Grade 3 Overview: The clusters below are bench-marked against the Next Generation Science Standards: http://www.nextgenscience.org/

Unit 1: Engineering Design/Unit of Science

Introduce and build a scientific classroom within the first three weeks by exposing children to the design process and the scientific method through hands-on experiences. Teaching lab safety processes ensures safe practices throughout the year and ensures proper identification and usage of lab equipment. The Engineering Design and Nature of Science practices should be implemented within each unit throughout the course of the entire year.

Teachers are encouraged to incorporate STEM and hands-on activities throughout each unit.

Unit 2: Development of Organisms

This unit will explore growth & development of organisms, inheritance & variation of traits, and natural selection.

- Define the term life cycle and explain that different plants have different life cycles.
- Describe the term life cycle and explain that all life cycles include birth or hatching, growth and development, maturity, and reproduction.
- Explain that different animals have different life cycles.
- Describe the difference between complete and incomplete metamorphosis.
- Analyze diversity in a species and conclude that while offspring often look much like their parents, they do not look exactly the same.
- Define and explain adaptation, camouflage, and mimicry.
- Explain how adaptations help plants and animals survive in their environment.
- Build a model of how a specific adaptation helps an animal to survive.
- Define and explain hibernate and migrate.
- Explain the difference between innate and learned behaviors.

Unit 3: Interdependent Relationships in Ecosystems

This unit will explore ecosystem dynamics, social interactions between organisms, and evidence of common ancestry.

- Define and differentiate between a habitat and an ecosystem.
- Explain how living in a group helps an animal survive
- Describe the temperature, physical characteristics and resources of different ecosystems
- Explain how the changing characteristics of an ecosystem affect the organisms that live there.
- Define and differentiate between a habitat and an ecosystem.
- Explain how plants and animals are dependent upon each other in their environments
- Explain how fossils help us learn about life and the environment a long ago.
- Solve a problem caused by humans that impacts the ecosystem.

Teachers are encouraged to use fossils for this unit. If you don't have fossils, reach out to your AOB Science Content expert to receive a donated set from the Natural History Society of Maryland.

Unit 4: Forces and Interactions

This unit will explore forces & motion and types of interactions.

- Observe and record changes of position.
- Measure and compare the motion of various objects.
- Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- Observe forces such as magnetism and gravity acting on objects.
- Describe how charged particles in the poles of a magnet interact with one another.
- Demonstrate the ability of an object to attract or repel another object.
- Measure, test, and record physical properties of matter including magnetism.
- Use the engineering design process to solve a problem by applying scientific ideas about magnets

Unit 5: Weather and Climate

This unit will explore weather & climate and natural hazards.

- Define climate and weather.
- Explain that the atmosphere is made up of the air that surrounds Earth.
- Describe various types of severe weather.
- Measure a specific weather condition, such as wind direction, air temperature or precipitation.
- Compare changes in weather over a period in time.

- Display recorded data in a way that effectively communicates this data.
- Design a building that can withstand a problem created by a weather related natural hazard.
- Create a new type of weather related natural hazard and brainstorm solutions to a problem it causes.
- Properly use Celsius & Fahrenheit temperatures to describe weather