

New Jersey Core Curriculum Content Standard Area:

SCIENCE Grade 7

Earth History

Organisms

Revised July 2011

By

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North Brunswick Township Public Schools

Topic/Course: Earth History

Grade: 7

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<p>Strand 5.4.B: How do geologic events occurring today provide insight Earth’s past?</p>	<p>on a human time scale, but many geological processes, such as mountain building and the shifting of continents, are observed on a geologic time scale.</p> <p>5.4.6.B.3 Determine if landforms were created by processes of erosion (e.g., wind, water, and/or ice) based on evidence in pictures, video, and/or maps.</p> <p>Content: Moving water, wind, and ice continually shape Earth’s surface by eroding rock and soil in some areas and depositing them in other areas.</p>	<ul style="list-style-type: none"> • Investigate how differential erosion has changed the landscape of the Colorado Plateau • Investigate how sand can be made from larger rocks • Relate the process of weathering, erosion, and deposition to the formation of sediments, sedimentary rock and landforms. 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>4 weeks</p>
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<p>Strand 5.4.C: How do changes in one part of an Earth system affect other parts of the system?</p>	<p>5.4.6.C.2 Distinguish physical properties of sedimentary, igneous, or metamorphic rocks and explain how one kind of rock could eventually become a different kind of rock. Content: The rock cycle is a model of creation and transformation of rocks from one form (sedimentary, igneous, or metamorphic) to another. Rock families are determined by the origin and transformations of the rock.</p> <p>5.4.6.C.3 Deduce the story of the tectonic conditions and erosion forces that created sample rocks or rock formations. Content: Rocks and rock formations contain evidence that tell a story about their past. The story is dependent on the minerals, materials, tectonic conditions and erosion forces that created them.</p>	<ul style="list-style-type: none"> • Observe and compare the properties of sedimentary, igneous, and metamorphic rocks • Identify the sediments in sandstone and shale • Model the formation of limestone layers in an ancient environment <ul style="list-style-type: none"> • Compare various events and fossils to derive a faunal succession over geological time. • Relate the process of weathering, erosion, and deposition to the formation of sediments, sedimentary rock and landforms. 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • extended time • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK <ul style="list-style-type: none"> • Pre-unit 	<p>2 weeks</p> <p>2 weeks</p> <p>1 week</p>
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<p>How do changes in one part of the Earth system affect other parts of the system and in what ways can Earth processes be explained as interactions among spheres?</p> <p>Strand 5.3.E: In what ways are organisms of the same kind different from each other? How does this help them reproduce and survive?</p> <p>Strand 5.4.B:</p>	<p>5.4.6.G.2 Create a model of ecosystems in two different locations, and compare and contrast the living and nonliving components. Content: An ecosystem includes all of the plant and animal populations and nonliving resources in a given area. Organisms interact with each other and with other components of an ecosystem.</p> <p>5.3.6.E.1 Describe the impact on the survival of species during specific times in geologic history when environmental conditions changed. Content: Changes in environmental conditions can affect the survival of individual organisms and entire species</p>	<ul style="list-style-type: none"> • Compare the salt march ecosystem to the pond ecosystem • Describe life forms that evolved during the different Eras and the causes of extinction • Make inferences from fossil evidence that contribute to an understanding of fossil succession 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<p>assessment</p> <ul style="list-style-type: none"> • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>2 weeks</p> <p>2 weeks</p>
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<p>How do geologic events occurring today provide insight Earth's past?</p>	<p>5.4.8.B.1 Correlate the evolution of organisms and the environmental conditions on Earth as they changed throughout geologic time Content: Today's planet is very different than early Earth. Evidence for one-celled forms of life, bacteria, extends back more than 3.5 billion years.</p> <p>5.4.8.B.2 Evaluate the appropriateness of increasing the human population in a region (e.g., barrier islands, pacific northwest, Midwest United States) based on the region's history of catastrophic events such as volcanic eruptions, earthquakes, and floods. Content: Fossils provide evidence of how life and environmental conditions have changed. The principle of Uniformitarianism makes possible the interpretation of Earth's history. The same Earth processes that have occurred in the past occur today.</p>	<ul style="list-style-type: none"> • Describe life forms that evolved during the different Eras and the causes of extinction • Make inferences from fossil evidence that contribute to an understanding of fossil succession • Compare various events and fossils to derive a faunal succession over geological time. • Use index fossils to correlate rock layers in three locations on the Colorado Plateau • Model the three rock layers that make up the Grand Canyon and describe the oldest and youngest rock layers 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK • Pre-unit 	<p>1 week</p> <p>2 weeks</p>
<p>Strand 5.4.C:</p>					

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<p>How do Earth systems interact to create soil?</p> <p>Strand 5.3.E: In what ways are organisms of the same kind different from each other?</p> <p>How does this help them reproduce and survive?</p> <p>Strand 5.4.G:</p>	<p>5.4.8.C.2 Explain how chemical and physical mechanisms (changes) are responsible for creating a variety of landforms. Content: Physical and chemical changes take place in the Earth materials when Earth features are modified through weathering and erosion.</p> <p>5.3.8.E.1 Compare the anatomical structures of a living species with fossil records to derive a line of descent. Content: Anatomical evidence supports evolution and provides additional detail about the sequence of branching of various lines of descent.</p>	<ul style="list-style-type: none"> • Use acid to test for the presence of calcium carbonate in a rock sample • Investigate how carbon dioxide contributes to the precipitation of calcium carbonate in water. • Describe physical and chemical changes that occur in weathering and erosion • Use index fossils to correlate rock layers in three locations on the Colorado Plateau 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<p>assessment</p> <ul style="list-style-type: none"> • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK • Pre-unit 	<p>1 week</p> <p>1 week</p>
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<p>How do changes in one part of the Earth system affect other parts of the system and in what ways can Earth processes be explained as interactions among spheres?</p>	<p>5.4.8.G.2 Investigate a local or global environmental issue by defining the problem, researching possible causative factors, understanding the underlying science, and evaluating the benefits and risks of alternative solutions. Content: Investigations of environmental issues address underlying scientific causes and may inform possible solutions.</p>	<ul style="list-style-type: none"> • Hidden Lake activity, Salt Marsh activity 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<p>assessment</p> <ul style="list-style-type: none"> • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	
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Topic/Course: **Organisms**

Grade: **7**

Date: **Revised July, 2011** ⁹

<i>Essential Question</i> NJCCCS Standard	<i>NJCCCS</i> Skills/Objectives/ Areas of Focus	<i>Instructional Strategies</i> Activities/ Materials /Technology Interdisciplinary Connections Cultural Diversity	<i>Modifications</i> ESL / Special Education Academic Support/ G&T	<i>Assessments</i> Formative Summative Benchmarks	<i>Pacing</i>
<p>Standards: 5.1 Science Practices 5.3 Life Science 5.3.A What do all living things have in common?</p>	<p>5.3.6.A.1 Model the interdependence of the human body’s major systems in regulating its internal environment. Content: Systems of the human body are interrelated and regulate the body’s internal environment</p> <p>5.3.6.A.2 Model and explain ways in which organelles work together to meet the cell’s needs. Content: Essential functions of plant and animal cells are carried out by organelles</p>	<ul style="list-style-type: none"> • Workbook – cell , tissue, organ, system • Body system to cell - CD with drawing of system and RAFT writing activity • Observe, draw, label, and measure cells and certain organelles based on specific guidelines. • Describe the effect of salt solution on Elodea leaf cells. • Compare the structure of various cells for evidence that they are suited to their function • Depict the behavior of chromosomes during interphase and cell division • Construct models that depict the key steps of cell division. • Compare and contrast cytokinesis in plant and animal cells. • Examine flowers to develop an understanding of their parts and functions • Cross-pollinate the Fast Plants flowers and explain ways in which flowers are pollinated in nature. 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p> <p>2 wks</p>

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<p>5.3.C In what ways do organisms interact within ecosystems?</p>	<p>5.3.8.C.1: Model the effect of positive and negative changes in population size on a symbiotic pairing.</p> <p>Content: Symbiotic interactions among organisms of different species can be classified as:</p> <ul style="list-style-type: none"> • Producer/consumer • Predator/prey • Parasite/host • Scavenger/prey • Decomposer/prey 	<ul style="list-style-type: none"> • Salt Marsh Activity • Flash card Activity 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p>
<p>5.3.B How is matter transformed, and energy transferred/transformed in living systems?</p>	<p>5.3.6.B.1 Describe the sources of the reactants of photosynthesis and trace the pathway to the products.</p> <p>Content: Plants are producers: They use the energy from light to make food (sugar) from carbon dioxide and water. Plants are used as a source of food (energy) for other organisms.</p>	<ul style="list-style-type: none"> • Plant WFP and observe. • Chapter 5 – Go over the process of photosynthesis. • Activity – Food pyramid with energy levels 	<ul style="list-style-type: none"> • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 		<p>3 wks</p>

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<p>5.3.B How is matter transformed, and energy transferred/transformed in living systems?</p>	<p>5.3.6.B.2 Illustrate the flow of energy (food) through a community. Content: All animals, including humans, are consumers that meet their energy needs by eating other organisms or their products</p>	<ul style="list-style-type: none"> • Salt Marsh Activity- Student look at organism in different zones of the marsh and the prey and predator relationship • Article on Lionfish- invasive species and relationship to prey • Lab – macro-invertebrate Show relationship between pollution, temp change and sediment in water • Food web activity • Food pyramid Activity 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p>
<p>5.3.C In what ways do organisms interact within ecosystems?</p>	<p>5.3.6.C.1 Explain the impact of meeting human needs and wants on local and global environments. Content: In what ways do organisms interact within ecosystems?</p>	<ul style="list-style-type: none"> • Activity – Run off poster Use poster to determine how run off effects water • Activity – Hidden Lake – impact of fertilizer, global warming, sediment run off, acid rain on a local pond. Lionfish Article and activity 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p>

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<i>Essential Question</i> NJCCCS Standard	<i>NJCCCS</i> Skills/Objectives/ Areas of Focus	<i>Instructional Strategies</i> Activities/ Materials /Technology Interdisciplinary Connections Cultural Diversity	<i>Modifications</i> ESL / Special Education Academic Support/ G&T	<i>Assessments</i> Formative Summative Benchmarks	<i>Pacing</i>
<p>5.3.C In what ways do organisms interact within ecosystems?</p>	<p>5.3.6.C.2 Predict the impact that altering biotic and abiotic factors has on an ecosystem. Content: The number of organisms and populations an ecosystem can support depends on the biotic resources available and on abiotic factors, such as quantities of light and water, range of temperatures, and soil composition.</p>	<ul style="list-style-type: none"> • Hidden Lake Activity • Introduction to organisms in chapter 1 go over abiotic and biotic with definition and picture activity. • Macroinvertebrate lab • Earth History Unit 6 – Geological Timeline. Read about Era and organism within each era. Design a chart showing changes and development of Earth’s organisms. 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • extended time • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p> <p>1 wk</p>
<p>5.3.C In what ways do organisms interact within ecosystems?</p>	<p>5.3.6.C.3 Describe how one population of organisms may affect other plants and/or animals in an ecosystem. Content: All organisms cause changes in the ecosystem in which they live. If this change reduces another organism’s access to resources, that organism may move to another location or die.</p>	<ul style="list-style-type: none"> • Salt Marsh Activity • Food Web Activity 			<p>1 wk</p>

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<p>5.3.D How do organisms change as they go through their life cycle?</p>	<p>5.3.6.D.1 Predict the long-term effect of interference with normal patterns of reproduction.</p> <p>Content: Reproduction is essential to the continuation of every species.</p> <p>5.3.6.D.2 Explain how knowledge of inherited variations within and between generations is applied to farming and animal breeding</p> <p>Content: Variations exist among organisms of the same generation (e.g., siblings) and of different generations (e.g., parent to offspring).</p>	<ul style="list-style-type: none"> • Demonstrate how certain genes interact in pairs to express dominant or recessive traits. • Discover by experimentation how Gregor Mendel established the fundamentals of heredity. • Observe evidence of the advantage of using large sample sizes when conducting an inquiry. • Identify homozygous and heterozygous gene pairs. • Participate in a simulation of meiosis and fertilization • Demonstrate an understanding of the difference between genotype and phenotype. • Use a Punnet square to show how genes may pair during a genetic cross • Create cartoon characters and offspring with traits determined by random pairings of genes. • Develop written dichotomous keys for various organisms pictured on student sheets. • Create a graphical and written dichotomous key for 13 of the organisms on the organisms' photo cards. • See Earth History Curriculum 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>3 wks</p> <p>1 wk</p>
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<p>5.3.E Evolution and Diversity: Sometimes, differences between organisms of the same kind provide advantages for surviving and reproducing in different environments. These selective differences may lead to dramatic changes in characteristics of organisms in a population over extremely long periods of time.</p> <p>In what ways are organisms of the same kind different from each other? How does this help them reproduce and survive?</p>	<p>5.3.6.E.1 Describe the impact on the survival of species during specific times in geologic history when environmental conditions changed.</p> <p>Content: Changes in environmental conditions can affect the survival of individual organisms and entire species</p>	<p>for activities</p> <ul style="list-style-type: none"> • Salt Marsh Lab- Shows different zones within the marsh and the organism in each zone • Compare salt marsh ecosystem 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p> <p>1 wk</p>
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<p>5.4.G Biogeochemical Cycles: The biogeochemical cycles in the Earth System include the flow of microscopic and macroscopic resources from one reservoir in hydrosphere, geosphere, atmosphere, or biosphere to another, are driven by the Earth's internal and external sources of energy, and are impacted by human activity.</p> <p>How do changes in one part of the Earth system affect other parts of the system and in what ways can Earth processes be explained as interactions among spheres?</p>	<p>5.4.6.G.2 Create a model of ecosystems in two different locations, and compare and contrast the living and nonliving components.</p> <p>Content: An ecosystem includes all of the plant and animal populations and nonliving resources in a given area. Organisms interact with each other and with other components of an ecosystem.</p>	<p>to pond ecosystem by marsh activity and creating and observing pond</p> <ul style="list-style-type: none"> • Study of the 5 Kingdoms and 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p>
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<p>5.3.8.A Organization and Development: Living organisms are composed of cellular units (structures) that carry out functions required for life. Cellular units are composed of molecules, which also carry out biological functions.</p> <p>What do all living things have in common?</p>	<p>5.3.8.A.1 Compare the benefits and limitations of existing as a single or multicellular organism.</p> <p>5.3.8.A.2 Relate the structures of cells, tissues, organs and systems to their functions in supporting life.</p> <p>Content: All organisms are composed of cell(s). In multicellular organisms, specialized cells perform specialized functions.</p> <p>Tissues, organs and organ systems are composed of cells and function to serve the needs of cells for food, air, and waste removal.</p>	<p>the comparison of the different kingdom. Essay of the benefits and disadvantage of single celled vs. multi-celled.</p> <p>• Body system to cells – CD.</p>	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p>
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<p>5.3.8. A Organization and Development: Living organisms are composed of cellular units (structures) that carry out functions required for life. Cellular units are composed of molecules, which also carry out biological functions.</p> <p>What do all living things have in common?</p> <p>5.3.B How is matter transformed, and energy transferred/transformed in living systems?</p>	<p>5.3.8.A.2 Relate the structures of cells, tissues, organs and systems to their functions in supporting life Content: During the early development of an organism, cells differentiate and multiply to form the many specialized cells, tissues, and organs that compose the final organism. Tissues grow through cell division.</p> <p>5.3.8.B.1 Relate the energy and nutritional needs of organisms in a variety of life stages and situations, including stages of development and periods of maintenance Content: Food is broken down to provide energy for the work that cells do, and is a source of the molecular building blocks from which needed materials are assemble</p>	<p>Draw system and show how food or oxygen moves through system</p> <ul style="list-style-type: none"> • Draw and compare skin and nerve cells • Grow of butterfly from egg to adult showing life cycle and measuring growth. • Observing different food needs between larva and butterfly. • Salt Marsh Activity and Food 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p> <p>2 wks</p>
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<p>5.3.8. B Matter and Energy Transformations: Food is required for energy and building cellular materials. Organisms in an ecosystem have different ways of obtaining food, and some organisms obtain their food directly from other organisms.</p> <p>How is matter transformed, and energy transferred/transformed in living systems?</p> <p>5.3.8.C. Interdependence: All animals and most plants depend on both other organisms and their environment to meet their basic needs.</p> <p>In what ways do organisms interact within ecosystems?</p>	<p>5.3.8.B.2 Analyze the components of a consumer’s diet and trace them back to plants and plant products.</p> <p>Content: All animals, including humans, are consumers that meet their energy needs by eating other organisms or their products.</p> <p>5.3.8.C.1 Model the effect of positive and negative changes in population size on a symbiotic pairing.</p> <p>Content: Symbiotic interactions among organisms of different species can be classified as:</p> <ul style="list-style-type: none"> • Producer/consumer • Predator/prey • Parasite/host • Scavenger/prey • Decomposer/prey 	<p>web created by student</p> <ul style="list-style-type: none"> • Salt Marsh Activity showing symbiotic relationships. • Voc cards activity with drawing in relationship to food chain. • Lionfish Activity on prey and predator. • Blackworm Lab – Students cut 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>1 wk</p> <p>1 wk</p>
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Grade: 7

Date: Revised July, 2011 ¹⁹

<p>5.3.8.D. Heredity and Reproduction: Organisms reproduce, develop, and have predictable life cycles. Organisms contain genetic information that influences their traits, and they pass this on to their offspring during reproduction</p> <p>How do organisms change as they go through their life cycle?</p>	<p>5.3.8.D.1 Defend the concept that through reproduction, genetic traits are passed from one generation to the next using evidence collected from observations of inherited traits</p> <p>Content: Some organisms reproduce asexually. In these organisms, all genetic information comes from a single parent. Some organisms reproduce sexually through which half of the genetic information comes from each parent.</p>	<p>blackworm and observe for signs of regeneration (asexual) by measuring the length.</p> <ul style="list-style-type: none"> ● Observe a flower parts and cross pollinate the WFP. Observe the Wisconsin Fast Plants sprouts for clues about an inherited trait. ● Demonstrate how certain genes interact in pairs to express dominant or recessive traits. <p>● Discover by experimentation</p>	<ul style="list-style-type: none"> ● KWL charts ● cooperative learning groups ● learning centers ● extended time ● reduced number of questions ● smaller groups ● reduced group discussion time ● high interest/lower level selections ● copies of class notes ● anticipatory guides ● chapter summaries ● books on tape ● shorter reading passages assigned ● individualized mini-lessons ● typed vocabulary lists with definitions ● modified rubric ● varied notebook entry requirements ● graphic organizers 	<ul style="list-style-type: none"> ● Pre-unit assessment ● Class and team discussions ● Notebooks ● Class discussion ● Teacher observation ● Anecdotal notes ● NJASK 	<p>1 wk</p>
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New Jersey Core Curriculum Content Standard Area: SCIENCE

Topic/Course: Organisms

Grade: 7

Date: Revised July, 2011²⁰

<p>Strand D. Heredity and Reproduction: Organisms reproduce, develop, and have predictable life cycles. Organisms contain genetic information that influences their traits, and they pass this on to their offspring during reproduction</p> <p>How do organisms change as they go through their life cycle?</p>	<p>5.3.8.D.2 Explain the source of variation among siblings.</p> <p>Content: The unique combination of genetic material from each parent in sexually reproducing organisms results in the potential for variation.</p>	<p>how Gregor Mendel established the fundamentals of heredity.</p> <ul style="list-style-type: none"> • Observe evidence of the advantage of using large sample sizes when conducting an inquiry. • Identify homozygous and heterozygous gene pairs. • Participate in a simulation of meiosis and fertilization • Demonstrate an understanding of the difference between genotype and phenotype. • Use a Punnet square to show how genes may pair during a genetic cross • Create cartoon characters and offspring with traits determined by random pairings of genes. • Develop written dichotomous keys for various organisms pictured on student sheets. • Create as graphical and written dichotomous key for 13 of the organisms on the organisms' photo cards. 	<ul style="list-style-type: none"> • KWL charts • cooperative learning groups • learning centers • extended time • reduced number of questions • smaller groups • reduced group discussion time • high interest/lower level selections • copies of class notes • anticipatory guides • chapter summaries • books on tape • shorter reading passages assigned • individualized mini-lessons • typed vocabulary lists with definitions • modified rubric • varied notebook entry requirements • graphic organizers 	<ul style="list-style-type: none"> • Pre-unit assessment • Class and team discussions • Notebooks • Class discussion • Teacher observation • Anecdotal notes • NJASK 	<p>2 wks</p>
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