

# Ganado Unified School District #20

## Science / 1<sup>st</sup> Grade

### PACING GUIDE SY 2019-2020

1 <sup>st</sup> Quarter - Physical Science: Sky and Earth and Seasons		Earth and Space Science: Weather		
Timeline & Resources	Arizona Science Standards	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
1st Quarter  Teacher Resources	<p><b><u>Earth and Space Science</u></b></p> <p><b>E2.</b> The Earth and our solar system are a very small part of one of many galaxies within the universe.</p> <p><b>1.E1U1.5 Obtain, evaluate, and communicate information about the properties of Earth materials and investigate how humans use natural resources in everyday life.</b></p>	What is the solar system?  What is the universe?  How does this apply to Earth?  How many planets in our solar system?  Where do humans survive?  What does Earth have that other planets do not have for humans to survive?	Create a model that shows how we are part of the solar system.  Explain how we are part of the universe.  Explain the connection of Earth to the universe.  Explain the different Earth materials that humans use for survival.  Explain what earth provides that other planets do not.  Give examples of the difference between natural resources and man-made resources.	Solar system Universe Earth Planets Sun Moon Alignment Materials Survival Natural Resources
1st Quarter  Elevate Science	<p><b><u>Physical Science</u></b></p> <p><b>P1.</b> All matter in the Universe is made of very small particles.</p>	Does the sun move?  Does the moon move?	Tell why the sun doesn't move.	Sun Moon Movement Year

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<p>Topic 3: Sky and Earth</p> <p>Lesson 1 Lesson 2 Lesson 3</p>	<p><b>1.P3U1.3 <u>Plan and carry out investigations</u> which demonstrate forces can push, pull, or twist objects, making them change their speed, direction, or shape.</b></p>	<p>Does the earth move?</p> <p>How do you know?</p> <p>Explain (for all three)</p>	<p>Describe the path of the moon.</p> <p>Explain the movement of the earth for the day/year.</p>	<p>Day rotation</p>
<p>1st Quarter</p> <p>Elevate Science</p> <p>Topic 4 Weather and Seasons</p> <p>Lesson 1 Lesson 2</p>	<p><b><u>Earth and Space Science</u></b></p> <p><b>E1:</b> The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth's surface and its climate.</p> <p><b>1.E1U1.5 <u>Obtain, evaluate, and communicate information</u> about the properties of Earth materials and <u>investigate</u> how humans use natural resources in everyday life.</b></p>	<p>What are the different kinds of weather?</p> <p>What are the different kinds of seasons?</p> <p>What are some activities you can do in different types of weather/seasons?</p> <p>What are the characteristics of each season?</p> <p>What is temperature? Precipitation? Wind?</p>	<p>Describe different kinds of weather and seasons.</p> <p>Identify the different kinds of weather associated with the seasons.</p> <p>Determine what kinds of activities can be done in a certain type of weather.</p> <p>Compare the different kinds of seasons and weather.</p>	<p>Weather</p> <p>Seasonal activities</p> <p>Weather patterns</p> <p>Seasons: winter, fall, spring, summer</p> <p>Temperature</p> <p>Precipitation</p> <p>Wind</p> <p>Storms</p> <p>Weather tools: thermometer, wind vane, wind sock, rain gauge</p>

**2<sup>nd</sup> Quarter – Physical Science: Sound / Light**

Timeline & Resources	Arizona Science Standards	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
2nd Quarter  Elevate Science  Topic 1: Sound  Lesson 1 Lesson 2	<p><b><u>Physical Science</u></b></p> <p><b>P1.</b> All matter in the Universe is made of very small particles.</p> <p><b>1.P2U1.2 Use models to provide evidence that vibrating matter creates sound and sound can make matter vibrate.</b></p>	What is pitch?  What is volume?  What is vibrate? How does vibrate happen?  What happens when objects vibrate?  What did you do to make sound travel near and far?	Describe what sound is.  Describe how sound is made.  Create sound and explain if there is vibration.  Describe how vibrating objects make sound.  Tell what objects you used and what sound they made.	Sound Vibrate Pitch Volume Percussion Communicate Describe Matter Musical instruments Ask questions Observations Gather information True False
2nd Quarter  Elevate Science  Topic 1: Sound  Lesson 3	<p><b><u>Physical Science</u></b></p> <p><b>P2.</b> Objects can affect other objects at a distance.</p> <p><b>1.P3U1.3 Plan and carry out investigations which demonstrate how equal forces can balance objects and how unequal forces can push, pull, or twist objects, making them change their speed, direction, or shape.</b></p>	How is sound used?  What are the different ways to send a message with sound?  What kind of a message would you send with sound?	Describe how sound is used to send messages.  Tell what materials you used and what you did to make sound travel over a distance?  Explain how people can solve a problem with a new or improved object or tool.	Problem Analyze Improve Tools Materials Design (Engineering Practice) Build Device Communication Communicating Investigation

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				Investigate Solve
2nd Quarter  Elevate Science  Topic 2 Light  Lesson 1	<p><b><u>Physical Science</u></b></p> <p><b>P3.</b> Changing the movement of an object requires a net force to be acting on it.</p> <p><b>1.P2U1.1 <u>Plan and carry out investigations demonstrating the effect of placing objects made with different materials in the path of a beam of light and predict how objects with similar properties will affect the beam of light.</u></b></p>	How do we use light?  Why is light important?  What objects give off light?  What are shadows and how are they made?	Explain how we use light.  Tell how it is important to use light.  List objects that are a source of light.  Explain how shadows are made.	Light Objects Sources shadows
2nd Quarter  Elevate Science  Topic 2 Light  Lesson 2 Lesson 3	<p><b><u>Physical Science</u></b></p> <p><b>P4.</b> The Total amount of energy in a closed system is always the same but can be transferred from one energy store to another during an event.</p> <p><b>1.P4U2.4 <u>Design and evaluate ways to increase or reduce heat from friction between two objects.</u></b></p>	What does opaque matter do to light?  What is mater? Opaque, transparent, translucent?  How can I increase or reduce heat from friction between two objects?	Tell how an object can be opaque, transparent, and translucent.  Tell how objects can create heat.  Explain what happens with friction?	Object Opaque Transparent Translucent Friction Increase Reduce heat

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**3<sup>rd</sup> Quarter – Earth and Space Science: Weather and Seasons      Life Science: Living Things**

Timeline & Resources	Arizona Science Standards	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
3 <sup>rd</sup> Quarter  Elevate Science  Topic 5 Living Things  Lesson 1 Lesson 2	<p><b><u>Life Science</u></b></p> <p><b>L1:</b> Organisms are organized on a cellular basis and have a finite life span.</p> <p><b>1.L1U1.6 <u>Observe, describe, and predict life cycles of animals and plants.</u></b></p>	<p>What are the different animal groups?</p> <p>What are the characteristics or features of animals in each animal group?</p> <p>Why does an animals belong to a certain group?</p> <p>Why do we group animals?</p>	<p>Identify different animal groups (insects, birds, mammals, reptiles, amphibians, and fish).</p> <p>Identify characteristics of animals in each animal/plant group.</p> <p>Compare characteristics of animals/plants within an animal/plant group.</p> <p>Compare characteristics of animals/plants between different animal/plant groups.</p>	<p>Animal groups</p> <p>Mammals</p> <p>Reptiles</p> <p>Fish</p> <p>Birds</p> <p>Amphibians</p> <p>Insects</p> <p>Body coverings</p> <p>Characteristics</p>
3 <sup>rd</sup> Quarter  Elevate Science  Topic 5 Living Things  Lesson 3	<p><b><u>Life Science</u></b></p> <p><b>L2:</b> Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms.</p> <p><b>1.L2U2.7 <u>Develop and use models about how living things use resources to grow and survive;</u></b></p>	<p>What is a habitat?</p> <p>What are the characteristics of different habitats?</p> <p>What kinds of plants and animals live in a desert, forest, prairie, ocean, etc.?</p>	<p>Identify the different kinds of habitats.</p> <p>Describe different kinds of habitats.</p> <p>Identify plants and animals found in different kinds of habitats.</p>	<p>Habitat</p> <p>Environment</p> <p>Desert, forest, prairie, ocean, grassland</p>

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	<b><u>design and evaluate</u> habitats for organisms using earth materials.</b>	Why do these plants and animals live in their specific habitat?	Compare characteristics, plants, and animals of different habitats.	
3 <sup>rd</sup> Quarter  Elevate Science  Topic 5 Living Things  Lesson 4	<b><i>Life Science</i></b>  <b>L2:</b> Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms.  <b>1.L2U1.8 <u>Construct an explanation</u> describing how organisms obtain resources from the environment including materials that are used again by other organisms.</b>	How do the parts of plants help them grow?  How do the parts of animals help them grow?  How do animals survive?  What are the life cycles of animals/plants?	Identify the parts of an animal.  Identify the parts of a plant.  Explain how animals survive in the wild.  Explain how plants make their own food.	Animal Parts Plants Grow Survive Life Cycle



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4 <sup>th</sup> Quarter - Life Science: Parents and Offspring				
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4th Quarter  Elevate Science  Topic 6 Parents and Offspring  Lesson 1	<p><b><u>Life Science</u></b></p> <p><b>L3.</b> Genetic information is passed down from one generation of organisms to another.</p> <p><b>1.L3U1.9 <u>Obtain, evaluate, and communicate information to support an evidence-based explanation that plants and animals produce offspring of the same kind, but offspring are generally not identical to each other or their parents.</u></b></p>	What is a cycle?  What are the stages of the human life cycle?  What are the stages of an animal's life cycle?  How is a human life cycle similar/different to an animals life cycle?	Describe a cycle.  Identify the stages of the human life cycle.  Describe each stage in the human life cycle.  Compare/contrast a human life cycle to an animal life cycle.	Life cycle Cycle Stages Infant Adolescence Adult Develop Human
4th Quarter  Elevate Science  Topic 6 Parents and Offspring  Lesson 2	<p><b><u>Life Science</u></b></p> <p><b>L3.</b> Genetic information is passed down from one generation of organisms to another.</p> <p><b>1.L4U1.10 <u>Develop a model to describe how animals and plants are classified into groups and subgroups according to their similarities.</u></b></p>	How are young animals different from parents/how are they alike?  How do plants grow overtime?	Draw the life cycle of an animal/plants.  Compare and Contrast young and older animals/plants.	Animals Young Parents Growth Life Cycle Different Alike

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<p>4th Quarter</p> <p>Elevate Science</p> <p>Topic 6 Parents and Offspring</p> <p>Lesson 3</p>	<p><b><u>Life Science</u></b></p> <p><b>L4.</b> The unity and diversity of organisms, living and extinct, is the result of evolution.</p> <p><b>1.L4U3.11 <u>Ask questions and explain how factors can cause species to go extinct.</u></b></p>	<p>How would animals protect themselves?</p> <p>Why do animals migrate?</p> <p>Why do animals hunt?</p> <p>What parts do humans play in the role of extinction of animals?</p>	<p>Explain three ways animals protect themselves from danger.</p> <p>Explain how parents teach their young to protect themselves.</p> <p>Tell where animals migrate and why.</p> <p>Create a food chain.</p>	<p>Protect</p> <p>Danger</p> <p>Migrate</p> <p>Teach</p> <p>Hunt</p> <p>Care</p> <p>Safe</p> <p>Extinct</p> <p>Food chain</p>
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