

K-5 NYSSLS Progressions: Disciplinary Core Ideas (DCI)

Earth and Space Science Progression

INCREASING SOPHISTICATION OF STUDENT THINKING

DCI	Grades K-2	Grades 3-5
ESS1.A - The Universe and its Stars	<p>Patterns of motion of the sun, moon, and stars in the sky can be observed, described, and predicted.</p> <p>BOCES 4 Science Unit: Sky Patterns (Grade 1)</p>	<p>The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth.</p> <p>BOCES 4 Science Unit: Earth and Space Explorers (Grade 5)</p>
ESS1.B - Earth and the Solar System	<p>Seasonal patterns of sunrise and sunset can be observed, described, and predicted.</p> <p>BOCES 4 Science Unit: Sky Patterns (Grade 1)</p>	<p>The orbit of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of day, month, and year.</p> <p>BOCES 4 Science Unit: Earth and Space Explorers (Grade 5)</p>
ESS1.C - The History of Planet Earth	<p>Some events happen very quickly; others occur very slowly, over a time much longer than one can observe.</p> <p>BOCES 4 Science Unit: Earth's Features (Grade 2)</p>	<p>Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed.</p> <p>BOCES 4 Science Unit: Earth's Processes in New York State (Grade 4)</p>

Earth and Space Science Progression, cont.


INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
<p>ESS2.A - Earth Materials and Systems</p>	<p>Wind and water can change the shape of the land.</p> <p>BOCES 4 Science Unit: Earth’s Features (Grade 2)</p>	<p>Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around.</p> <p>Earth’s major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth’s surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.</p> <p>BOCES 4 Science Unit: Earth’s Processes in New York State (Grade 4)</p> <p>BOCES 4 Science Unit: Got Water? (Grade 5)</p>
<p>ESS2.B - Plate Tectonics and Large-Scale System Interactions</p>	<p>Maps show where things are located. One can map the shapes and kinds of land and water in any area.</p> <p>BOCES 4 Science Unit: Earth’s Features (Grade 2)</p>	<p>The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth.</p> <p>BOCES 4 Science Unit: Earth’s Processes in New York State (Grade 4)</p>

Earth and Space Science Progression, cont.


INCREASING SOPHISTICATION OF STUDENT THINKING


<p>ESS2.C - The Roles of Water in Earth's Surface Processes</p>	<p>Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.</p> <p>BOCES 4 Science Unit: Earth's Features (Grade 2)</p>	<p>Nearly all of Earth's available water is in the ocean. Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere.</p> <p>BOCES 4 Science Unit: Got Water? (Grade 5)</p>
<p>ESS2.D - Weather and Climate</p>	<p>Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time.</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p>	<p>Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. Earth's processes continuously cycle water, contributing to weather and climate.</p> <p>BOCES 4 Science Unit: Investigating Weather and Climate (Grade 3)</p>
<p>ESS2.E - Biogeology</p>	<p>Plants and animals can change their environment.</p> <p>BOCES 4 Science Unit: Worm Scouts (Grade K)</p>	<p>Living things can affect the physical characteristics of their regions.</p> <p>BOCES 4 Science Unit: Earth's Processes in New York State (Grade 4)</p>
<p>ESS3.A - Natural Resources</p>	<p>Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.</p> <p>BOCES 4 Science Unit: Worm Scouts (Grade K)</p>	<p>Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p>

Earth and Space Science Progression, cont.

INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
ESS3.B - Natural Hazards	<p>Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that communities can prepare and respond to these events.</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p>	<p>A variety of natural hazards result from natural processes. Humans cannot eliminate hazards but can take steps to reduce their impacts.</p> <p>BOCES 4 Science Unit: Investigating Weather and Climate (Grade 3)</p> <p>BOCES 4 Science Unit: Earth’s Processes in New York State (Grade 4)</p>
ESS3.C - Human Impacts on Earth Systems	<p>Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.</p> <p>BOCES 4 Science Unit: Worm Scouts (Grade K)</p>	<p>Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth’s resources and environments.</p> <p>BOCES 4 Science Unit: Got Water? (Grade 5)</p>
ESS3.D - Global Climate Change	N/A	N/A

Life Science Progression

INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
LS1.A - Structure and Function	<p>All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.</p> <p>BOCES 4 Science Unit: A Bunny's Life (Grade 1)</p>	<p>Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.</p> <p>BOCES 4 Science Unit: A Walk in the Park (Grade 4)</p>
LS1.B - Growth and Development of Organisms	<p>Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.</p> <p>BOCES 4 Science Unit: A Bunny's Life (Grade 1)</p>	<p>Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.</p> <p>BOCES 4 Science Unit: Generations of Butterflies (Grade 3)</p>
LS1.C - Organization for Matter and Energy Flow in Organisms	<p>All animals need food, air, and water in order to live, grow, and thrive. Animals obtain food from plants or from other animals. Plants need water, air, and light to live, grow, and thrive.</p> <p>BOCES 4 Science Unit: Worm Scouts (Grade K)</p>	<p>Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. Plants acquire their material for growth chiefly from air and water.</p> <p>BOCES 4 Science Unit: Deer, Deer Everywhere (Grade 5)</p>
LS1.D - Information Processing	<p>Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs.</p> <p>BOCES 4 Science Unit: A Bunny's Life (Grade 1)</p>	<p>Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions.</p> <p>BOCES 4 Science Unit: A Walk in the Park (Grade 4)</p>

Life Science Progression, cont.


INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
LS2.A - Interdependent Relationships in Ecosystems	Animals depend on plants or other animals for food. Plants depend on water, light and air to grow. Some plants depend on animals for pollination and for dispersal of seeds from one location to another. BOCES 4 Science Unit: Save the Bees (Grade 2)	The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants' parts and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. BOCES 4 Science Unit: Deer, Deer Everywhere (Grade 5)
LS2.B - Cycles of Matter and Energy Transfer in Ecosystems	[Content found in LS1.C and ESS3.A]	Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. BOCES 4 Science Unit: Deer, Deer Everywhere (Grade 5)

Life Science Progression, cont.

INCREASING SOPHISTICATION OF STUDENT THINKING

DCI	Grades K-2	Grades 3-5
LS2.C - Ecosystem Dynamics, Functioning, and Resilience	N/A	When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. BOCES 4 Science Unit: Where are the Wolves? (Grade 3)
LS2.D - Social Interactions and Group Behavior	N/A	Being part of a group helps some animals obtain food, defend themselves, and survive. Groups may serve different functions and vary dramatically in size. BOCES 4 Science Unit: Where are the Wolves? (Grade 3)
LS3.A - Inheritance of Traits	Some young animals are similar to, but not exactly, like their parents. Some young plants are also similar to, but not exactly like their parents. BOCES 4 Science Unit: A Bunny’s Life (Grade 1)	Many characteristics of organisms are inherited from their parents. Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Some characteristics result from the interactions of both inheritance and the effect of the environment. BOCES 4 Science Unit: Generations of Butterflies (Grade 3)
LS3.B - Variation of Traits	Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. BOCES 4 Science Unit: A Bunny’s Life (Grade 1)	Different organisms vary in how they look and function because they have different inherited information; the environment also affects the traits that an organism develops. BOCES 4 Science Unit: Generations of Butterflies (Grade 3)

Life Science Progression, cont.

INCREASING SOPHISTICATION OF STUDENT THINKING

DCI	Grades K-2	Grades 3-5
LS4.A - Evidence of Common Ancestry and Diversity	N/A	<p>Some kinds of plants and animals that once lived on Earth are no longer found anywhere. Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments.</p> <p>BOCES 4 Science Unit: Where are the Wolves? (Grade 3)</p>
LS4.B - Natural Selection	N/A	<p>Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing.</p> <p>BOCES 4 Science Unit: Generations of Butterflies (Grade 3)</p>
LS4.C - Adaptation	N/A	<p>For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.</p> <p>BOCES 4 Science Unit: Where are the Wolves? (Grade 3)</p>
LS4.D - Biodiversity and Humans	<p>There are many different kinds of living things in any area, and they exist in different places on land and in water.</p> <p>BOCES 4 Science Unit: Save the Bees (Grade 2)</p>	<p>Populations live in a variety of habitats, and change in those habitats affects the organisms living there.</p> <p>BOCES 4 Science Unit: Where are the Wolves? (Grade 3)</p>

Physical Science Progression


INCREASING SOPHISTICATION OF STUDENT THINKING

DCI	Grades K-2	Grades 3-5
<p>PS1.A - Structure of Matter (includes PS1.C Nuclear Processes)</p>	<p>Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.</p> <p>Different properties are suited to different purposes. (Grade 2 only) A great variety of objects can be built up from a small set of pieces. (Grade 2 only)</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p> <p>BOCES 4 Science Unit: Made of Matter (Grade 2)</p>	<p>Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects. The total amount of matter is conserved when it changes form, even in transitions in which it seems to vanish. Measurements of a variety of properties can be used to identify materials. (Boundary: At this grade level, mass and weight are not distinguished, and no attempt is made to define the unseen particles or explain the atomic-scale mechanism of evaporation and condensation.)</p> <p>BOCES 4 Science Unit: Toys Matter (Grade 5)</p>
<p>PS1.B - Chemical Reactions</p>	<p>Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not.</p> <p>BOCES 4 Science Unit: Made of Matter (Grade 2)</p>	<p>When two or more different substances are mixed, a new substance with different properties may be formed. No matter what reaction or change in properties occurs, the total weight of the substances does not change. (Boundary: Mass and weight are not distinguished at this grade level.)</p> <p>BOCES 4 Science Unit: Toys Matter (Grade 5)</p>

Physical Science Progression

INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
PS2.A - Forces and Motion	<p>Pushes and pulls can have different strengths and directions. Pushing or pulling an object can change the speed or direction of its motion and can start or stop it.</p> <p>BOCES 4 Science Unit: Pushes and Pulls (Grade K)</p>	<p>Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object’s speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative addition of forces are used at this level.) The patterns of an object’s motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.)</p> <p>BOCES 4 Science Unit: Invisible Forces (Grade 3)</p>
PS2.B - Types of Interactions	<p>When objects touch or collide, they push on one another and can change motion.</p> <p>BOCES 4 Science Unit: Pushes and Pulls (Grade K)</p>	<p>The gravitational force of Earth acting on an object near Earth’ surface pulls that object toward the planet’s center.</p> <p>BOCES 4 Science Unit: Earth and Space Explorers (Grade 5)</p>

Physical Science Progression, cont.

INCREASING SOPHISTICATION OF STUDENT THINKING

DCI	Grades K-2	Grades 3-5
PS2.C - Stability & Instability in Physical Systems	N/A	N/A
PS3.A - Definitions of energy	N/A	<p>A given object possesses more energy of motion when it is moving faster. Energy can be transferred by moving objects or by sound, light, heat, or electric currents.</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p>
PS3.B - Conservation of Energy and Energy Transfer	[Content found in PS3.D]	<p>Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. Energy can also be transferred by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p>
PS3.C - Relationship Between Energy and Forces	<p>A push or a pull may cause stationary objects to move, and a stronger push or pull in the same or opposite direction makes an object in motion speed up or slow down more quickly.</p> <p>BOCES 4 Science Unit: Pushes and Pulls (Grade K)</p>	<p>When objects collide, the contact forces transfer energy so as to change the objects' motions.</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p>

Physical Science Progression, cont.


INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
<p>PS3.D (K-2) Conservation of Energy and Energy Transfer</p> <p>(3-5) Energy in Chemical Processes and Everyday Life</p>	<p>Sunlight warms Earth’s surface.</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p>	<p>The expression “produce energy” typically refers to the conversion of stored energy into a desired form for practical use.</p> <p>The energy released [from] food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water).</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p> <p>BOCES 4 Science Unit: Deer, Deer Everywhere (Grade 5)</p>
<p>PS4.A - Wave Properties</p>	<p>Sound can make matter vibrate, and vibrating matter can make sound.</p> <p>BOCES 4 Science Unit: Sending Messages with Light and Sound (Grade 1)</p>	<p>Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks).</p> <p>BOCES 4 Science Unit: Riding the Waves of Information (Grade 4)</p>

Physical Science Progression, cont.


INCREASING SOPHISTICATION OF STUDENT THINKING


<p>PS4.B - Electromagnetic Radiation</p>	<p>Objects can be seen if light is available to illuminate them or if they give off their own light. Some materials allow light to pass through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.)</p> <p>BOCES 4 Science Unit: Sending Messages with Light and Sound (Grade 1)</p>	<p>An object can be seen when light reflected from its surface enters the eyes.</p> <p>BOCES 4 Science Unit: A Walk in the Park (Grade 4)</p>
<p>PS4.C - Information Technologies and Instrumentation</p>	<p>People use a variety of devices to communicate (send and receive information) over long distances.</p> <p>BOCES 4 Science Unit: Sending Messages with Light and Sound (Grade 1)</p>	<p>Digitized information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice— and vice versa.</p> <p>BOCES 4 Science Unit: Riding the Waves of Information (Grade 4)</p>

Engineering Design

INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
<p>ETS1.A - Defining (and Delimiting) an Engineering Problem</p>	<p>A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions.</p> <p>Asking questions, making observations, and gathering information are helpful in thinking about problems.</p> <p>Before beginning to design a solution, it is important to clearly understand the problem.</p> <p>BOCES 4 Science Unit: Pushes and Pulls (Grade K)</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p> <p>BOCES 4 Science Unit: A Bunny’s Life (Grade 1)</p> <p>BOCES 4 Science Unit: Sending Messages with Light and Sound (Grade 1)</p> <p>BOCES 4 Science Unit: Save the Bees (Grade 2)</p> <p>BOCES 4 Science Unit: Made of Matter (Grade 2)</p> <p>BOCES 4 Science Unit: Earth’s Features (Grade 2)</p>	<p>Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.</p> <p>BOCES 4 Science Unit: Investigating Weather and Climate (Grade 3)</p> <p>BOCES 4 Science Unit: Invisible Forces (Grade 3)</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p> <p>BOCES 4 Science Unit: A Walk in the Park (Grade 4)</p> <p>BOCES 4 Science Unit: Earth’s Processes in NYS (Grade 4)</p> <p>BOCES 4 Science Unit: Toys Matter (Grade 5)</p> <p>BOCES 4 Science Unit: Got Water? (Grade 5)</p> <p>BOCES 4 Science Unit: Earth and Space Explorers (Grade 5)</p>

Engineering Design, cont.

INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
<p>ETS1.B - Developing Possible Solutions (K-2)</p> <p>ETS1.B – Designing Solutions to Engineering Problems (3-5)</p>	<p>Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people.</p> <p>BOCES 4 Science Unit: Worm Scouts (Grade K)</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p> <p>BOCES 4 Science Unit: A Bunny’s Life (Grade 1)</p> <p>BOCES 4 Science Unit: Sending Messages with Light and Sound (Grade 1)</p> <p>BOCES 4 Science Unit: Save the Bees (Grade 2)</p> <p>BOCES 4 Science Unit: Made of Matter (Grade 2)</p> <p>BOCES 4 Science Unit: Earth’s Features (Grade 2)</p>	<p>Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions.</p> <p>At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs.</p> <p>Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved.</p> <p>BOCES 4 Science Unit: Investigating Weather and Climate (Grade 3)</p> <p>BOCES 4 Science Unit: Invisible Forces (Grade 3)</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p> <p>BOCES 4 Science Unit: A Walk in the Park (Grade 4)</p> <p>BOCES 4 Science Unit: Earth’s Processes in New York State (Grade 4)</p> <p>BOCES 4 Science Unit: Toys Matter (Grade 5)</p> <p>BOCES 4 Science Unit: Got Water? (Grade 5)</p> <p>BOCES 4 Science Unit: Earth and Space Explorers (Grade 5)</p>

Engineering Design, cont.

INCREASING SOPHISTICATION OF STUDENT THINKING

<u>DCI</u>	<u>Grades K-2</u>	<u>Grades 3-5</u>
ETS1.C - Optimizing the Design Solution	<p>Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</p> <p>BOCES 4 Science Unit: Weather for Kindergarten (Grade K)</p> <p>BOCES 4 Science Unit: A Bunny’s Life (Grade 1)</p> <p>BOCES 4 Science Unit: Sending Messages with Light and Sound (Grade 1)</p> <p>BOCES 4 Science Unit: Save the Bees (Grade 2)</p> <p>BOCES 4 Science Unit: Made of Matter (Grade 2)</p> <p>BOCES 4 Science Unit: Earth’s Features (Grade 2)</p>	<p>Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints.</p> <p>BOCES 4 Science Unit: Investigating Weather and Climate (Grade 3)</p> <p>BOCES 4 Science Unit: Powering Thru the Fair (Grade 4)</p> <p>BOCES 4 Science Unit: A Walk in the Park (Grade 4)</p> <p>BOCES 4 Science Unit: Earth’s Processes in New York State (Grade 4)</p> <p>BOCES 4 Science Unit: Riding the Waves of Information (Grade 4)</p> <p>BOCES 4 Science Unit: Toys Matter (Grade 5)</p> <p>BOCES 4 Science Unit: Got Water? (Grade 5)</p> <p>BOCES 4 Science Unit: Earth and Space Explorers (Grade 5)</p>