APPROVED FACILITY SCHOOLS CURRICULUM GUIDE

SUBJECT: Science GRADE: 5

Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
TIMELINE: Quarter 1			
Physical Science: Matter and Its Interactions 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen. **I C M**	I can build a model and use it to describe that matter is made of particles.	Comprehension Application	Atom Boiling Compressing Condensation Dissolving Electron Element Evaporation Expand Freezing Gas Liquid Mass Matter Melting Molecule Neutron Proton Solid Volume Weight
Physical Science: Matter and Its Interactions 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. **I C M**	I can measure and graph evidence to explain that even with a change of temperature or solution, the total weight of matter is conserved.	Comprehension Application Analysis	Conservation Density Dissolving Mass Mixing/mixture Phase changes Solution States of matter Volume Weight

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Physical Science: Matter and Its Interactions 5-PS1-3. Make observations and measurements to identify materials based on their properties. **I C M**	I can make observations and measurements to identify materials based on their properties.	Application Analysis	Acid Base Boiling point Buoyancy Chemical properties Condensation Corrosion Electrical conductivity Evaporation Flammability Freezing point Hardness indicator Liquid Magnetic forces Melting point Metal Mineral Neutralization Non-metal Phase change Physical properties Reflectivity Solubility Sublimation Thermal conductivity Thermal contraction Thermal expansion
Physical Science: Matter and Its Interactions 5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances. **I C M**	I can conduct an experiment to determine whether the mixing of two or more substances makes a new substance.	Application Analysis Synthesis Evaluation	Chemical properties Chemical reaction Physical properties Physical reaction

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Physical Science - Motion and Stability: Forces and Interactions 5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down. **I C**	I can explain how Earth's gravitational force on objects is directed down and give examples of how it happens on Earth.	Comprehension Application	Force Gravity Mass Moon Newton Newton's law of gravity Satellites: Natural Artificial Weight
Physical Science: Energy 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. **I C**	I can use a model to show that energy in animals' food was once energy from the sun.	Comprehension Application Analysis	Chemical change Energy Growth Life cycle Matter Motion Organism Repair Transfer of energy
Engineering Design 3-5-ETS1-1. Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time or cost. **I**	I can write a simple design problem that considers cost, materials, and time to meet a need or want.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Engineering Design 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. I	I can generate multiple solutions to a problem and compare them to decide which is best for the problem.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory
Engineering Design 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	I can plan an experiment with controlled variables. I can use the results to improve a model.	Synthesis Evaluation	Analyze Controlled variable Data Experiment Failure points Hypothesis Observation Problem Prototype Results Scientific method Test Theory

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary

RESOURCES AND NOTES FOR QUARTER 1:

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SUBJECT: Science GRADE: 5

Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
TIMELINE: Quarter 2			
Physical Science--Motion and Stability: Forces and Interactions 5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down. **M**	I can explain how Earth's gravitational force on objects is directed down and give examples of how it happens on Earth. I can support my explanation.	Comprehension Application Analysis	Force Gravity Mass Moon Newton Newton's law of gravity Satellites: Natural Artificial Weight
Physical Science: Energy 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. **M**	I can use a model to show that energy in animals' food was once energy from the sun.	Comprehension Application	Chemical change Energy Growth Life cycle Matter Motion Organism Repair Transfer of energy
Life Science--From Molecules to Organisms: Structures and Processes 5-LS1-1. Support an argument that plants get the material they need for growth chiefly from air and water. **I C M**	I can explain how plants get what they need to grow from air and water.	Comprehension Analysis	Carbon dioxide Chlorophyll Chloroplast Life cycle Matter Organelle Oxygen Photosynthesis Respiration Stoma System

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Life Science--Ecosystems: Interactions, Energy and Dynamics 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers and the environment. **I C M**	I can build a model to show the movement of matter among plants, animals, decomposers, and the environment.	Comprehension Application Analysis	Bacteria Consumer Decomposer Diversity Ecosystem Environment Food chain/web Fungi Habitat Matter Microbe Organism Producer System Waste
Engineering Design 3-5-ETS1-1. Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time or cost. **C**	I can write a simple design problem that considers cost, materials, and time to meet a need or want.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory
Engineering Design 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. **C**	I can generate multiple solutions to a problem and compare them to decide which is best for the problem.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Engineering Design 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. **C**	I can plan an experiment with controlled variables. I can use the results to improve a model.	Synthesis Evaluation	Analyze Controlled variable Data Experiment Failure points Hypothesis Observation Problem Prototype Results Scientific method Test Theory

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary

RESOURCES AND NOTES FOR QUARTER 2 :

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SUBJECT: Science GRADE: 5

Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
TIMELINE: Quarter 3			
Earth's Place in the Universe 5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to the other stars is due to their relative distance from Earth. **I C M**	I can explain why some stars, including the sun, appear brighter than others. I can support my explanation.	Comprehension Analysis Analysis	Brightness Distance Luminosity Reflector Refractor Speed of light Star Sun Telescope
Earth's Place in the Universe 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 C M**	I can construct a diagram to explain patterns that show daily changes in shadows, day and night, and the seasonal appearance of stars in the night sky.	Comprehension Application Analysis	Axis Constellation Equator Equinox Hemisphere Moon phases North pole Orbit Prime Meridian Revolution Rotation Solstice South pole Tilt

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Earth's Systems 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. **I C**	I can build a model to show ways that the geosphere, the biosphere, the hydrosphere, and/or the atmosphere interact.	Comprehension Application Analysis	Atmosphere Barometer Barometric pressure Biosphere Climate Condensation Earth processes Ecosystem Evaporation Geosphere Humidity Hydrosphere Landform Living Molten rock Non-living Precipitation Sediment System Water cycle Weather
Earth's Systems 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. **I C**	I can describe and graph the amounts of water to provide evidence about the distribution of water on Earth.	Comprehension Application Analysis	Distribution Frozen Glacier Ground water Lake Liquid Ocean Polar ice cap Pond River Solid Stream Volume Volume Wetland

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Engineering Design 3-5-ETS1-1. Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time or cost. **C**	I can write a simple design problem that considers cost, materials, and time to meet a need or want.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory
Engineering Design 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. **C**	I can generate multiple solutions to a problem and compare them to decide which is best for the problem.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory
Engineering Design 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. **C**	I can plan an experiment with controlled variables. I can use the results to improve a model.	Synthesis Evaluation	Analyze Controlled variable Data Experiment Failure points Hypothesis Observation Problem Prototype Results Scientific method Test Theory

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RESOURCES AND NOTES FOR QUARTER 3 :

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
TIMELINE: Quarter 4			
Earth and Space Science: Earth's Systems 5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere and/or atmosphere interact. **M**	I can build a model to show ways that the geosphere, the biosphere, the hydrosphere, and/or the atmosphere interact.	Comprehension Analysis Application Synthesis	Atmosphere Barometer Barometric pressure Biosphere Climate Condensation Earth processes Ecosystem Evaporation Geosphere Humidity Hydrosphere Landform Molten rock Precipitation Sediment System Water cycle Weather
Earth and Space Science: Earth's Systems 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. **M**	I can describe and graph the amounts of water to provide evidence about the distribution of water on Earth.	Comprehension Application Analysis	Distribution Frozen Glacier Ground water Lake Liquid Ocean Ocean Polar ice cap Pond River Solid Stream Volume Volume Wetland

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Earth and Space Science: Earth and Human Activity 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. **I C M**	I can find and use information about how communities protect the Earth's resources and environment.	Comprehension Application Analysis Synthesis	Acid rain Biomass Climate change Conservation Dam Energy Environment Eutrophication Fossil fuel Fuel Global warming Habitat Hydroelectric energy Natural resources Non-renewable Nuclear energy Pollution Renewable Solar energy Succession Surface mining Wind energy
Engineering Design 3-5-ETS1-1. Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time or cost. **M**	I can write a simple design problem that considers cost, materials, and time to meet a need or want.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary
Engineering Design 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. **M**	I can generate multiple solutions to a problem and compare them to decide which is best for the problem.	Synthesis Evaluation	Analyze Data Experiment Hypothesis Observation Problem Results Scientific method Test Theory
Engineering Design 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. **M**	I can plan an experiment with controlled variables. I can use the results to improve a model.	Synthesis Evaluation	Analyze Controlled variable Data Experiment Failure points Hypothesis Observation Problem Prototype Results Scientific method Test Theory

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Strand/Concept Student Expectation	Student Friendly Learning Objective	Level of Thinking	Academic Vocabulary

RESOURCES AND NOTES FOR QUARTER 4 :