>	<b>S4.C4.PO1</b> Identify adaptations of plants and animals that allow them to live in specific environments  <b>S4.C4.PO2</b> Describe ways that species adapt when introduced into new environments  <b>S4.C3.PO4</b> Describe how plants and animals cause change in their environment	<ul style="list-style-type: none"> <li>• How can we model a physical adaptation?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Discuss how different frog tongues are better for eating some types of foods</li> <li>* Explain how adaptations help animals survive in their environment</li> </ul>	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
2 <sup>ND</sup> Quarter UNIT 3  Week 6 Lesson 6  <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 17</li> </ul>	<b>S4.C4.PO1</b> Identify adaptations of plants and animals that allow them to live in specific environments	<ul style="list-style-type: none"> <li>• What are behavioral adaptations?</li> <li>• How are instincts and learned behaviors alike?</li> <li>• Which animals hibernate?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Define and explain hibernate and migrate</li> <li>* Explain the difference between instinctive and learned behaviors</li> </ul>	Compare Contrast Behavior Learned behavior Instinct Hibernate Migrate



<ul style="list-style-type: none"> <li>Unit 3 Review pgs. 145-148 (Write In)</li> </ul>				
<p>2<sup>ND</sup> Quarter UNIT 4</p> <p>Week 7 Lessons 1 &amp; 2</p> <ul style="list-style-type: none"> <li>Vocabulary Cards</li> <li>Science Notebooks</li> <li>Inquiry Flipcharts p. 19 &amp; 20</li> </ul>	<p><b>ECOSYSTEMS AND INTERACTIONS</b></p> <p><b>S4.C3.PO1</b> Identify the living and nonliving components of an ecosystem</p> <p><b>S4.C3.PO2</b> Examine an ecosystem to identify microscopic and macroscopic organisms</p>	<ul style="list-style-type: none"> <li>What are ecosystems?</li> <li>What's in an ecosystem?</li> <li>What living things are in your environment?</li> <li>What nonliving things are in your environment?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain ecosystem, population, and community</li> <li>* Describe aquatic environments</li> <li>* Describe terrestrial environments</li> <li>* Explain how plants and animals are dependent upon each other</li> </ul> <p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Investigate ecosystems</li> <li>* Compare and contrast aquatic and terrestrial ecosystems</li> </ul>	<p><b>Lesson 1</b></p> <p>Living Nonliving Main idea Details Environment Ecosystem Habitat Population Community</p> <p><b>Lesson 2</b></p> <p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze extend</p>
<p>2<sup>ND</sup> Quarter UNIT 4</p> <p>Week 8 Lessons 3 &amp; 4</p> <ul style="list-style-type: none"> <li>Vocabulary Cards</li> <li>Science Notebooks</li> </ul>	<p><b>S4.C3.PO3</b> Explain the interrelationships among plants and animals in different environments: producers (plants), consumers (animals), and decomposers (fungi, insects, and bacteria)</p> <p><b>S4.C3.PO4</b> Describe how plants and animals cause change in their environment</p>	<ul style="list-style-type: none"> <li>What is a food chain?</li> <li>What are some food chains?</li> <li>What does a plant take in for photosynthesis?</li> <li>What does the plant produce?</li> <li>Where do animals get the</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain the term food chain</li> <li>* Explain that energy moves up a food chain</li> <li>* Explain that food chains are made up of producers, consumers, and decomposers</li> <li>* Explain that animals are herbivores, carnivores, and omnivores</li> </ul>	<p><b>Lesson 3</b></p> <p>Sequence Producer Photosynthesis Consumer Decomposer Food Chain Herbivore Carnivore Omnivore Predator Prey</p>

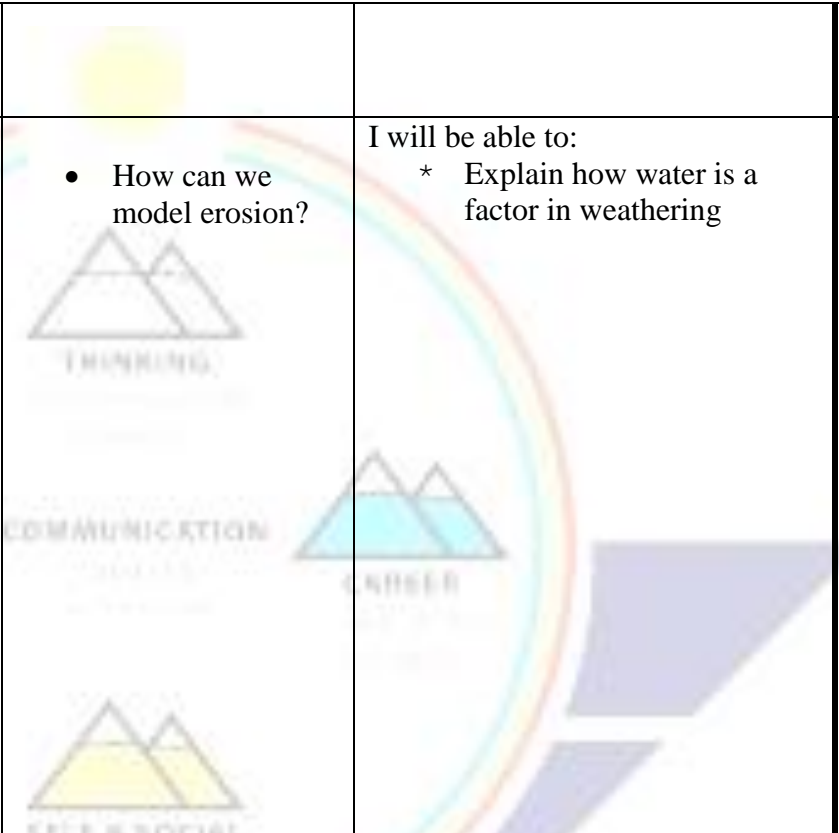
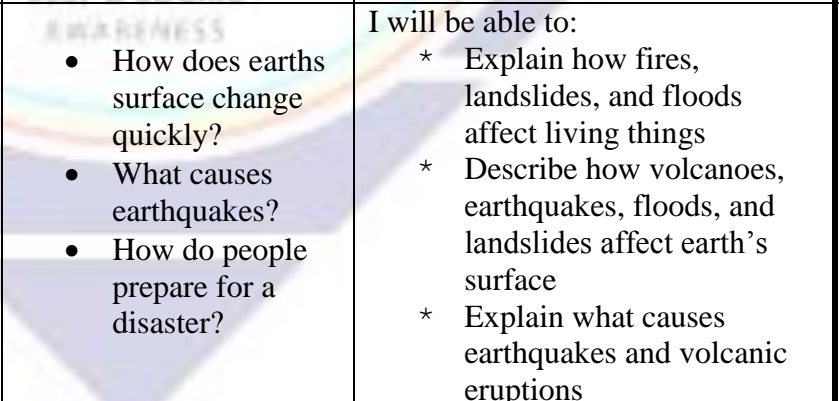
<ul style="list-style-type: none"> <li>○ Inquiry Flipcharts p. 21 &amp; 22</li> </ul>	<p><b>S4.C3.PO5</b> Describe how environmental factors in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive</p>	<p>energy they need?</p>	<ul style="list-style-type: none"> <li>* Explain the relationship between predators and prey</li> </ul> <p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Investigate food chains</li> <li>* Explain the interdependency of plants and animals</li> </ul>	<p><b>Lesson 4</b></p> <p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>
<p>2<sup>ND</sup> Quarter UNIT 4</p> <p>Week 9 Lesson 5</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 23</li> <li>○ Unit 4 Review, pgs. 197-200 (Write In)</li> </ul>	<p><b>S4.C3.PO1</b> Identify the living and nonliving components of an ecosystem</p> <p><b>S3.C1.PO2</b> Describe the beneficial and harmful impacts of natural events and human activities on the environment</p> <p><b>S4.C3.PO5</b> Describe how environmental factors in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive</p>	<ul style="list-style-type: none"> <li>● How do environmental changes affect living things?</li> <li>● Can you change the environment?</li> <li>● How can people affect the environment in positive ways?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain that ecosystems are fragile</li> <li>* Explain that natural events (fires, erosion, drought, flood, disease, and organisms) can affect habitats and living things</li> </ul>	<p>Cause and Effect Erosion Flood Drought</p>

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Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
3 <sup>rd</sup> Quarter UNIT 5  Week 1 Lesson 1 <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 25</li> </ul>	<b>Earth and Space Science</b>  <b>CHANGES TO EARTH'S SURFACE</b>  <b>S6.C1.PO1</b> Identify the layers of the Earth: crust, mantle, and core (inner/outer)	<ul style="list-style-type: none"> <li>• What are some landforms?</li> <li>• What landforms are near your home?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Define and explain landforms</li> <li>* Identify landforms (mountains, hills, valleys, and plains)</li> <li>* Compare different landforms</li> <li>* Describe the main features of the core, mantle, and crust</li> </ul>	Signal words Landform Valley Canyon Mountains Plain Plateau
3 <sup>rd</sup> Quarter UNIT 5  Week 2 Lesson 2 <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> </ul>	<b>S3.C1.PO2</b> Describe the beneficial and harmful impacts of natural events and human activities on the environment  <b>S6.C1.PO2</b> Describe the different types of rocks and how they are formed: metamorphic, igneous, and sedimentary	<ul style="list-style-type: none"> <li>• How does earth's surface change slowly?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Define and explain weathering and erosion</li> <li>* Describe the effects of weathering and erosion</li> <li>* Explain how weathering of rocks forms soil</li> </ul>	Main Idea Weathering Erosion Glacier Rocks Thaw Melt Soil Delta Root freeze

<ul style="list-style-type: none"> <li>○ Inquiry Flipchart p. 26</li> </ul>				
<p>3<sup>rd</sup> Quarter UNIT 5</p> <p>Week 3 Lesson 3</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 28</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	 <ul style="list-style-type: none"> <li>• How can we model erosion?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain how water is a factor in weathering</li> </ul>	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>
<p>3<sup>rd</sup> Quarter UNIT 5</p> <p>Week 4 Lesson 4</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> </ul>	<p><b>S3.C1.PO2</b> Describe the beneficial and harmful impacts of natural events and human activities on the environment</p>	 <ul style="list-style-type: none"> <li>• How does earth's surface change quickly?</li> <li>• What causes earthquakes?</li> <li>• How do people prepare for a disaster?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain how fires, landslides, and floods affect living things</li> <li>* Describe how volcanoes, earthquakes, floods, and landslides affect earth's surface</li> <li>* Explain what causes earthquakes and volcanic eruptions</li> </ul>	<p>Sequence Earthquake Volcano Flood Forest fire Magma Mudslide Lava Crust</p>



<ul style="list-style-type: none"> <li>○ Inquiry Flipchart p. 29</li> <li>○ Unit 5 Review, pgs. 243-246 (Write In)</li> </ul>				
<p>3<sup>rd</sup> Quarter UNIT 6</p> <p>Week 5 Lesson 1</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 30</li> </ul>	<p><b>PEOPLE AND RESOURCES</b></p> <p><b>S6.C1.PO6</b> Describe ways humans use Earth materials</p>	<ul style="list-style-type: none"> <li>• What are some Natural resources?</li> <li>• What resources do you use?</li> <li>• How do we use them?</li> <li>• Where does it come from?</li> <li>• What is pollution?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain natural resources, renewable resources, reusable resources, nonrenewable resources</li> <li>* Identify water, air, plants, animals, soils, and fossil fuels as natural resources</li> <li>* Explain ways to protect resources including reusing, recycling, and reducing</li> </ul>	<p>Compare and Contrast</p> <p>Natural Resource</p> <p>Renewable Resource</p> <p>Nonrenewable Resource</p> <p>Fossil Fuels</p> <p>Conservation</p> <p>Pollution</p> <p>Reduce</p> <p>Reuse</p> <p>Recycle</p>
<p>3<sup>rd</sup> Quarter UNIT 6</p> <p>Week 6 Lesson 2</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p>	<ul style="list-style-type: none"> <li>• How can we conserve resources?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Compare the amount of paper used by students</li> <li>* Display data gathered using a graph</li> <li>* Explain why recycling and reusing are important</li> </ul>	<p>Set a purpose</p> <p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>

<ul style="list-style-type: none"> <li>○ Inquiry Flipchart p. 31</li> </ul>	<p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C3.PO1</b> Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>			
<p>3<sup>rd</sup> Quarter UNIT 6</p> <p>Week 7 Lesson 3</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 32</li> <li>○ Unit 6 Review, pgs. 283-286 (Write In)</li> </ul>	<p><b>S6.C1.PO6</b> Describe ways humans use Earth materials</p>	<ul style="list-style-type: none"> <li>• What is soil?</li> <li>• Why is soil important to people and animals?</li> <li>• How does soil form?</li> <li>• What do plants get from soil?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain soil</li> <li>* Explain how soil is formed by weathering of rocks and decomposing plant and animal remains</li> <li>* Describe and compare types of soil (sand, silt, and clay)</li> <li>* Explain why soil is important for plant growth</li> </ul>	<p>Compare and Contrast</p> <p>Soil</p> <p>Humus</p> <p>Sand</p> <p>Silt</p> <p>Clay</p> <p>Nutrients</p> <p>Bedrock</p> <p>Loam</p> <p>Compost</p> <p>Plants</p>
<p>3<sup>rd</sup> Quarter UNIT 7</p> <p>Week 8</p>	<p>WATER AND WEATHER</p> <p><b>S6.C1.PO6</b> Describe ways humans use Earth materials</p>	<ul style="list-style-type: none"> <li>• What is the water cycle?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Describe and compare sources of water on Earth</li> </ul>	<p>Compare and Contrast</p> <p>Salt Water</p> <p>Fresh Water</p> <p>Evaporation</p> <p>Condensation</p>

<p><b>Lesson 1</b></p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 34</li> </ul>	<p><b>S3.C1.PO2</b> Describe the beneficial and harmful impacts of natural events and human activities on the environment</p>	<ul style="list-style-type: none"> <li>• What are the three forms of water?</li> <li>• What causes water to change state?</li> <li>• What gives water the energy it needs to move around the world in the water cycle?</li> </ul>	<ul style="list-style-type: none"> <li>* Explain that the sun is the source of energy that drives the water cycle</li> <li>* Describe the processes in the water cycle</li> </ul>	<p>Precipitation Water Cycle Solid Liquid Gas</p>
<p><b>3<sup>rd</sup> Quarter</b> <b>UNIT 7</b></p> <p><b>Week 9</b> <b>Lessons 2 &amp; 3</b></p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipcharts p. 35 &amp; 36</li> <li>○ Unit 7 Review, pgs. 319-322 (Write-In)</li> </ul>	<p><b>S3.C1.PO2</b> Describe the beneficial and harmful impacts of natural events and human activities on the environment</p>	<ul style="list-style-type: none"> <li>• What is weather?</li> <li>• How can we measure weather?</li> <li>• What types of clouds might you see in the atmosphere?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Define and explain weather</li> <li>* Describe the types of severe weather</li> </ul> <p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Compare changes in weather over time</li> <li>* Display recorded data</li> </ul>	<p><b>Lesson 2</b></p> <p>Headings Atmosphere Oxygen Weather Temperature Hurricane Thunderstorms Tornadoes Blizzard</p> <p><b>Lesson 3</b></p> <p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>

# Ganado Unified School District



## (SCIENCE/3<sup>rd</sup> Grade)



### PACING Guide SY 2015-2016

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
4 <sup>th</sup> Quarter UNIT 8  Week 1 Lessons 1 & 2 <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipcharts p. 38 &amp; 39</li> <li>○ Unit 8 Review, pgs. 345-348 (Write in)</li> </ul>	EARTH AND ITS MOON  No performance objectives at this grade level	<ul style="list-style-type: none"> <li>• How do earth and the moon move?</li> <li>• What are the four main moon phases?</li> <li>• How can we model the moon's phases?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Explain how Earth's rotation is responsible for day and night cycle and the seasons</li> <li>* Describe the various phases of the moon</li> <li>* Explain how the moon causes the tides</li> </ul> I will be able to: <ul style="list-style-type: none"> <li>* Explain how the motion of the Earth causes cycles in nature</li> <li>* Describe the orbits of Earth and the moon</li> </ul>	<b>Lesson 1</b> Sequence Axis Rotation Revolution Tides  <b>Lesson 2</b> Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
4 <sup>TH</sup> Quarter UNIT 9  Week 2 Lesson 1	<b>Physical Science</b>  <b>MATTER</b>  <b>S5.C1:</b> Properties of Objects and Materials-Classify objects and materials by their observable	<ul style="list-style-type: none"> <li>• What are some physical properties?</li> <li>• What is matter?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* Describe some physical properties of matter</li> <li>* Measure and compare the mass, volume, and temperature of solids and liquids</li> </ul>	Compare and Contrast Matter Physical property Mass Volume Temperature



<ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 41</li> </ul>	properties	<ul style="list-style-type: none"> <li>• How can you measure the amount of space an object takes up?</li> </ul>		
<p>4<sup>TH</sup> Quarter UNIT 9</p> <p>Week 3 Lesson 2</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 42</li> </ul>	<b>S5.C2:</b> Position and Motion of Objects-understand spatial relationships and the way objects move	<ul style="list-style-type: none"> <li>• What are the states of matter?</li> <li>• How does cooling affect water?</li> <li>• How can heating affect water?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Observe a change in state</li> <li>* Identify properties of solids, liquids, and gases</li> <li>* Describe evaporation and condensation</li> </ul>	<p>Cause and Effect</p> <p>Solid</p> <p>Liquid</p> <p>Gas</p> <p>Evaporation</p> <p>Condensation</p>
<p>4<sup>TH</sup> Quarter UNIT 9</p> <p>Week 4 Lesson 3</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p>	<ul style="list-style-type: none"> <li>• What physical properties can we observe?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Estimate and measure the mass and volume of different solids and liquids</li> </ul>	<p>Set a purpose</p> <p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>

<ul style="list-style-type: none"> <li>○ Inquiry Flipchart p. 43</li> </ul>	<p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C3.PO1</b> Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>			
<p>4<sup>TH</sup> Quarter UNIT 9</p> <p>Week 5 Lesson 4</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 44</li> </ul>	<p><b>S5.C2:</b> Position and Motion of Objects-understand spatial relationships and the way objects move</p>	<ul style="list-style-type: none"> <li>• What are some changes to matter?</li> </ul> 	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain how physical changes and chemical changes differ</li> </ul>	<p>Compare and Contrast</p> <p>Physical Change</p> <p>Mixture</p> <p>Solution</p> <p>Dissolve</p> <p>Chemical Change</p>
<p>4<sup>TH</sup> Quarter UNIT 9</p> <p>Week 6 Lesson 5</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p>	<ul style="list-style-type: none"> <li>• What changes can we observe?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain the difference between a chemical and physical change</li> <li>* Identify when a physical or chemical change has occurred.</li> </ul>	<p>Set a purpose</p> <p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>

<ul style="list-style-type: none"> <li>Science Notebooks</li> <li>Inquiry Flipchart p. 45</li> <li>Unit 9 Review, pgs. 397-400 (Write In)</li> </ul>	<p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C3.PO1</b> Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>			
<p>4<sup>TH</sup> Quarter UNIT 10</p> <p>Week 7 Lesson 1</p> <ul style="list-style-type: none"> <li>Vocabulary Cards</li> <li>Science Notebooks</li> <li>Inquiry Flipchart p. 47</li> </ul>	<p><b>SIMPLE AND COMPOUND MACHINES</b></p> <p><b>S5.C1:</b> Properties of Objects and Materials-Classify objects and materials by their observable properties</p> <p><b>S5.C2:</b> Position and Motion of Objects-understand spatial relationships and the way objects move</p>	 <ul style="list-style-type: none"> <li>What are simple machines?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain the scientific meaning of work</li> <li>* Define and explain simple machine</li> <li>* Identify levers, pulleys, and wheel-and-axles and how they are used</li> <li>* Identify simple machines that are used at school, home, and work</li> </ul>	<p>Cause and Effect Work Simple Machine Lever Fulcrum Wheel-and-axle Pulley</p>
<p>4<sup>TH</sup> Quarter UNIT 10</p> <p>Week 8 Lesson 2</p>	<p><b>S5.C1:</b> Properties of Objects and Materials-Classify objects and materials by their observable properties</p>	<ul style="list-style-type: none"> <li>What are some other simple machines?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain how inclined planes, wedges, and screws are related</li> <li>* Describe uses of these simple machines</li> </ul>	<p>Compare Inclined plane Wedge Screw Compound machine</p>

<ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 49</li> </ul>	<b>S5.C2:</b> Position and Motion of Objects-understand spatial relationships and the way objects move	<ul style="list-style-type: none"> <li>● How do these simple machines work?</li> </ul>	<ul style="list-style-type: none"> <li>* Define and explain compound machine</li> <li>* Recognize simple and compound machines found in the students' environments</li> </ul>	
<p>4<sup>TH</sup> Quarter UNIT 10</p> <p>Week 9 Lesson 3</p> <ul style="list-style-type: none"> <li>○ Vocabulary Cards</li> <li>○ Science Notebooks</li> <li>○ Inquiry Flipchart p. 50</li> <li>○ Unit 10 Review, pgs. 433-436</li> </ul>	<p><b>S1.C1.PO1</b> Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p><b>S1.C1.PO2</b> Predict results of an investigation based on observed patterns, not random guessing</p> <p><b>S1.C2.PO3</b> Conduct simple investigations in life, physical, and Earth and space sciences</p> <p><b>S1.C3.PO4</b> Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p><b>S1.C4.PO1</b> Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> <li>● How do simple machines affect work?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explain how simple machines affect the amount of force needed to move an object</li> </ul>	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>