Ganado Unified School District (SCIENCE/3rd Grade)

PACING Guide SY 2016-2017

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
The Nature of Science and S.T.E.M				
1st Quarter **Week 1 August 1** **UNIT 1** **How do Scientists investigate questions?** Lesson 1(Pgs. 3-14) ○ 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	• 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: * 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 8** **UNIT 1** **How can you use a model?** Lesson 2(Pgs.15-16)	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing	• How can you use a model? • What is the question you will try to answer with this investigation? • What is the variable you plan to test?	I will be able to: * Ask questions about the natural world * Use models * Record observations * Investigate through free exploration	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze extend

○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.3	**S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **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.	• How will you know whether the variable you changed worked? • Is the hypothesis supporting by the results?		
1st Quarter **Week 3 August 15** **UNIT 1** **How do scientists use tools?** Lesson 3(Pgs.17-26) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.4	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO2** Plan a simple investigation based on the formulated questions **S1.C2.PO3** Conduct simple investigations in physical science **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.	• 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.	I will be able to: * 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	Compare Contrast Microscope Graduated cylinder Temperature Cause and Effect Order Length Mass Volume Time Temperature

1st Quarter **Week 4 August 22** **UNIT 1** **How can you measure length?** Lesson 4(Pgs. 31) ○ 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.	• 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: * 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 August 29** **UNIT 1** **How do scientists use data?** Lesson 5(Pgs.33-42 ○ Vocabulary Cards	**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	• 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? • How do create a graph? • How do graphs help us share?	I will be able to: * Describe ways scientists record and display data to communicate results * Communicate results with other groups and explain any differences * Explain that data can be used to explain a conclusion	Main Idea Data Evidence Chart Data table Bar graph Maps Gather data Record data Interpret communicate

○ Science Notebooks ○ Inquiry Flipchart p.6		• What's the difference between data table and a bar graph?	* Follow directions for an investigation to gather and communicate data * Plan and conduct an investigation in which data are collected and displayed	
1st Quarter **Week 6 September 5** **UNIT 1** **How do your results compare?** Lesson 6(Pgs.45-52) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p.7 **Unit 1 Review pgs. 49-52**	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **S1.C3.PO4** Generate questions for possible future investigations based on the conclusions of the investigations. **S1.C3.PO3** Compare the results of the investigation to predictions made prior to the investigation **S1.C4.PO1** Communicate investigations and explanations using evidence and appropriate terminology.	• 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?	I will be able to: * Compare results of an investigation with students * Explain conclusions based upon evidence that has been gathered	Set a purpose State your hypothesis Procedure Record data Draw conclusions Analyze Extend Meteorologists Weather
1st Quarter **Week 7 September 12**	**THE ENGINEERING PROCESS**	• How do engineers use the design process?	I will be able to: * Describe the purpose of the design process	Design process Finding a problem Planning

UNIT 2 **How do engineers use the design process?** Lesson 1(Pgs.53-66) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 8	**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	• 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?	* Describe the steps of the design process	Building Testing Improving Redesigning Communicating results
1st Quarter **Week 8 September 19** **UNIT 2** **How can you design a tree house?** Lesson 2(Pgs.67-78) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 9	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **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.	• 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?	I will be able to: * 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	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze extend
1st Quarter **Week 9 September 26**	**S3.C2.PO1** Identify ways that people use tools and techniques to solve	• How are technology and society related?	I will be able to: * Define and explain the term technology	**Lesson 3** Details Technology

UNIT 2 **How are Technology and Society Related?** Lessons 3 (Pgs.79-80) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 10	problems **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	• 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?	* Discuss how technology has changed over time * Explain how technology has affected society * Explain how society has affected technology *	
1st Quarter **Week 10 October 3** **UNIT 2** **How are Technology and Society Related?** Lessons 4 (Pgs.81-88) ○ 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	• 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: * 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

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		LIFE SCIENCE		
2ND Quarter **Week 11 October 11** **UNIT 3** **What are some plant life cycles?** Lesson 1 (Pgs.91-100) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 12	**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 pollinators and produce seeds for reproduction) **S4.C2.PO1** Compare life cycles of various plants	• 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? • Did you know that even the tallest trees started out as small seeds? •	I will be able to: * Define the life cycle * Explain that different plants have different life cycles * Explain that a flowering plant helps plants reproduce * 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	Design process Compare Contrast Life cycle Germinates Flower Reproduce Seed Seedling Adult plant Fruit Cones Pollen Pollination Spores
2ND Quarter **Week 12 October 17** **UNIT 3** **What are some animal life cycles?**	**S4.C2.PO1** Compare life cycles of various plants **S4.C2.PO2** Explain how growth, death, and decay are part of the plant life cycle	• What are some animal life cycles? • What is the Frog life cycle? • What changes did the insects go through after they hatched from eggs?	I will be able to: * Define the term life cycle * Explain that all life cycles include birth/hatching, growth/development,	Sequence Metamorphosis Egg Larva Pupa Adult

Lesson 2(Pgs.101-112) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 13		• Which features do they share? • Which features are different? • Do members of the family look alike?	maturity, and reproduction * Describe the difference between complete and incomplete metamorphosis	Reproduce Diversity
2ND Quarter **Week 13 October 24** **UNIT 3** **How do living things change?** Lesson 3(Pgs.113-114) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 14	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **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.	• How do living things change? • Why do you think scientists make many observations?	I will be able to: * Plant, observe, and measure the growth of bean seeds * Display data in a graph	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze extend

2ND Quarter **Week 14 October 31** **UNIT 3** **What are structural adaptations?** Lesson 4(Pgs.115-128) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 15	**S4.C4.PO1** Identify adaptations of plants and animals that allow them to live in specific environments **S4.C4.PO2** Describe ways that species adapt when introduced into new environments **S4.C3.PO4** Describe how plants and animals cause change in their environment	• 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?	I will be able to: * Define and explain adaptation, camouflage, and mimicry * Explain how adaptations help plants and animals survive in their environment	Visual aids Adaptation Defense adaptations Camouflage Mimicry Plant adaptations
2ND Quarter **Week 15 November 7** **UNIT 3** **How can we model a physical adaptation?** Lesson 5 (Pgs.129-130) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 16	**S4.C4.PO1** Identify adaptations of plants and animals that allow them to live in specific environments **S4.C4.PO2** Describe ways that species adapt when introduced into new environments **S4.C3.PO4** Describe how plants and animals cause change in their environment	• How can we model a physical adaptation? • How do you think the stickiness of the tongue will affect the number of insects the frog catches?	I will be able to: * Discuss how different frog tongues are better for eating some types of foods * Explain how adaptations help animals survive in their environment	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
2ND Quarter **Week 16 November 14** **UNIT 3** **What are behavioral adaptations?**	**S4.C4.PO1** Identify adaptations of plants and animals that allow them to live in specific environments	• What are behavioral adaptations? • How are instincts and learned behaviors alike? • Which animals hibernate?	I will be able to: * Define and explain hibernate and migrate * Explain the difference between instinctive and learned behaviors	Compare Contrast Behavior Learned behavior Instinct Hibernate

Lesson 6 (Pgs.131-144) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 17 **Unit 3 Review pgs. 145-148 (Write In)**		• How do animals know what to do? • Why do animals need food and shelter? • Why do animals migrate? • Why is food preservation important?	* Understand the importance of food and shelter for animals * Understand why the migration is important for certain animals	Migrate Food Shelter Survive preservation
2ND Quarter **Week 17 November 28** **UNIT 4** **What are ecosystems? What's in an ecosystem?** Lesson 1 (Pgs.151-162) Lesson 2 (Pgs.163-166) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 19 & 20	**ECOSYTEMS AND INTERACTIONS** **S4.C3.PO1** Identify the living and nonliving components of an ecosystem **S4.C3.PO2** Examine an ecosystem to identify microscopic and macroscopic organisms	• What are ecosystems? • What's in an ecosystem? • What living things are in your environment? • What nonliving things are in your environment?	I will be able to: * Define and explain ecosystem, population, and community * Describe aquatic environments * Describe terrestrial environments * Explain how plants and animals are dependent upon each other I will be able to: * Investigate ecosystems * Compare and contrast aquatic and terrestrial ecosystems	**Lesson 1** Living Nonliving Main idea Details Environment Ecosystem Habitat Population Community **Lesson 2** Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
2ND Quarter **Week 18 December 5** **UNIT 4**	**S4.C3.PO3** Explain the interrelationships among plants and animals in different environments: producers	• What is a food chain? • What are some food chains? • What does a plant take in for photosynthesis?	I will be able to: * Define and explain the term food chain	**Lesson 3** Sequence Producer Photosynthesis

What is a food chain? What are some food chain? Lesson 3 (Pgs.167178) Lesson 4 (Pgs.179-180) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 21 & 22	(plants), consumers (animals), and decomposers (fungi, insects, and bacteria) **S4.C3.PO4** Describe how plants and animals cause change in their environment **S4.C3.PO5** Describe how environmental factors in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive	• What does the plant produce? • Where do animals get the energy they need?	* 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 I will be able to: * Investigate food chains * Explain the interdependency of plants and animals	Consumer Decomposer Food Chain Herbivore Carnivore Omnivore Predator Prey **Lesson 4** Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
2ND Quarter **Week 19 December 12** **UNIT 4** **How do environmental changes affect living things?** Lesson 5 (Pgs.181-196) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 23 **Unit 4 Review, pgs. 197-200 (Write In)**	**S4.C3.PO1** Identify the living and nonliving components of an ecosystem **S3.C1.PO2** Describe the beneficial and harmful impacts of natural events and human activities on the environment **S4.C3.PO5** Describe how environmental factors in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive	• How do environmental changes affect living things? • Can you change the environment? • How can people affect the environment in positive ways?	I will be able to: * Explain that ecosystems are fragile * Explain that natural events (fires, erosion, drought, flood, disease, and organisms) can affect habitats and living things	Cause and Effect Erosion Flood Drought

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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				
3rd Quarter **Week 20 January 2** **UNIT 5** **What are some landforms?** Lesson 1(Pgs.203-214) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 25	**CHANGES TO EARTH'S SURFACE** **S6.C1.PO1** Identify the layers of the Earth: crust, mantle, and core (inner/outer)	• What are some landforms? • What landforms are near your home?	I will be able to: * Define and explain landforms * Identify landforms (mountains, hills, valleys, and plains) * Compare different landforms * Describe the main features of the core, mantle, and crust	Signal words Landform Valley Canyon Mountains Plain Plateau
3rd Quarter **Week 21 January 9** **UNIT 5** **How does Earth's surface change slowly?** Lesson 2(Pgs.215-226)	**S3.C1.PO2** Describe the beneficial and harmful impacts of natural events and human activities on the environment **S6.C1.PO2** Describe the different types of rocks and how they are formed: metamorphic, igneous, and sedimentary	• How does Earth's surface change slowly?	I will be able to: * Define and explain weathering and erosion * Describe the effects of weathering and erosion * Explain how weathering of rocks forms soil	Main Idea Weathering Erosion Glacier Rocks Thaw Melt Soil Delta

○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 26				Root freeze
3rd Quarter **Week 22 January 16** **UNIT 5** **How can we model erosion?** Lesson 3(Pgs.227-228) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 28	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **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.	• 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?	I will be able to: * Explain how water is a factor in weathering	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
3rd Quarter **Week 23 January 23** **UNIT 5**	**S3.C1.PO2** Describe the beneficial and harmful impacts of natural events and human activities on the environment	• How does Earth's surface change quickly? • What causes earthquakes?	I will be able to: * Explain how fires, landslides, and floods affect living things	Sequence Earthquake Volcano Flood

How does Earth's surface change quickly? Lesson 4(Pgs.229-242) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 29 **Unit 5 Review, pgs. 243-246 (Write In)**		• How do people prepare for a disaster?	* Describe how volcanoes, earthquakes, floods, and landslides affect earth's surface * Explain what causes earthquakes and volcanic eruptions	Forest fire Magma Mudslide Lava Crust
3rd Quarter **Week 24 January 30** **UNIT 6** **What are some natural resources?** Lesson 1(pgs.249-262) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 30	**PEOPLE AND RESOURCES** **S6.C1.PO6** Describe ways humans use Earth materials	• What are some Natural resources? • What resources do you use? • How do we use them? • Where does it come from? • What is pollution?	I will be able to: * Define and explain natural resources, renewable resources, reusable resources, nonrenewable resources * Identify water, air, plants, animals, soils, and fossil fuels as natural resources * Explain ways to protect resources including reusing, recycling, and reducing	Compare and Contrast Natural Resource Renewable Resource Nonrenewable Resource Fossil Fuels Conservation Pollution Reduce Reuse Recycle
3rd Quarter **Week 25 February 6** **UNIT 6** **How can we conserve resources?** Lesson 2(pgs.263-264)	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an	• How can we conserve resources?	I will be able to: * Compare the amount of paper used by students * Display data gathered using a graph * Explain why recycling and reusing are important	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend

○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 31	investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **S1.C3.PO4** Generate questions for possible future investigations based on the conclusions of the investigations. **S!.C3.PO1** Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts **S1.C4.PO1** Communicate investigations and explanations using evidence and appropriate terminology.			
3rd Quarter **Week 26 February 13** **UNIT 6** **What is soil?** Lesson 3(pgs.265-282) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 32	**S6.C1.PO6** Describe ways humans use Earth materials	• What is soil? • Why is soil important to people and animals? • How does soil form? • What do plants get from soil?	I will be able to: * 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	Compare and Contrast Soil Humus Sand Silt Clay Nutrients Bedrock Loam Compost Plants

Unit 6 Review, pgs. 283-286 (Write In)				
3rd Quarter **Week 27 February 20** **UNIT 7** **What is the water cycle?** Lesson 1(pgs.289-302) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 34	**WATER AND WEATHER** **S6.C1.PO6** Describe ways humans use Earth materials **S3.C1.PO2** Describe the beneficial and harmful impacts of natural events and human activities on the environment	• 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?	I will be able to: * 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	Compare and Contrast Salt Water Fresh Water Evaporation Condensation Precipitation Water Cycle Solid Liquid Gas
3rd Quarter **Week 28 February 27** **UNIT 7** **What is weather?** Lessons 2(Pgs.303-314) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 35	**S3.C1.PO2** Describe the beneficial and harmful impacts of natural events and human activities on the environment	• What is weather? • How could the weather in a city be measured? • 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?	I will be able to: * Define and explain weather * Describe the types of severe weather * Describe the types of tools to use to measure the weather *	Headings Atmosphere Oxygen Weather Temperature Hurricane Thunderstorms Tornadoes Blizzard Thermometer Rain gauge Wind vane Wind meter Degree Celsius Fahrenheit
3rd Quarter	**S3.C1.PO2** Describe the		I will be able to:	Set a purpose

Week 29 March 6 **UNIT 7** **How can we measure weather?** Lessons 3(pgs.315-318) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 36 **Unit 7 Review, pgs. 319-322 (Write-In)**	beneficial and harmful impacts of natural events and human activities on the environment **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **S1.C3.PO4** Generate questions for possible future investigations based on the conclusions of the investigations. **S1.C3.PO1** Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts **S1.C4.PO1** Communicate investigations and explanations using evidence and appropriate terminology.	• 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?	* Compare changes in weather over time * Display recorded data	State your hypothesis Procedure Record your results Draw conclusions Analyze Extend

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4th Quarter **Week 30 March 20** **UNIT 8** **How do Earth and the moon move?** **How can we model the moon's phases?** Lesson 1(pgs.325-340) Lesson 2(pgs.341-344) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipcharts p. 38 & 39 **Unit 8 Review, pgs. 345-348 (Write in)**	**EARTH AND ITS MOON** No performance objectives at this grade level	• 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?	I will be able to: * 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 I will be able to: * Explain how the motion of the Earth causes cycles in nature * Describe the orbits of Earth and the moon	**Lesson 1** Sequence Axis Rotation Revolution Tides **Lesson 2** Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
PHYSICAL SCIENCE				
4TH Quarter **Week 31 March 27**	**MATTER**	• What are some physical properties?	I will be able to:	Compare and Contrast Matter

UNIT 9 **What are some physical properties?** Lesson 1(pgs.351-364) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 41	**S5.C1**: Properties of Objects and Materials-Classify objects and materials by their observable properties	• What is matter? • How can you measure the amount of space an object takes up? • What is texture? • How can you categorize objects? • 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?	* 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	Physical property Mass Volume Temperature
4TH Quarter **Week 32 April 3** **UNIT 9** **What are the states of matter?** Lesson 2(Pgs.365-376) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 42	**S5.C2**: Position and Motion of Objects-understand spatial relationships and the way objects move	• 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?	I will be able to: * Observe a change in state * Identify properties of solids, liquids, and gases * Describe evaporation and condensation	Cause and Effect Solid Liquid Gas Evaporation Condensation
4TH Quarter **Week 33 April 10**	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using	• What physical properties can we observe?	I will be able to: * Estimate and measure the mass and volume of	Set a purpose State your hypothesis Procedure Record your results

UNIT 9 **What physical properties can we observe?** Lesson 3(Pgs.377-378) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 43	observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **S1.C3.PO4** Generate questions for possible future investigations based on the conclusions of the investigations. **S!.C3.PO1** Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts **S1.C4.PO1** Communicate investigations and explanations using evidence and appropriate terminology.	• 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? • When would you have to use a measuring cup to find the volume of a solid?	different solids and liquids	Draw conclusions Analyze Extend
4TH Quarter **Week 34 April 17** **UNIT 9** **What ae some changes to matter?** Lesson 4(Pgs.379-392) ○ Vocabulary Cards	**S5.C2**: Position and Motion of Objects-understand spatial relationships and the way objects move	• 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?	I will be able to: * Explain how physical changes and chemical changes differ * Drawing picture of before and after a physical change in a matter	Compare and Contrast Physical Change Mixture Solution Dissolve Chemical Change

○ Science Notebooks ○ Inquiry Flipchart p. 44 ○		• How can you tell a chemical change has happened?		
4TH Quarter **Week 35 April 24** **UNIT 9** **What changes can we observe?** Lesson 5(Pgs.393-394) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 45 ○ Unit 9 Review, pgs. 397-400 (Write In)	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **S1.C3.PO4** Generate questions for possible future investigations based on the conclusions of the investigations. **S!.C3.PO1** Organize data using the following methods with appropriate labels: bar graph, pictograph, or tally charts **S1.C4.PO1** Communicate investigations and explanations using evidence and appropriate terminology.	• 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? •	I will be able to: * Explain the difference between a chemical and physical change * Identify when a physical or chemical change has occurred.	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend
4TH Quarter **Week 36 May 1**	**SIMPLE AND COMPOUND MACHINES**	• What are simple machines? • How do levers work?	I will be able to: * Explain the scientific meaning of work	Cause and Effect Work Simple Machine Lever

UNIT 10 **What are simple machines?** Lesson 1(Pgs.403-416) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 47	**S5.C1**: Properties of Objects and Materials-Classify objects and materials by their observable properties **S5.C2**: Position and Motion of Objects-understand spatial relationships and the way objects move	• 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? • Where can you find pulleys? • What are the parts of a pulley? • How important is building with a crane?	* 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	Fulcrum Wheel-and-axle Pulley
4TH Quarter **Week 37 May 8** **UNIT 10** **What are some other simple machines?** Lesson 2(Pgs.417-428) ○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 49	**S5.C1**: Properties of Objects and Materials-Classify objects and materials by their observable properties **S5.C2**: Position and Motion of Objects-understand spatial relationships and the way objects move	• 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?	I will be able to: * 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	Compare Inclined plane Wedge Screw Compound machine
4TH Quarter **Week 38 May 15** **UNIT 10** **How do simple machines affect work?** Lesson 3(Pgs.429-432)	**S1.C1.PO1** Formulate relevant questions about the properties of objects, organisms, and events of the environment using observations and prior knowledge **S1.C1.PO2** Predict results of an investigation based on observed	• 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?	I will be able to: * Explain how simple machines affect the amount of force needed to move an object	Set a purpose State your hypothesis Procedure Record your results Draw conclusions Analyze Extend

○ Vocabulary Cards ○ Science Notebooks ○ Inquiry Flipchart p. 50 **Unit 10 Review, pgs. 433-436**	patterns, not random guessing **S1.C2.PO3** Conduct simple investigations in life, physical, and Earth and space sciences **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.	•		
4TH Quarter **UNIT 10** **Week 39 May 22**	This week the CUMMULATIVE TEST will be given to the students. SCIENCE FUSION Assessment Guide (Pgs. AG113-152)			