CURRICULUM AT A GLANCE

GRADE 6th

How would you like your 6th grade child to learn science? As a stream of facts that may or may not seem to fit together, or within the context of a real science situation? Recently, the state of Connecticut adopted a new set of science standards known as the Next Generation Science Standards, or NGSS. These standards give equal weight to three main areas of science learning; the core concepts, the practice of science, and the overarching themes of science knowledge. The emphasis is on examining real science situations. For example, instead of learning about chemical bonds as isolated facts, 6th grade science students learn about how fish, oil and plastic are all related and how they impact our environment. A manifestation of this type of science learning can be found if you ask your child what they are studying in science. Instead of an answer like "I'm learning about chemical bonds," your child is more likely to answer with something like "we're trying to figure out why oil spills are so bad for fish and birds."

COURSE NAME	
Unit Name	**Learning**
Fish, oil, plastic	Students will: ● Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. ● Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. ● Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.
The changing Earth	Students will: ● Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions. ● Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed. ● Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

Mass of me	Students will: ● Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved. ● Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism. ● Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.
Penguins on ice	Students will: ● Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. ● Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.
Where do natural resources come from?	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. ● Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. ● Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.
Ice packs	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. ● Undertake a design project to construct, test and modify a device that either releases or absorbs thermal energy by chemical process.