Science (Kindergarten)

Course Description:

The curriculum for this required course is developed from the http://www.nextgenscience.org/ .
Students will be exposed to and practice skills related to Science and Engineering practices, crosscutting concepts, and core ideas in science that all students in K-12 should master in order to prepare for success in college or 21st century careers. The standards are organized by the four disciplinary core ideas: Life Science, Physical Science, Earth and Space, and Engineering, Technology and the Application of Science. The information in this course overview outlines what students should understand and be able to do by the end of the year.

Mastery Standards:

Life Science

Standard SCI.LS1: Students use science and engineering practices, crosscutting concepts, and an understanding of ***structures and processes (on a scale from molecules to organisms)*** to make sense of phenomena and solve problems.

Physical Science

Students use science and engineering practices, crosscutting concepts, and an understanding of ***forces, interactions, motion and stability*** to make sense of phenomena and solve problems. SCI.PS2

Students use science and engineering practices, crosscutting concepts, and an understanding of ***energy*** to make sense of phenomena and solve problems. SCI.PS3

Earth & Space

Students use science and engineering practices, crosscutting concepts, and an understanding of ***Earth's systems*** to make sense of phenomena and solve problems. SCI.ESS2

Engineering, Technology and the Application of Science

Students use science and engineering practices, crosscutting concepts, and an understanding of ***engineering design*** to make sense of phenomena and solve problems. SCI.ETS1

Students use science and engineering practices, crosscutting concepts, and an understanding of ***the links among Engineering, Technology, Science, and Society*** to make sense of phenomena and solve problems. SCI.ETS2

Students use science and engineering practices, crosscutting concepts, and an understanding of ***the nature of science and engineering*** to make sense of phenomena and solve problems. SCI.ETS3

Unit	Description of Unit and Learning Targets
Unit Title: Interdependent Relationships in Ecosystems: Animals, Plants and Their Environment **Plant & Animal Secrets** Essential Questions: • Where do animals live and why do they live there?	Students will……. Learning Targets: • I can use observations to describe patterns of what plants and animals (including humans) need to survive (Ex: animals need to take in food, but plants do not). **(M1, M4)** • I can construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs (Ex: squirrels dig in the ground to hide food and tree roots can break concrete). **(M1,**

	M5) ● I can use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live (Ex: deer eat leaves, so they live in forests). **(M2, M4, M5)** ● I can communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment (Ex: recycling, reducing, reusing). **(M3, M6)**
Unit Title: Forces and Interactions: Push and Pulls **Force Olympics** Essential Questions: ● What happens if you push or pull an object harder?	Students will... Learning Targets: ● I can plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. (Ex: strings or people moving objects, person stopping a ball or two objects colliding) **M3, M4** ● I can analyze data to determine if a design solution works as intended to change the speed or direction of a object with a push or a pull (Ex: having a marble move a certain distance or follow a path, using tools such as ramps or other structures to increase the speed).**M5, M6** ● *M1 and M2 lessons - observe / solution / cause and effect*
Unit Title: Weather and Climate **Weather Watching** Essential Questions: ● What is the weather like today and how is it different from yesterday?	Students will... Learning Targets: ● I can make observations to determine the effect of sunlight on Earth's surface (including sand, soil, rocks, and water). **M5** ● I can use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area (Ex: umbrellas, canopies, and tents). **M6** ● I can use and share observations of local weather conditions to describe patterns over time (qualitative data: sunny, rainy, cloudy and quantitative data: number of windy days, sunny vs. cloudy, etc). **M1, M3,** ● I can ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. **M2, M4**