Standards Curriculum Map
Bourbon County Schools

Level: Elementary

Grade and/or Course: 3rd Grade Science

Updated/Created: 5/18/2020

Physical Science Life Science Earth & Space Science Engineering

Unit 1: Forces and Interactions 1st 9 weeks

Days:	KAS:	Skills/Targets:	Vocabulary:	Activities/ Strategies:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
1-5 **Unit 1** **6-40**	**3-PS2-1** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. **3-PS2-2** Make an observation and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. **3-PS2-3** Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.	I can explain and follow classroom rules and procedures. I can plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of objects. 3-PS2-1 I can make observations and measurements of an object's motion to provide the evidence that a pattern can be used to predict future motion. 3-PS2-2 I can ask questions to determine cause and effect relationships of electric or magnetic interactions between 2 objects in contact with each other. 3-PS2-3	Force Balanced force Unbalanced force Direction Motion Investigation Conduct Investigate Relationship Evidence Gravity Fulcrum Inclined plane Screw Wedge Cause Effect Friction Static electricity	**Rules and classroom procedures** Mystery Science: Invisible Forces (5 lessons) Engineering Design (#2 and #5) Generation Genius: Balanced & Unbalanced Forces Magnets & Static Electricity Tug of war	Tpt resources Brain pop Newpath worksheets Mystery Science Forces and Interactions 3rd grade unit Teacher Manual Forces and motion investigations (Student notebook) with interactive stations Activity materials: Magnets Bar magnets Pipe cleaners Tape Bucket Pom poms

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	3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets. 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials , time, or cost. 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. CCSS Math 3.MD.B.4 Generate Measurement data by measuring lengths using rulers marked with halves and fourths of an inch .	I can define a simple design Problem that can be solved by Applying scientific ideas about Magnets. 3-PS2-4	Magnetism Orientation Electric force Repel Attract Poles Polar opposites Positive charge Negative charge Transfer Qualitative Relationships Static electricity Problem	Patterns of Motion & Friction **Forces and Motion** **Marshmallow Catapult (Stem Activity)** **Magnetic Maze(Stem Activity)**	Popsicle sticks String Keys Grass Twigs Balloons Wires Different types of metal rope(tug of war) Ramp Cars Eggs Cardboard Marbles(different sizes) Duck tape Cups Marshmallow Catapult 3-PS2-1, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3,CCSS 3.MD.B.4 Magnetic Maze- 3-PS2-3, 3-PS2-4, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3 Magnet Steam 3-PS2-3,3-PS2-4 CCSS.ELA-Literacy.W.2.2 CCSS.ELA-Literacy.W.3.2 CCSS.ELA-Literacy.W.4.2 CCSS.ELA-Literacy.W.2.8 CCSS.ELA-Literacy.W.3.7 CCSS.ELA-Literacy.W.4.7

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HOT questions: What happens when different objects interact? How do forces affect the motion of objects? What forces hold an object on a table?
Evidence of Literacy and Writing in Science: 1. Imagine you wake up one day on Earth without friction. Describe how having no friction would impact your day. 2. Imagine you wake up one day on Earth without gravity. Describe how you would go about your day to get things done on Earth with no gravity.

Unit 2: **Weather and Climate** **2nd 9 weeks**

Days:	**KAS:**	**Skills/Targets:**	**Vocabulary:**	**Strategies/ Activities:**	**Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts**
Unit 2 **Days 41-86**	**3-ESS2-1** Represent data in Tables and graphical display To describe typical Weather conditions Expected during a particular Season. **3-ESS2-2** Obtain and combi Information to describe clima In different regions of the wo **3-ESS3-1** Make a claim abou A merit of a design solution t	I can represent data in tables and graphical displays to describe typical weather conditions during a particular season. (3-ESS2-1) I can obtain and combine information to describe climates in different regions of the world (3-ESS2-2) I can make a claim about the merit of a design solution that reduces the impacts of	Weather Climate Natural Disaster Tornado Lightning Thunder Earthquake Landslide Tsunami Wildfire	**Mystery Science:** Stormy Skies (4 mysteries) **Generation Genius:** Extreme Weather Solutions Weather vs. Climate Weather vs. Climate Renewable vs. Nonrenewable	Mystery Science Generation Genius BrainPop Newpath Worksheets Interactive notebooks TPT resources Close up Climate Activity Stem activity 3-ESS2-2, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3 Flood Proof house Stem Activity 3-ESS3-1,

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	Reduces the impacts of a Weather-related hazard. 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials , time, or cost. 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	weather-related hazards. (3-ESS3-1) (Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.)		Resources;Extreme Weather Solutions; Natural Disasters; What Is Science **Engineering and Design:** Mystery Science:Mystery 4 Extreme Weather Solutions **Generation Genius:** Renewable vs. Nonrenewable Resources;Extreme Weather Solutions; Natural Disasters; What Is Science? **Daily Weather Journal** - Record temps, etc. **Close up Climate (Stem Activity)** Flood Proof House (Stem Activity) **Engineering & Design Activity** Flooding Weather Hazard Challenge (Steam Activity)	3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3 Flooding Weather hazard challenge STEAM Activity 3-ESS3-1,4-ESS3-2 CCSS.ELA-Literacy.W.4.2 CCSS.ELA-Literacy.W.3.7 CCSS.ELA-Literacy.W.3.2 CCSS.ELA-Literacy.W.4.7, 3.MD.B.4

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				BrainPop Lessons https://www.brainpop.com/search/?keyword=weather+ https://newpathworksheets.com/	

HOT questions:
What are the typical weather conditions of each season?
How do climates around the world differ?
What are some weather-related hazards? What are some solutions to these hazards? **(3-ESS3-1)**

Evidence of Literacy and Writing in Science:

1) Based on the data in the table [teacher-created], what weather patterns do you see? How does this pattern contribute to the overall climate of the region?
2) A lightning rod is a tool that is used to divert lightning toward the ground. Explain how lightning rods work. Make a claim about whether this solution is effective. Support your claim with three pieces of evidence.
3) Use the information from your daily weather journal and compare it to the information contained in the table below. [Teacher to obtain data from another region of the world.] How are the climates alike? How are they different?

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Unit 3: **Inheritance and Variation of Traits: Life Cycles and Traits** **3rd 9 weeks**

Days:	KAS:	Skills/Targets:	Vocabulary:	Strategies/ Activities:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
Unit 3 **Day 87-130**	**3-LS1-1** Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. **3-LS3-1** Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. **3-LS3-2** Use evidence to support the explanation that traits can be influenced by the environment.	I can develop models to describe that organisms have unique and diverse life cycles. I can analyze and interpret data to prove that plants and animals have traits inherited from parents and that variations exist in similar organisms. I can use evidence to support the explanation that traits can be influenced by the environment.	Traits Life cycle Egg Pupa Adult Larva Metamorphosis Model Birth Growth Reproduction Death Variations Organisms Environment Species Mate Survival Offspring Inherit	3-LS1-1 Mystery Science pollination plant reproduction Seed dispersal plant life cycle 3-LS1-1 Generation Genius animal and plant life cycles Genetic Links (Stem Activity) https://www.scholastic.com/teachers/blog-posts/genia-connell/1	Generation Genius Mystery Science Brain Pop Jr. TPT resources Pollen and seed(steam activity) 2-LS2-2 CCSS.ELA-Literacy.W.1.2 CCSS.ELA-Literacy.W.1.7 CCSS.ELA-Literacy.W.2.2 CCSS.ELA-Literacy.W.1.8 CCSS.ELA-Literacy.W.2.7 CCSS.ELA-Literacy.W.2.8 Genetic Links stem activity3-LS3-1,3-5-ETS1-1, 3-5-ETS1-2,3-5-ETS1-3

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	3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials , time, or cost. 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	I can use evidence to explain how variations in characteristics within a species can give individuals a better chance of surviving, finding a mate and reproducing.	Predator Prey Camouflage	0-ready-go-resources-teaching-life-cycles/ Pollen and seeds (steam activity)	

HOT questions:
-What is a trait? What are some examples of traits?
-Do offspring look exactly like their parents? Why or why not?

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-Will multiple offspring from the same parents look the same? Why or why not? -Do all animals of the same species look the same? Why or why not? -Why might some different species from the same environment share some traits
Evidence of Literacy and Writing in Science:Suggested Prompts: 1). Draw and explain the sequence of the life cycle of the chicken. Tell with explicit details what happens in each stage of life. 2).Some animals help in seed dispersal, name one and explain how this animal helps with the dispersal of the seeds. 3). Tell how plants, people, and bees need each other.

Unit 4: **Interdependent Relationships in Ecosystems** **4th 9 weeks**

Days:	**KAS:**	**Skills/Targets:**	**Vocabulary:**	**Strategies/ Activities:**	**Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts**
Unit 4 Day 130-175	**3-LS2-1** Construct an argument that some animals form groups that help members survive. **3-LS4-1** Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. **3-LS4-3** Construct an argument with evidence that in a particular habitat some organisms can survive well,	I can construct an argument that some animals form groups that help members survive 3-LS2-1 I can analyze and interpret data From fossils to provide evidence Of the organisms and the environment in which they lived long ago. 3-LS4-1 I can construct an argument with evidence that in a particular habitat some organisms can	Ecosystems Adaptations Food web Food chain Predator Prey Producer Consumer Decomposer	Mystery Science: Power of Flowers Animals Through Time(3 mysteries) Generation Genius: Animal Group Behavior Ecosystems Ecosystems; Adaptations and the Environment	Mystery Science: Power of Flowers Animals Through Time (3 mysteries) Generation Genius: Animal Habitat Stem/Steam-3-LS4-3 CCSS.ELA-Literacy.W.3.2 CCSS.ELA-Literacy.W.3.7 CCSS.ELA-Literacy.RI.3.1 CCSS.ELA-Literacy.RI.3.3 CCSS.ELA-Literacy.W.4.2 CCSS.ELA-Literacy.W.4.7

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	some survive less well, and some cannot survive at all. **3-LS4-4** Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. 3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials , time, or cost. 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	survive well, some survive less well, and some cannot survive at all. 3-LS4-3 I can make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. 3-LS4-4		www.newpathworksheets.com Animal Habitat (stem/steam activity) Super Animal (Stem Activity)	CCSS.ELA-Literacy.RI.4.1 CCSS.ELA-Literacy.RI.4.3 Super Animal Stem Activity-3-LS4-3, 3-LS4-2, 3-5-ETS-1,3-5-ETS-2,3-5-ETS-3
HOT questions: How does the environment affect organisms? How do we know the environment used to be different?					
Evidence of Literacy and Writing in Science: How might the deer population feel about a shopping center being built in its habitat? Write an essay including specifics about the effects on the animal's supply of food, water, and					

shelter.

Required Through Course Tasks (Provide the link for each task you administered):https://education.ky.gov/curriculum/conpro/science/Documents/Systems_Thinking_TCT.pd