Standards Curriculum Map
Bourbon County Schools

Level: Elementary
Grade and/or Course: 5th Grade Science
Updated/Created: 5/13/2020

Physical Science **Life Science** **Earth & Space Science** **Engineering**

Unit 1: Web of Life

Days	KAS	Skills/Targets	Vocabulary	Activities/ Strategies	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
1-45	**Review of 4th grade Key Concepts in Science** **Pre-test** **5-PS3-1.** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. **5-LS2-1.** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. **5-LS1-1**. Support an argument that plants get the materials they	**Review of 4th grade Key Concepts in Science** **Pre-test** **I can prove that all food energy was once energy from the sun.** **I can describe the movement of matter between plants, animals, decomposers, and the environment.** **I can prove that plants get the materials they need mostly from air and water.**	**Review 4th Grade** abiotic factor adaptation biome biotic factor carnivore commensalism community consumer Decomposer deciduous forest desert ecosystem extinct food chain food web grassland habitat	**Review 4th Grade** Web of life- Ecosystems and Food Webs- Mystery Science Generation Genius: Food Webs; How Do We Use Food; https://www.teachtci.com/science/elementary-school/ Unit 1: 8 Lessons	**Review 4th Grade Science** Mystery Science - Grade 5 - NGSS Planning Guide

	need for growth chiefly from air and water		Herbivore Matter cycle omnivore organism predator prey producer savanna taiga tropical rainforest tundra		

HOT questions:

1. Explain why a hawk would move to New York City?
2. Describe what plants eat?
3. Where do fallen leaves go? How do you know?
4. Do worms really eat dirt?
5. Why do you have to clean a fish tank but not a pond?
6. Justify why you think the dinosaurs went extinct. Use evidence from your experiment.

Evidence of Literacy and Writing in Science:

Mystery Science Extension Reading Activities:

M1: https://newsela.com/read/animals-fearvanishing/id/15253/
M2:https://www.readworks.org/article/A-Plant-Puzzle/c2c04e8d-be4d-44e0-a8d3-26202de46d5d#!articleTab:content/
M3:https://www.readworks.org/article/Pet-Cemetery/74f7f3ef-a2c1-4deb-bc4b-325ee92361fd#!articleTab:content/
M4:https://www.getepic.com/book/47556357/inside-the-worms-hole
M5:https://newsela.com/read/slippery-rocksnot/id/4252/
M6:https://www.thoughtco.com/dracorex-hogwartsia-1092859

Unit 2: Watery Planet

Days	KAS	Skills/Targets	Vocabulary	Strategies/ Activities	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
46-90	**5-ESS2-1.** Develop a model using an example describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. **5-ESS2-2.** Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. **5-ESS3-1.** Obtain and combine information about ways individual communities science ideas to protect the Earth's resources and environment.	**I can explain and model how the geosphere, hydrosphere, atmosphere, and biosphere interact.** **I can explain where all the freshwater is on Earth.** **I can obtain information and come up with ideas about how to protect the Earth's resources and environment.**	Biosphere Hydrosphere Atmosphere Reservoir Environment Resources Distribution Interaction Model Salt Water Fresh Water Ground Water Polar Ice Caps	Mystery Science: 5th Grade. Watery Planet (4 Lessons) Generation Genius: Water Cycle; Interactions of Earth's Spheres; Water Quality & Distribution; Water Quality & Distribution; Interactions of Earth's Spheres; https://www.teachtci.com/science/elementary-school/ Unit 2: 6 Lessons	Mystery Science - Grade 5 - NGSS Planning Guide

HOT questions:

1. Explain how much water is the world?
2. When you turn on the faucet, where does the water come from?
3. Design an experiment to make it rain.
4. Describe how you can save a town from a hurricane, based on your experiment.

Evidence of Literacy and Writing in Science:

Mystery Science Extension Reading Activities:
M1:https://newsela.com/signin/?next=/read/sewage-drinkingwater/id/10274/
M2:https://newsela.com/signin/?next=/read/groundwater-earthquakes/id/4077/
M3:https://newsela.com/read/natgeo-elem-water-cycle/id/44700/
M4:https://newsela.com/read/Hurricane-Florence-hits-Carolinas/id/46129

Unit 3: Spaceship Earth

Days	KAS	Skills/Targets	Vocabulary	Strategie/ Activities	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
91-135	5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down 5-ESS1-1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from Earth. 5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	**I can prove that the force of gravity pulls things down to earth.** **I can explain why the sun is brighter than other stars.** **I can explain why shadows are longer in winter than in summer.** **I can explain why we only see certain stars at certain times of year.**	Gravitational Force Relative Distance Data Patterns Sun Star Orbit Rotation Shadows Constellations Annual Patterns Orbit Lunar Cycle Solar System Gravity Habitable Planets	Mystery Science: 5th Grade. Spaceship Earth (8 Lessons) Generation Genius: Water Quality & Distribution; Water Cycle; Interactions of Earth's Spheres; Sun & Other Stars; Earth's Orbit and Rotation; https://www.teachtci.com/science/elementary-school/ Unit 4: 7 Lessons	Mystery Science - Grade 5 - NGSS Planning Guide

		I can explain why we have night and day.			

HOT questions:

1. How fast does the Earth spin?
2. Who set the first Clocks?
3. Explain how the sun tells you the season.
4. Why do the stars change with the season?
5. Explain why the moon changes shape.
6. Why is gravity different on other planets?
7. Could there be life on other planets? Justify your answer with evidence from class.

Evidence of Literacy and Writing in Science:

Mystery Science Extension Reading Activities:

M1:
M2:https://mysteryscience.com/docs/593
M3:https://mysteryscience.com/docs/2203
M4:http://history.amazingspace.org/resources/print/classroom_activities/stud_read_cnstlatn.pdf
M5:https://mysteryscience.com/docs/316
M6:https://mysteryscience.com/docs/201
M7:https://spaceplace.nasa.gov/planets-round/en/
M8:https://newsela.com/read/rocky-water-planet/id/57166/

Unit 4: Chemical Magic

Days	KAS	Skills/Targets	Vocabulary	Strategies/ Activities	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
136-180	**5-PS1-1.** Develop a model to describe that matter is made of particles too small to be seen.	**I can prove that matter is made up of particles too small to be seen.**	Matter Model Particles Substance Properties	Chemical Magic- Mystery Science: 5 Lessons Generation Genius:	Mystery Science - Grade 5 - NGSS Planning Guide

	5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. **5-PS1-3.** Make observations and measurements to identify materials based on their properties. **5-PS1-4.** Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	**I can prove that the weight of matter stays the same, even when I mix it, heat it, or cool it.** **I can identify matter based on its properties.** **I can determine whether mixing substances gives me a new substance.**	Chemical Change Physical Change Volume Chemistry Acids Reactions Properties of Matter	Conservation of Matter; Particle Nature of Matter; Properties of Matter; Properties of Matter; Chemical vs. Physical Changes; https://www.teachtci.com/science/elementary-school/ Unit 3: 8 Lessons	

HOT questions:

1. Could you transform something worthless into gold?
2. What do fireworks, rubber and silly putty have in common?
3. Why do some things explode?

Evidence of Literacy and Writing in Science:

Mystery Science Extension Reading Activities:

M1:https://newsela.com/read/BHP-U3-2-AlchemyChemistry/id/3606/
M2:https://www.readworks.org/article/The-Penny-Experiment/b2f647f8-f70f-4a2c-ad49-b86076890edc#!articleTab:content/
M3:https://mysteryscience.com/chemistry/mystery-3/acids-reactions-properties-of-matter/168?r=996298
M4:https://www.kidsdiscover.com/quick-reads/weird-science-the-accidental-invention-of-silly-putty/
M5:https://www.kidsdiscover.com/quick-reads/common-gas-swiss-cheese-pop-rocks-common/

Required Through Course Tasks (Provide the link for each task you administered):