

Ganado Unified School District (SCIENCE/3rd Grade)

PACING Guide SY 2018-2019

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
1st Quarter July 31	Review standards			
The Nature of Science and S.T.E.M				
1st Quarter Week 1 August 6 UNIT 1 How do Scientists investigate questions? Lesson 1(Pgs. 3-14) <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.2 	INVESTIGATION QUESTIONS S1.C1.PO1 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"> • How do Scientists investigate questions? • What is science? • What do you see? • How can you predict the outcome of your experiment? • How do you use investigation in an experiment? 	I will be able to: <ul style="list-style-type: none"> * Use observations to make inferences * Explain different ways that science questions can be investigated * Explain how models may be used in investigations * Follow directions for an investigation to make inferences * Plan and conduct and investigation to answer questions about magnets 	Observe Infer Questions Predict Investigation Hypothesis Experiment Variable Model Conclusion
1st Quarter Week 2 August 13 UNIT 1	S1.C1.PO1 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"> • How can you use a model? • What is the question you will try to answer with this investigation? 	I will be able to: <ul style="list-style-type: none"> * Ask questions about the natural world * Use models * Record observations 	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze

<p>How can you use a model?</p> <p>Lesson 2(Pgs.15-16)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.3 	<p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> ● What is the variable you plan to test? ● How will you know whether the variable you changed worked? ● Is the hypothesis supporting by the results? 	<ul style="list-style-type: none"> * Investigate through free exploration 	<p>extend</p>
<p>1st Quarter Week 3 August 20</p> <p>UNIT 1 How do scientists use tools?</p> <p>Lesson 3(Pgs.17-26)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.4 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO2 Plan a simple investigation based on the formulated questions</p> <p>S1.C2.PO3 Conduct simple investigations in physical science</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p>	<ul style="list-style-type: none"> ● How do scientists use tools? ● What other tools make objects look bigger? ● What is the difference between hand lenses and microscope? ● Name some of the tools used in an experiment. 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Describe tools that are used to make observations * List reasons for differences in measurement groups * Record observations accurately in different ways * Follow directions for an investigation to compare different tools for magnifying objects * Plan and conduct an investigation about measuring objects 	<p>Compare Contrast Microscope Graduated cylinder Temperature Cause and Effect Order Length Mass Volume Time Temperature</p>

	S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.			
1st Quarter Week 4 August 27 UNIT 1 How can you measure length? Lesson 4(Pgs. 31) <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.5 	S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge S1.C2.PO1 Demonstrate safe behavior and appropriate procedures in all science inquiry. S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences S1.C2.PO4 Use metric and US customary units to measure objects S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations. S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.	<ul style="list-style-type: none"> • How can you measure length? • What will you be able to do at the end of your investigation? • What will you think about when choosing the measurement tool for each item? • How will you choose the units that are best for each item? • Why is it important to communicate your results? 	I will be able to: <ul style="list-style-type: none"> * Identify which tools should be used to make specific measurements * Compare and contrast observations * Record observations * investigate 	Set a purpose Procedure Record your results Draw conclusions Analyze Extend Measure Communicate
1st Quarter Week 5 September 4 UNIT 1 How do scientists use data? Lesson 5(Pgs.33-42)	S1.C4.PO 1 Communicate investigations and explanations using evidence and appropriate terminology S1.C4. PO2 Describe an investigation in ways that enable others to repeat it	<ul style="list-style-type: none"> • How do scientists use data? • What are three other ways they can share data and discuss evidence? • How can I communicate my results? • What are some ways to display data? 	I will be able to: <ul style="list-style-type: none"> * Describe ways scientists record and display data to communicate results * Communicate results with other groups and explain any differences 	Main Idea Data Evidence Chart Data table Bar graph Maps Gather data

<ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.6 	<p>S1.C4.PO3 Communicate with other groups to describe the results of an investigation</p>	<ul style="list-style-type: none"> ● How do create a graph? ● How do graphs help us share? ● What's the difference between data table and a bar graph? 	<ul style="list-style-type: none"> * Explain that data can be used to explain a conclusion * Follow directions for an investigation to gather and communicate data * Plan and conduct an investigation in which data are collected and displayed 	<p>Record data Interpret communicate</p>
<p>1st Quarter Week 6 September 10</p> <p>UNIT 1 How do your results compare?</p> <p>Lesson 6 (Pgs.45-52)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.7 <p>Unit 1 Review pgs. 49-52</p>	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C3.PO3 Compare the results of the investigation to predictions made prior to the investigation</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<p>THINKING</p> <ul style="list-style-type: none"> ● How do your results compare? ● What will you learn from this investigation? ● What would you do if you found out that your results were very different? ● What is a meteorologists? <p>SELF & SOCIAL AWARENESS</p>	<p>I will be able to:</p> <ul style="list-style-type: none"> * Compare results of an investigation with students * Explain conclusions based upon evidence that has been gathered 	<p>Set a purpose State your hypothesis Procedure Record data Draw conclusions Analyze Extend Meteorologists Weather</p>

<p>1st Quarter Week 7 September 17</p> <p>UNIT 2 How do engineers use the design process?</p> <p>Lesson 1(Pgs.53-66)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 8 	<p>THE ENGINEERING PROCESS</p> <p>S1.C4.PO 1 Communicate investigations and explanations using evidence and appropriate terminology</p> <p>S1.C4. PO2 Describe an investigation in ways that enable others to repeat it</p> <p>S1.C4.PO3 Communicate with other groups to describe the results of an investigation</p>	<ul style="list-style-type: none"> ● How do engineers use the design process? ● How do designs get better over time? ● How do inventions help you? ● What problem do you think the surveyor is trying to solve? ● How might the design process help him? ● What are ways to communicate results of a project? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Describe the purpose of the design process * Describe the steps of the design process 	<p>Design process</p> <p>Finding a problem</p> <p>Planning</p> <p>Building</p> <p>Testing</p> <p>Improving</p> <p>Redesigning</p> <p>Communicating results</p>
<p>1st Quarter Week 8 September 24</p> <p>UNIT 2 How can you design a tree house?</p> <p>Lesson 2(Pgs.67-78)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 9 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> ● How can you design a tree house? ● What parts of the design process will you use in this activity? ● What is the first thing a builder needs to do after making a design? ● How does a builder use measurement ● What problems do you identify? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Identify the goal of a design * Select and use materials based on their physical properties to develop a solution * Plan and draw the design in a notebook * Evaluate and test 	<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>

<p>1st Quarter Week 9 October 1</p> <p>UNIT 2 How are Technology and Society Related?</p> <p>Lessons 3 (Pgs.79-80)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 10 	<p>S3.C2.PO1 Identify ways that people use tools and techniques to solve problems</p> <p>S3.C2.PO2 Describe the development of different technologies in response to resources, needs, and values.</p> <p>S1.C4.PO 1 Communicate investigations and explanations using evidence and appropriate terminology</p> <p>S1.C4. PO2 Describe an investigation in ways that enable others to repeat it</p> <p>S1.C4.PO3 Communicate with other groups to describe the results of an investigation</p>	<ul style="list-style-type: none"> ● How are technology and society related? ● What is technology? ● How do you interpret a table? ● How would changes affect society? ● How does technology affect you? ● What can you do with technology today that people couldn't do 50 years ago? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain the term technology * Discuss how technology has changed over time * Explain how technology has affected society * Explain how society has affected technology * 	<p>Lesson 3</p> <p>Details Technology</p>
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(SCIENCE/3RD Grade)

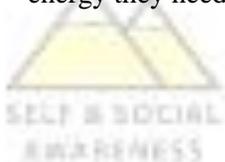
PACING Guide SY 2018-2019

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
LIFE SCIENCE				
2nd Quarter Week 10 October 9 UNIT 2 How are Technology and Society Related? Lessons 4 (Pgs.81-88) <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 11 Unit 2 Review pgs. 85-88-Write In	S3.C2.PO2 Describe the development of different technologies in response to resources, needs, and values. S1.C4.PO 1 Communicate investigations and explanations using evidence and appropriate terminology S1.C4. PO2 Describe an investigation in ways that enable others to repeat it S1.C4.PO3 Communicate with other groups to describe the results of an investigation	<ul style="list-style-type: none"> ● How can we improve a design? ● What will you discover in this activity? ● How could you redesign the bridge to make it stronger? ● What were the best/worst features of your design? ● What did the new bridges that worked have in common? ● What is a civil engineer? ● What were the main reasons that the first bridge collapsed? 	I will be able to: <ul style="list-style-type: none"> * Discuss how to make a bridge that can support a toy car * Sketch the idea for a new bridge design * Discuss what a civil engineer does * Understand some of the emergencies that engineers have to deal with 	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend Civil Engineers
2ND Quarter Week 11 October 15 UNIT 3 What are some plant life cycles?	PLANTS AND ANIMALS S4.C1.PO1 Describe the function of the following plant structures: roots (absorbs nutrients), stems (provide support), leaves (synthesize food), and flowers (attract	<ul style="list-style-type: none"> ● Where do seeds come from? ● What are some plants life cycles? ● Do all plants make seeds? ● Why does the cycle stop if that step is removed? 	I will be able to: <ul style="list-style-type: none"> * Define the life cycle * Explain that different plants have different life cycles * Explain that a flowering plant helps plants reproduce 	Design process Compare Contrast Life cycle Germinates Flower Reproduce Seed

<p>Lesson 1 (Pgs.91-100)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 12 	<p>pollinators and produce seeds for reproduction)</p> <p>S4.C2.PO1 Compare life cycles of various plants</p>	<ul style="list-style-type: none"> ● Did you know that even the tallest trees started out as small seeds? ● 	<ul style="list-style-type: none"> * Explain that pollinations must occur for flowering plants to produce seeds * Describe ways that seeds can be dispersed * Explain that seeds do not always reproduce through seeds 	<p>Seedling Adult plant Fruit Cones Pollen Pollination Spores</p>
<p>2ND Quarter Week 12 October 22</p> <p>UNIT 3 What are some animal life cycles?</p> <p>Lesson 2(Pgs.101-112)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 13 	<p>S4.C2.PO1 Compare life cycles of various plants</p> <p>S4.C2.PO2 Explain how growth, death, and decay are part of the plant life cycle</p>	<ul style="list-style-type: none"> ● What are some animal life cycles? ● What is the Frog life cycle? ● What changes did the insects go through after they hatched from eggs? ● Which features do they share? ● Which features are different? ● Do members of the family look alike? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define the term life cycle * Explain that all life cycles include birth/hatching, growth/development, maturity, and reproduction * Describe the difference between complete and incomplete metamorphosis 	<p>Sequence Metamorphosis Egg Larva Pupa Adult Reproduce Diversity</p>
<p>2ND Quarter Week 13 October 29</p> <p>UNIT 3 How do living things change?</p> <p>Lesson 3(Pgs.113-114)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p>	<ul style="list-style-type: none"> ● How do living things change? ● Why do you think scientists make many observations? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Plant, observe, and measure the growth of bean seeds * Display data in a graph 	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze extend</p>

<ul style="list-style-type: none"> ○ Science Notebooks ○ Inquiry Flipchart p. 14 	<p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>			
<p>2ND Quarter Week 14 November 5</p> <p>UNIT 3 What are structural adaptations?</p> <p>Lesson 4(Pgs.115-128)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 15 	<p>S4.C4.PO1 Identify adaptations of plants and animals that allow them to live in specific environments</p> <p>S4.C4.PO2 Describe ways that species adapt when introduced into new environments</p> <p>S4.C3.PO4 Describe how plants and animals cause change in their environment</p>	<ul style="list-style-type: none"> ● What are structural adaptations? ● How does its adaptation help them survive? ● What are some of the defense adaptations? ● What is the difference between camouflage and mimicry? ● How do plants adapt to different environment? ● Who are the insect scientists? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain adaptation, camouflage, and mimicry * Explain how adaptations help plants and animals survive in their environment 	<p>Visual aids Adaptation Defense adaptations Camouflage Mimicry Plant adaptations</p>
<p>2ND Quarter Week 15 November 13</p> <p>UNIT 3</p>	<p>S4.C4.PO1 Identify adaptations of plants and animals that allow them to live in specific environments</p>	<ul style="list-style-type: none"> ● How can we model a physical adaptation? ● How do you think the stickiness of the tongue will 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Discuss how different frog tongues are better for eating some types of foods 	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions</p>

<p>How can we model a physical adaptation?</p> <p>Lesson 5 (Pgs.129-130)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 16 	<p>S4.C4.PO2 Describe ways that species adapt when introduced into new environments</p> <p>S4.C3.PO4 Describe how plants and animals cause change in their environment</p>	<p>affect the number of insects the frog catches?</p>	<ul style="list-style-type: none"> * Explain how adaptations help animals survive in their environment 	<p>Analyze Extend</p>
<p>2ND Quarter Week 16 November 26</p> <p>UNIT 3 What are behavioral adaptations?</p> <p>Lesson 6 (Pgs.131-144)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 17 <p>Unit 3 Review pgs. 145-148 (Write In)</p>	<p>S4.C4.PO1 Identify adaptations of plants and animals that allow them to live in specific environments</p>	<ul style="list-style-type: none"> • What are behavioral adaptations? • How are instincts and learned behaviors alike? • Which animals hibernate? • How do animals know what to do? • Why do animals need food and shelter? • Why do animals migrate? • Why is food preservation important? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain hibernate and migrate * Explain the difference between instinctive and learned behaviors * Understand the importance of food and shelter for animals * Understand why the migration is important for certain animals 	<p>Compare Contrast Behavior Learned behavior Instinct Hibernate Migrate Food Shelter Survive preservation</p>
<p>2ND Quarter Week 17 December 3</p> <p>UNIT 4 What are ecosystems? What's in an ecosystem?</p>	<p>ECOSYSTEMS AND INTERACTIONS</p> <p>S4.C3.PO1 Identify the living and nonliving components of an ecosystem</p> <p>S4.C3.PO2 Examine an</p>	<ul style="list-style-type: none"> • What are ecosystems? • What's in an ecosystem? • What living things are in your environment? • What nonliving things are in your environment? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain ecosystem, population, and community * Describe aquatic environments * Describe terrestrial environments 	<p>Lesson 1</p> <p>Living Nonliving Main idea Details Environment Ecosystem Habitat</p>

<p>Lesson 1 (Pgs.151-162) Lesson 2 (Pgs.163-166)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 19 20 	<p>ecosystem to identify microscopic and macroscopic organisms</p>		<ul style="list-style-type: none"> * Explain how plants and animals are dependent upon each other <p>I will be able to:</p> <ul style="list-style-type: none"> * Investigate ecosystems * Compare and contrast aquatic and terrestrial ecosystems 	<p>Population Community</p> <p style="text-align: center;">Lesson 2</p> <p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>
<p>2ND Quarter Week 18 December 10</p> <p>UNIT 4 What is a food chain? What are some food chain?</p> <p>Lesson 3 (Pgs.167-178) Lesson 4 (Pgs.179-180)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 21 & 22 	<p>S4.C3.PO3 Explain the interrelationships among plants and animals in different environments: producers (plants), consumers (animals), and decomposers (fungi, insects, and bacteria)</p> <p>S4.C3.PO4 Describe how plants and animals cause change in their environment</p> <p>S4.C3.PO5 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"> • What is a food chain? • What are some food chains? • What does a plant take in for photosynthesis? • What does the plant produce? • Where do animals get the energy they need? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain the term food chain * Explain that energy moves up a food chain * Explain that food chains are made up of producers, consumers, and decomposers * Explain that animals are herbivores, carnivores, and omnivores * Explain the relationship between predators and prey <p>I will be able to:</p> <ul style="list-style-type: none"> * Investigate food chains * Explain the interdependency of plants and animals 	<p style="text-align: center;">Lesson 3</p> <p>Sequence Producer Photosynthesis Consumer Decomposer Food Chain Herbivore Carnivore Omnivore Predator Prey</p> <p style="text-align: center;">Lesson 4</p> <p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>
<p>2ND Quarter Week 19 December 17</p>	<p>S4.C3.PO1 Identify the living and nonliving components of</p>	<ul style="list-style-type: none"> • How do environmental changes affect living things? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain that ecosystems are fragile 	<p>Cause and Effect Erosion Flood</p>

<p>UNIT 4 How do environmental changes affect living things?</p> <p>Lesson 5 (Pgs.181-196)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 23 <p>Unit 4 Review, pgs. 197-200 (Write In)</p>	<p>an ecosystem</p> <p>S3.C1.PO2 Describe the beneficial and harmful impacts of natural events and human activities on the environment</p> <p>S4.C3.PO5 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"> • Can you change the environment? • How can people affect the environment in positive ways? 	<ul style="list-style-type: none"> * Explain that natural events (fires, erosion, drought, flood, disease, and organisms) can affect habitats and living things 	<p>Drought</p>
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Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
EARTH AND SPACE SCIENCE				
<p>3rd Quarter Week 20 January 8</p> <p>UNIT 5 What are some landforms?</p>	<p>CHANGES TO EARTH'S SURFACE</p> <p>S6.C1.PO1 Identify the layers of the Earth: crust, mantle, and core (inner/outer)</p>	<ul style="list-style-type: none"> • What are some landforms? • What landforms are near your home? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain landforms * Identify landforms (mountains, hills, valleys, and plains) * Compare different landforms 	<p>Signal words</p> <p>Landform Valley Canyon Mountains Plain Plateau</p>

<p>Lesson 1(Pgs.203-214)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 25 			<ul style="list-style-type: none"> * Describe the main features of the core, mantle, and crust 	
<p>3rd Quarter Week 21 January 14</p> <p>UNIT 5 How does Earth's surface change slowly?</p> <p>Lesson 2(Pgs.215-226)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 26 	<p>S3.C1.PO2 Describe the beneficial and harmful impacts of natural events and human activities on the environment</p> <p>S6.C1.PO2 Describe the different types of rocks and how they are formed: metamorphic, igneous, and sedimentary</p>	<ul style="list-style-type: none"> • How does Earth's surface change slowly? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain weathering and erosion * Describe the effects of weathering and erosion * Explain how weathering of rocks forms soil 	<p>Main Idea Weathering Erosion Glacier Rocks Thaw Melt Soil Delta Root freeze</p>
<p>3rd Quarter Week 22 January 22</p> <p>UNIT 5 How can we model erosion?</p> <p>Lesson 3(Pgs.227-228)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 28 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p>	<ul style="list-style-type: none"> • How can we model erosion? • What does the sand represent? • What does the ice cube represent? • How does glacier affect the land it moves over? • What force causes a glacier to move downhill? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how water is a factor in weathering 	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>

	<p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>			
<p>3rd Quarter Week 23 January 28</p> <p>UNIT 5 How does Earth's surface change quickly?</p> <p>Lesson 4(Pgs.229-242)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 29 <p>Unit 5 Review, pgs. 243-246 (Write In)</p>	<p>S3.C1.PO2 Describe the beneficial and harmful impacts of natural events and human activities on the environment</p>	<ul style="list-style-type: none"> ● How does Earth's surface change quickly? ● What causes earthquakes? ● How do people prepare for a disaster? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how fires, landslides, and floods affect living things * Describe how volcanoes, earthquakes, floods, and landslides affect earth's surface * Explain what causes earthquakes and volcanic eruptions 	<p>Sequence</p> <p>Earthquake</p> <p>Volcano</p> <p>Flood</p> <p>Forest fire</p> <p>Magma</p> <p>Mudslide</p> <p>Lava</p> <p>Crust</p>
<p>3rd Quarter Week 24 February 4</p> <p>UNIT 6 What are some natural resources?</p>	<p>PEOPLE AND RESOURCES</p> <p>S6.C1.PO6 Describe ways humans use Earth materials</p>	<ul style="list-style-type: none"> ● What are some Natural resources? ● What resources do you use? ● How do we use them? ● Where does it come from? ● What is pollution? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain natural resources, renewable resources, reusable resources, nonrenewable resources 	<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>Lesson 1(pgs.249-262)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 30 			<ul style="list-style-type: none"> * Identify water, air, plants, animals, soils, and fossil fuels as natural resources * Explain ways to protect resources including reusing, recycling, and reducing 	<p>Reduce Reuse Recycle</p>
<p>3rd Quarter Week 25 February 11</p> <p>UNIT 6 How can we conserve resources?</p> <p>Lesson 2(pgs.263-264)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 31 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C3.PO1 Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<p>• How can we conserve resources?</p> <p>COMMUNICATION SKILLS CENTER</p> <p>SELF & SOCIAL AWARENESS</p>	<p>I will be able to:</p> <ul style="list-style-type: none"> * Compare the amount of paper used by students * Display data gathered using a graph * Explain why recycling and reusing are important 	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>

<p>3rd Quarter Week 26 February 19</p> <p>UNIT 6 What is soil?</p> <p>Lesson 3(pgs.265-282)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 32 <p>Unit 6 Review, pgs. 283-286 (Write In)</p>	<p>S6.C1.PO6 Describe ways humans use Earth materials</p>	<ul style="list-style-type: none"> ● What is soil? ● Why is soil important to people and animals? ● How does soil form? ● What do plants get from soil? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain soil * Explain how soil is formed by weathering of rocks and decomposing plant and animal remains * Describe and compare types of soil (sand, silt, and clay) * Explain why soil is important for plant growth 	<p>Compare and Contrast</p> <p>Soil Humus Sand Silt Clay Nutrients Bedrock Loam Compost Plants</p>
<p>3rd Quarter Week 27 February 25</p> <p>UNIT 7 What is the water cycle?</p> <p>Lesson 1(pgs.289-302)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 34 	<p>WATER AND WEATHER</p> <p>S6.C1.PO6 Describe ways humans use Earth materials</p> <p>S3.C1.PO2 Describe the beneficial and harmful impacts of natural events and human activities on the environment</p>	<ul style="list-style-type: none"> ● What is the water cycle? ● What are the three forms of water? ● What causes water to change state? ● What gives water the energy it needs to move around the world in the water cycle? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Describe and compare sources of water on Earth * Explain that the sun is the source of energy that drives the water cycle * Describe the processes in the water cycle 	<p>Compare and Contrast</p> <p>Salt Water Fresh Water Evaporation Condensation Precipitation Water Cycle Solid Liquid Gas</p>
<p>3rd Quarter Week 28 March 4</p> <p>UNIT 7</p>	<p>S3.C1.PO2 Describe the beneficial and harmful impacts of natural events and human activities on the environment</p>	<ul style="list-style-type: none"> ● What is weather? ● How could the weather in a city be measured? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Define and explain weather 	<p>Headings</p> <p>Atmosphere Oxygen Weather</p>

<p>What is weather?</p> <p>Lessons 2(Pgs.303-314)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 35 		<ul style="list-style-type: none"> ● What types of clouds might you see in the atmosphere? ● What tools can you use to measure the heat, rain, and wind? ● What items do you wear to protect you from the weather? ● What are the differences in a blizzard, thunderstorm, tornado, and hurricane? 	<ul style="list-style-type: none"> * Describe the types of severe weather * Describe the types of tools to use to measure the weather * 	<p>Temperature Hurricane Thunderstorms Tornadoes Blizzard Thermometer Rain gauge Wind vane Wind meter Degree Celsius Fahrenheit</p>
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Ganado Unified School District

(SCIENCE/3RD Grade)

PACING Guide SY 2018-2019

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
<p>4th Quarter Week 29 March 18</p> <p>UNIT 7 How can we measure weather?</p> <p>Lessons 3(pgs.315-318)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 36 <p>Unit 7 Review, pgs. 319-322 (Write-In)</p>	<p>S3.C1.PO2 Describe the beneficial and harmful impacts of natural events and human activities on the environment</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C3.PO1 Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> • How can we measure weather? • What types of clouds might you see in the atmosphere? • Which tool will you use to measure the air temperature, wind directions, and rainfall? • How did the weather change over three-week period? • How did you use all of your collected data to make your weather prediction? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Compare changes in weather over time <p>Display recorded data</p>	<p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze</p> <p style="text-align: center;">Extend</p>

<p>4th Quarter Week 30 March 25</p> <p>UNIT 8 How do Earth and the moon move? How can we model the moon's phases?</p> <p>Lesson 1(pgs.325-340) Lesson 2(pgs.341-344)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 38 & 39 <p>Unit 8 Review, pgs. 345-348 (Write in)</p>	<p>EARTH AND ITS MOON</p> <p>No performance objectives at this grade level</p>	<ul style="list-style-type: none"> • How do earth and the moon move? • What season is it? • How is winter different in different location of the world? • What creates the tides to go high or low? • What are the four main moon phases? • How can we model the moon's phases? • Why does the moon appear to change when viewed from Earth? • Would the moon look the same if you were looking at it from the Sun? • During a full moon, is the whole moon lit? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how Earth's rotation is responsible for day and night cycle and the seasons * Describe the various phases of the moon * Explain how the moon causes the tides <p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how the motion of the Earth causes cycles in nature * Describe the orbits of Earth and the moon 	<p>Lesson 1</p> <p>Sequence Axis Rotation Revolution Tides</p> <p>Lesson 2</p> <p>Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend</p>
<p>PHYSICAL SCIENCE</p>				
<p>4th Quarter Week 31 April 1</p> <p>UNIT 9 What are some physical properties?</p> <p>Lesson 1(pgs.351-364)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards 	<p>MATTER</p> <p>S5.C1: Properties of Objects and Materials-Classify objects and materials by their observable properties</p>	<ul style="list-style-type: none"> • What are some physical properties? • What is matter? • How can you measure the amount of space an object takes up? • What is texture? • How can you categorize objects? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Describe some physical properties of matter * Measure and compare the mass, volume, and temperature of solids and liquids * Name a hard object that can be change 	<p>Compare and Contrast Matter Physical property Mass Volume Temperature</p>

<ul style="list-style-type: none"> ○ Science Notebooks ○ Inquiry Flipchart p. 41 		<ul style="list-style-type: none"> ● How can you measure the mass of sand, water, or other materials? ● How can you measure the amount of space an object takes up? ● How do you measure how warm or cold something is? ● What is a metallurgist? 		
<p>4TH Quarter Week 32 April 8</p> <p>UNIT 9 What are the states of matter?</p> <p>Lesson 2(Pgs.365-376)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 42 	<p>S5.C2: Position and Motion of Objects-understand spatial relationships and the way objects move</p>	<ul style="list-style-type: none"> ● What are the states of matter? ● How does heat affect frozen item? ● How does freezing affect heated item? ● How does cooling affect water? ● How can heating affect water? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Observe a change in state * Identify properties of solids, liquids, and gases * Describe evaporation and condensation 	<p>Cause and Effect</p> <p>Solid</p> <p>Liquid</p> <p>Gas</p> <p>Evaporation</p> <p>Condensation</p>
<p>4TH Quarter Week 33 April 15</p> <p>UNIT 9 What physical properties can we observe?</p> <p>Lesson 3(Pgs.377-378)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p>	<ul style="list-style-type: none"> ● What physical properties can we observe? ● How can you estimate the masses of the objects and water to place them in order? ● How can you estimate the volumes of the objects and water to place them in order? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Estimate and measure the mass and volume of different solids and liquids 	<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"> ○ Science Notebooks ○ Inquiry Flipchart p. 43 	<p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C3.PO1 Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> • When would you have to use a measuring cup to find the volume of a solid? 		
<p>4TH Quarter Week 34 April 22</p> <p>UNIT 9 What are some changes to matter?</p> <p>Lesson 4(Pgs.379-392)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 44 ○ 	<p>S5.C2: Position and Motion of Objects-understand spatial relationships and the way objects move</p>	<ul style="list-style-type: none"> • What are some changes to matter? • How is a mixture a physical change? • What are some of the things that are mixtures? • How does an egg change when you cook it? • How can you tell a chemical change has happened? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how physical changes and chemical changes differ * Drawing picture of before and after a physical change in a matter 	<p>Compare and Contrast Physical Change Mixture Solution Dissolve Chemical Change</p>
<p>4TH Quarter</p>	<p>S1.C1.PO1 Formulate relevant</p>		<p>I will be able to:</p>	<p>Set a purpose</p>

<p>Week 35 April 29</p> <p>UNIT 9 What changes can we observe?</p> <p>Lesson 5(Pgs.393-394)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 45 ○ Unit 9 Review, pgs. 397-400 (Write In) 	<p>questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based on the conclusions of the investigations.</p> <p>S1.C3.PO1 Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts</p> <p>S1.C4.PO1 Communicate investigations and explanations using evidence and appropriate terminology.</p>	<ul style="list-style-type: none"> ● What changes can we observe? ● Why do you think you use equal amounts of water and vinegar and equal amounts of baking soda? ● What are some of the safety requirements to wear when doing an experiment? ● THINKING 	<ul style="list-style-type: none"> * Explain the difference between a chemical and physical change * Identify when a physical or chemical change has occurred. 	<p>State your hypothesis</p> <p>Procedure</p> <p>Record your results</p> <p>Draw conclusions</p> <p>Analyze</p> <p>Extend</p>
<p>4TH Quarter Week 36 May 6</p> <p>UNIT 10 What are simple machines?</p> <p>Lesson 1(Pgs.403-416)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards 	<p>SIMPLE AND COMPOUND MACHINES</p> <p>S5.C1: Properties of Objects and Materials-Classify objects and materials by their observable properties</p> <p>S5.C2: Position and Motion of Objects-understand spatial</p>	<ul style="list-style-type: none"> ● What are simple machines? ● How do levers work? ● What are the parts of a lever? ● Where do we use circular motion to make work easier? ● What are the parts of a circular motion machine? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain the scientific meaning of work * Define and explain simple machine * Identify levers, pulleys, and wheel-and-axles and how they are used * Identify simple machines that are used at school, home, and work 	<p>Cause and Effect</p> <p>Work</p> <p>Simple Machine</p> <p>Lever</p> <p>Fulcrum</p> <p>Wheel-and-axle</p> <p>Pulley</p>

<ul style="list-style-type: none"> ○ Science Notebooks ○ Inquiry Flipchart p. 47 	relationships and the way objects move	<ul style="list-style-type: none"> ● Where can you find pulleys? ● What are the parts of a pulley? ● How important is building with a crane? 		
<p>4TH Quarter Week 37 May 13</p> <p>UNIT 10 What are some other simple machines?</p> <p>Lesson 2(Pgs.417-428)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 49 	<p>S5.C1: Properties of Objects and Materials-Classify objects and materials by their observable properties</p> <p>S5.C2: Position and Motion of Objects-understand spatial relationships and the way objects move</p>	<ul style="list-style-type: none"> ● What are some other simple machines? ● How do these simple machines work? ● Where can you use an incline plane? ● Why is a screw a simple machine? ● How can simple machines work together? ● How many machines can you identify? 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how inclined planes, wedges, and screws are related * Describe uses of these simple machines * Define and explain compound machine * Recognize simple and compound machines found in the students' environments 	<p>Compare</p> <p>Inclined plane</p> <p>Wedge</p> <p>Screw</p> <p>Compound machine</p>
<p>4TH Quarter Week 38 May 20</p> <p>UNIT 10 How do simple machines affect work?</p> <p>Lesson 3(Pgs.429-432)</p> <ul style="list-style-type: none"> ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 50 	<p>S1.C1.PO1 Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge</p> <p>S1.C1.PO2 Predict results of an investigation based on observed patterns, not random guessing</p> <p>S1.C2.PO3 Conduct simple investigations in life, physical, and Earth and space sciences</p> <p>S1.C3.PO4 Generate questions for possible future investigations based</p>	<ul style="list-style-type: none"> ● How do simple machines affect work? ● How can you use a spring scale? ● Why are ramps built at different lengths? ● What do machine engineers do? ● 	<p>I will be able to:</p> <ul style="list-style-type: none"> * Explain how simple machines affect the amount of force needed to move an object 	<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>

<p>Unit 10 Review, pgs. 433-436</p>	<p>on the conclusions of the investigations.</p> <p>S1.C4.P01 Communicate investigations and explanations using evidence and appropriate terminology.</p>			
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