MIDDLE SCHOOL SCIENCE YEAR-LONG MAP 2019-2020

ANNUAL SCHOOL THEME: P.188X: EMPOWERING STUDENTS AS THEY TRANSITION TO SUCCESS

Themes	SETTING EXPECTATIONS FOR EMPOWERMENT AND EXCELLENCE	EMPOWERING ONESELF IN THE HOME	EMPOWERING ONESELF IN THE COMMUNITY	EMPOWERING ONESELF IN THE WORLD	DETERMINING HOW I HAVE BECOME EMPOWERED
Length of Unit	**SEPTEMBER**	**SEP 30th – DEC 23rd UNIT 1**	**JAN 2nd – MAR 13th UNIT 2**	**MAR 16th – MAY 29th UNIT 3**	**JUNE**
Focus / Essential Question	**SEL Organization IEP goals SANDI Level 1 Vocational Assessment**	**-What are the properties of matter? -How does matter undergo change on a physical and chemical level? -What is the scientific method and how do I develop a theory on changes of matter? -What are the practical implications of the changes of matter? How can I apply them to become empowered at home?**	**-What are different environments and what makes them different? -What are the different producers and consumers within an environment? -How have organisms developed specialties within their environment to flourish? -How do I develop a claim about different organisms using evidence and traits of the organism?**	**-What are various natural resources? -What are different conditions, both natural and man-made that impact natural resources. -How have people worked to protect the environment and natural resources from naturally occurring erosion and pollutants? -How can we plan to minimize our impact on the environment and reduce our use of resources? - What skills do we need to protect natural resources?**	**- How can I work to empower people in my community? - What is a tool I can develop to empower people in my school community? - How can I share my developed tool with my community to promote empowerment? - How does my tool help people demonstrate empowerment?**
Enduring Understandings		**Students will identify the importance of categorizing attributes of various materials and**	**Students will explore various environments and animals, plants, and attributes of various**	**Students will explore various natural resources and exploore and practice ways in which they can have a**	

		types of matter. Students will engage in and develop skills related to experimentation with mixing various types of matter in developing independent living skills (i.e. cooking, cleaning, etc.).	**habitats. Students will identify how different organism traits help them to be independent. Students will identify various tools that help people be more independent within various environments.**	**positive impact on conservation efforts. Students will develp practical skills for implementation of conservation methods in life (recycling, reduction of electric usage, etc.).**	
Resources	**Mood Meter** **PBIS Sheets**	**BRAINPOP / BRAINPOP JR.** **RETHINK:** Coughing and Sneezing Hygiene Doing Laundry Following a Recipe Preparing a Meal Measuring Ingredients Using a Microwave **DLM FAMILIAR TEXTS:** Be Clean What to Wear Doing the Laundry Lemonade	**BRAINPOP / BRAINPOP JR.** **RETHINK:** Dressing According to Weather Watering Plants **DLM FAMILIAR TEXTS:** Sam Went to the Zoo Fred's Food The Fishing Trip Hiking Up a Mountain Tia Visits a Farm The Planet Earth	**BRAINPOP / BRAINPOP JR.** **RETHINK:** Collecting Trash Sorting Items for Recycling **DLM FAMILIAR TEXTS:** Machines at Home The Planet Earth	**DLM FAMILIAR TEXTS:** The Science Fair
Objectives	**Students will be introduced to PBIS expectations for the school year. They will create their classroom charter and will familiarize themselves with The Emotional Literacy (Mood Meter) chart. Students will set**	**A. Students will Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.** **B. Students will Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object**	**A. Students will Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.** **B. Students will Construct a scientific explanation based on evidence for how environmental and genetic factors influence**	**A. Students will Develop and use a model of the Earth-Sun-Moon system to describe the cyclic patterns of lunar phases, eclipses of the Sun and Moon, and seasons.** **B. Students will Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.** **Students will Construct an explanation based on**	

	appropriate goals for themselves for the school year.	and the mass of the object. Students will Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer. C. Students will Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials	the growth of organisms. C. Students will Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. Students will Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.	evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales Students will Develop and use a model to describe how unequal heating and rotation of Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. C. Students will Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes. Students will Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	
Learning Targets	I can show commitment to my school. I can set and strive for appropriate goals. I can identify my strengths and areas to improve. I can demonstrate self- control when dealing with others. I can identify emotions from the emotional literacy chart.	A. I/D: I can Observe and identify examples of change (e.g. state of matter, color, temperature, and odor). P: I can Gather data on the properties (e.g., color, texture, odor, and state of matter) of substances before and after chemical changes have occurred (e.g., burning sugar or burning steel wool, rust, effervescent tablets). T: I can Interpret and analyze data on the properties (e.g., color,	A. I/D: I can Recognize major organs of animals. P: I can Use a model to demonstrate how organs are connected in major organ systems. T: I can Make a claim about how a structure (e.g., organs and organ systems) and its related function supports survival of animals (circulatory, digestive, and respiratory systems). B. I/D: I can Match organisms to their habitats.	A. I/D: I can Recognize models of the Earth, Moon, and Sun system P: I can Use a model to show that Earth's Moon moves around Earth, and Earth and its Moon move around the Sun. T: I can Use an Earth-Sun-Moon model to show that Earth's orbit around the Sun corresponds to a calendar year and the orbit of the Moon around Earth corresponds to a month. B. I/D: I can Identify the process that forms igneous rock (e.g., volcanoes).	

		texture, odor, and state of matter) of substances before and after chemical changes have occurred (e.g., burning sugar or burning steel wool, rust, effervescent tablets). **B. I/D: I can Identify ways to change the movement of an object (e.g., faster, slower, stop).** **P: I can Investigate and identify ways to change the motion of an object (e.g., change an incline's slope to make an object go slower, faster, farther).** **T: I can Investigate and predict the change in motion of objects based on the forces acting on those objects.** **I/D: I can Identify objects/materials used to minimize or maximize thermal energy transfer (e.g., gloves, vacuum flask, insulated hot pad holder or foam cup).** **P: I can Investigate objects/materials, and predict their ability to maximize or minimize thermal energy transfer.** **T: I can Test and refine a device (e.g., foam cup, insulated box, or thermos) to either minimize or maximize thermal energy transfer (e.g., keeping liquids hot**	**P: I can Identify factors that influence growth of organisms** **T: I can Interpret data to show that environmental resources (e.g., food, light, space, water) influence growth of organisms (e.g., drought decreasing plant growth, fertilizer increasing plant growth, different varities of plant seeds growing at different rates in different conditions, fish growing larger in large ponds than small ponds).** **C: I/D: I can Identify food that animals eat.** **P: I can Classify animals based on what they eat (e.g., herbivore, omnivore, carnivore).** **T: I can Use models of food chains/webs to identify producers and consumers in aquatic and terrestrial ecosystems.** **I/D: I can Make a claim supported by evidence that offspring inherit traits from their parents.** **P: I can Identify similarities and differences between plant and animal parents and their offspring (e.g., eye color, hair/fur color, height, leaf shape, and/or markings).** **T: I can Make a claim supported by evidence**	**P: I can Use a model to describe the change from igneous to sedimentary rock.** **T: I can Use a model to describe the change within the rock cycle between igneous, metamorphic, and sedimentary rock.** **I/D: I can Identify differences in weather conditions from day to day.** **P: I can Identify geoscience processes (e.g., wind, rain, runoff) that have an impact on landforms (e.g., landslides, erosion such as gullies).** **T: I can Explain how geoscience processes that occur daily (e.g.,wind, rain, runoff) slowly change the surface of Earth, while catastrophic events (e.g., earthquakes, tornadoes, floods) can quickly change the surface of Earth.** **I/D: I can Interpret basic weather information (e.g., radar, map) to identify weather conditions.** **P: I can Interpret basic weather information (e.g., radar, map) to compare weather conditions (either over several days at the same location or different locations on the same day).** **T: I can Interpret basic weather information (e.g., radar, map) to make predictions about future conditions (e.g., precipitation, temperature, wind).**	

		or cold, preventing liquids from freezing, keeping hands warm in cold temperatures). C. I/D: I can Use a model to show how light waves (e.g., light through a water glass, light on colored objects) or sound waves are reflected, absorbed, or transmitted through various materials (e.g., water, air, table). P: I can Investigate changes in vibrations and sources of sound in everyday life. T: I can Use a model to show how light waves (e.g., light through a water glass, light on colored objects) or sound waves are reflected, absorbed, or transmitted through various materials (e.g., water, air, table).	that offspring inherit traits from their parents.	C. I/D: I can Identify a natural resource (e.g., water, sand, wind). P: I can Identify the geoscience process that produces a natural resource (e.g., solar energy creating wind energy, rock cycle with ores and minerals). T: I can Interpret, based on evidence, how the geoscience processes (e.g., weathering, erosion) create resources. I/D: I can recognize aspects of the local environment. I can distinguish between pristine and polluted environments. P: I can Recognize ways in which humans impact the environment (e.g., agriculture, pollution, recycling, city growth). T: I can develop a plan to monitor and minimize human impact on the local environment (e.g., water, land, pollution).	
CCLS/NEXT GENERATION STANDARDS ADDRESSED		PS 1-2/PS1.A PS 2-2/PS2.A PS 3-3 PS3.B	MS.LS1-3/LS1.A LS1.B LS2.A	MS/ ESS2-2/ESS2.A MS/ESS 2-6/ESS2.D MS/ESS 3.3 ESS3.C	

Product	**-Mood Meter and Mood Meter Journal. -Classroom Charter -Student Goals -Comparison of Interpersonal Qualities**	**Students will identify matter in the three states including solid, liquid and gas. Students will distinguish the difference between volume and mass. Students will utilize the scientific method in relation to developing home based skills by exploring and experimenting with home based empowerment skills i.e. changes in matter related to cooking, mixing matter related to cleaning, etc. Students will udentify the experiement and test a hypothesis / report findings based on an identified experiment.**	**Students will create a presentation to show how the ecosystem and habitat. Students will incorporate animals, temperature, fauna, etc. Students will compare and contrast various habitats and identify different tools needed to empower people and andimals within various habitats.**	**Students will develop an argumentative piece on the importance of conservation efforts and preservation of natural resources. Students will identify various ways people can assist in resource preservation and practice methods to reduce, re-use, and recycle resources. Students will identify various businesses involved in conservation efforts and skills needed to assist in conservation efforts. Students will develop a presentation on the method they feel is best in conserving or protecting a resource.**	**Students will develop a project to help assist their community in sustainability efforts. Students will cite how efforts can assist in sustaining long-term wellness for their communities and reflect on their practice.**
Celebration	**SEP 27th**	**DEC 20th**	**MAR 13th**	**MAY 29th**	**JUN 24th**
Bulletin Board Updates	**SEP 27th**	**NOV 1st DEC 13th**	**JAN 31st MAR 6th**	**APR 8th MAY 22nd**	**JUN 18th**
STARS / SESIS Progress Report Updates		**NOVEMBER 1st**	**MARCH 6th**		**JUNE 18th**