

FOSS and DSM

Correlation

Grades K-8

to the
North Carolina
Standards

September 2004



| GRADE LEVEL | NORTH CAROLINA STANDARDS | GRADE APPROPRIATE FOSS and/or DSM MODULE |
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| Grade K | | |
| Competency Goal 1: The learner will make observations and build an understanding of similarities and differences in animals. | | |
| K | 1.01 Observe and describe the similarities and differences in animals including: -Structure -Growth -Change -Movement. | FOSS Animals Two by Two Investigation 1, 3 and 4, pgs 10-16, 22-29; Investigation 2, Parts 1-4, pgs 9-24; Investigation 3, Parts 1-3, pgs 8-20; Investigation 4, Parts 1-3, pgs 8-19; Investigation 5, Parts 3 and 4, pgs 20-27 FOSS Animals Two by Two Science Stories , All Stories, pgs 3-24 |
| K | 1.02 Observe how animals interact with their surroundings. | FOSS Animals Two by Two Investigation 1, Part 3, pgs 22-25; Investigation 2, Part 1, pgs 9-13; Investigation 5, Part 4, pgs 25-27; FOSS Animals Two by Two Science Stories , "Goldfish and Guppies", pgs 4, 6, "Big and Little Worms", pg 12, "Isopods", pg 16 |
| K | 1.03 Observe the behaviors of several common animals | FOSS Animals Two by Two Investigation 1, Part 3, pgs 22-25 Investigation 2, Part 1, pgs 9-13 Investigation 5, Part 4, pgs 25-27 FOSS Animals Two by Two Science Stories , "Goldfish and Guppies", pg 6, "Land and Water Snails", pg 9, 10, "Big and Little Worms, pg 12 |
| K | 1.04 Demonstrate how to care for a variety of animals. | FOSS Animals Two by Two Investigation 1, Part 2, pgs 17-21 Investigation 4, Part 4, pgs 20-23 Investigation 5, Part 1, pgs 10-15 |
| K | 1.05 Observe the similarities of humans to other animals including: -Basic needs -Growth and change -Movement | "Animals Two By Two" book by Dr. Lowery and Reading Connections section of teacher guide, pg 14 |
| Competency Goal 2: The learner will make observations and build an understanding of weather concepts. | | |
| K | 2.01 Observe and report daily weather changes throughout the year. | FOSS Trees Investigation 3, Part 3, pgs 15-18; Reading Connection folio, pgs 12-13; FOSS Trees Science Stories , "My Apple Trees", pgs 14-17; "Orange Trees", pgs 18-21; "Maple Trees", pgs 22-24. DSM Weather Watching Activity 1, pgs 13-20; DSM Weather Watching Student Reader , pgs 2-3, 8-9, 10. |
| K | 2.02 Identify different weather features including: -Precipitation -Wind -Temperature -Cloud cover. | FOSS Trees Investigation 3, Part 3, pgs 15-18; Reading Connection folio, pgs 12-13; FOSS Trees Science Stories , "My Apple Trees", pgs 14-17; "Orange Trees", pgs 18-21; "Maple Trees", pgs 22-24. DSM Weather Watching Activity 2, pgs 21-28; Activity 3, pgs 29-36; Activity 4, pgs 37-44; Activity 5, pgs 45-50; Activity 6, pgs 51-60; Activity 7, pgs 61-68. DSM Weather Watching Student Reader , pgs 2-3, 4-5, 6-7. |

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| K | 2.03 Identify types of precipitation, changes in wind, force, direction, and sky conditions. | FOSS Trees Investigation 3, Part 3, pgs 15-18; Reading Connection folio, pgs 12-13; FOSS Trees Science Stories , "My Apple Trees", pgs 14-17; "Orange Trees", pgs 18-21; "Maple Trees", pgs 22-24. DSM Weather Watching Activity 2, pgs 21-28; Activity 3, pgs 29-36; Activity 4, pgs 37-44; Activity 5, pgs 45-50; Activity 6, pgs 51-60; Activity 7, pgs 61-68. DSM Weather Watching Student Reader , pgs 2-3, 4-5, 6-7. |
| K | 2.04 Observe and determine the effects of weather on human activities. | DSM Weather Watching Activity 1, pgs 13-20; Activity 8, pgs 69-76; Activity 9, pgs 77-86. DSM Weather Watching Student Reader pgs 2-3, 8-9, 10, 11, 12, 13. |
| K | 2.05 Use common tools to measure weather. | DSM Weather Watching Activity 2, pgs 21-28; Activity 4, pgs 37-44; DSM Weather Watching Student Reader pgs 6-7. |
| Competency Goal 3: The learner will make observations and build an understanding of the properties of common objects. | | |
| K | 3.01 Observe and describe the properties of different kinds of objects (clay, wood, cloth, paper, other) and how they are used. | DSM Properties , Activity 1, pgs 13-18; Activity 2, pgs 19-24; Activity 5, pgs 41-46; DSM Properties Student Reader pgs 3, 4, 6, 7, 14. |
| K | 3.02 Develop and use a vocabulary associated with the properties of materials -Color -Size -Shape -Texture | DSM Properties , Activity 3, pgs 26-32; Activity 4, pgs 33-40; Activity 5, pgs 41-46; DSM Properties Student Reader pgs 3, 4, 5, 7, 9, 12. |
| K | 3.03 Describe how objects look, feel, smell, taste, and sound using their own senses. | DSM Properties , Activity 1, pgs 13-18; DSM Properties Student Reader pgs 3, 4, 6, 7, 14. |
| K | 3.04 Observe that objects can be described and sorted by their properties | DSM Properties , Activity 1, pgs 13-18; Activity 2, pgs 19-24; Activity 12, pgs 87-94; DSM Properties Student Reader pgs 3, 4, 6, 7, 14. |
| K | 3.05 Identify some common objects and organisms that are considered to be natural resources in our world. | DSM Properties , Activity 12, pgs 87-94; |
| Competency Goal 4: The learner will use appropriate tools and measurement to increase their ability to describe their world. | | |
| K | 4.01 Describe how tools can be used to make comparisons. | FOSS Wood and Paper Investigation 1, Parts 3-5, pgs 20-32 Investigation 3, Part 2, pgs 13-17 |
| K | 4.02 Observe and describe how tools and units of measure are useful: -Scissors -Pencils -Crayons -Paper clips -Hammers | FOSS Wood and Paper Investigation 1, Parts 4 and 5, pgs 24-32 Investigation 2, Part 1, pgs 8-11 |
| K | 4.03 Use nonstandard units of measure to describe and compare objects. | FOSS Wood and Paper Investigation 1, Parts 4 and 5, pgs 24-32 |

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| K | 4.04 Demonstrate the use of standard units of measure and compare with nonstandard units of measure. (Teacher demonstration) | FOSS Wood and Paper Investigation 1, Parts 4, pgs 25-27. |
| K | 4.05 Demonstrate that standard units of measure produce more consistent results than nonstandard units allowing information to be shared. (teacher demonstration) | FOSS Wood and Paper Investigation 1, Parts 4, pgs 25-27. |

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| GRADE 1 | | |
| Competency Goal 1: The learner will conduct investigations and make observations to build an understanding of the needs of living organisms. | | |
| 1 | 1.01 Investigate the needs of a variety of different plants: -Air -Water -Light -Space | FOSS New Plants Investigation 1, Part 2, pgs 13-22 Investigation 2, Part 1, pgs 8-14 Investigation 3, Part 1, pgs 8-13 FOSS New Plants Science Stories , "What Do Plants Need?", pgs 3-7 |
| 1 | 1.02 Investigate the needs of a variety of different animals: -Air -Water -Food -Shelter -Space | FOSS New Plants Science Stories , "Plant & Animals Around the World", pgs 22-39; "Animal Teeth", pgs 40-43 |
| 1 | 1.03 Observe the ways in which humans are similar to other organisms | FOSS New Plants Science Stories , "Animal Teeth", pgs 40-43 |
| 1 | 1.04 Identify local environments that support the needs of common North Carolina plants and animals. | FOSS New Plants Science Stories , "What Do Plants Need?", pgs 3-7; "How Seeds Travel", pgs 8-11; "Flowers & Seeds", pgs 12-15. |
| 1 | 1.05 Discuss the wide variety of living things on Earth. | FOSS New Plants All Investigations FOSS New Plants Science Stories , "How Seeds Travel", pgs 8-11, "Flowers and Seeds", pgs 12-15, "Plants and Animals Around the World", pgs 22-39 |
| Competency Goal 2: The learner will make observations and use student-made rules to build an understanding of solid earth materials. | | |
| 1 | 2.01 Describe and sort a variety of earth materials based on their properties: Color, Hardness, Shape, Size | FOSS Pebbles, Sand, and Silt Investigation 1, Parts 1-4, pgs 8-25; Investigation 2, Parts 1-3, pgs 8-23; Investigation 4, Part 1, pgs 8-14 |
| 1 | 2.02 Describe rocks and other earth materials in more than one way using student-made rules. | FOSS Pebbles, Sand, and Silt Investigation 1, Parts 3 and 4, pgs 18-25 |
| 1 | 2.03 Observe the various components that combine to make soil | FOSS Pebbles, Sand, and Silt Investigation 4, Part 1, pgs 8-14 FOSS Pebbles, Sand, and Silt Science Stories , "What is in Soil?", pgs 20-21 |
| 1 | 2.04 Compare the components of soil samples from different places | FOSS Pebbles, Sand, and Silt Investigation 4, Part 2 and 3, pgs 15-25; FOSS Pebbles, Sand, and Silt Science Stories , "What is in Soil?", pg 23 |
| 1 | 2.05 Explore where useful earth materials are found and how they are used. | FOSS Pebbles, Sand, and Silt Investigation 3, Parts 1, 2, 5, pgs 8-15, 24-29 FOSS Pebbles, Sand, and Silt Science Stories , "Making Things with Rocks", pgs 16-19 |

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| Competency Goal 3: The learner will make observations and conduct investigations to build an understanding of the properties and relationships of objects. | | |
| 1 | 3.01 Describe the differences in the properties of solids and liquids. | FOSS Solids and Liquids Investigation 1, Part 1, pgs 8-16; Investigation 2, Parts 1 and 2, pgs 10-20 FOSS Solids and Liquids Science Stories , "Solids to Liquids and Back Again", pgs 4-13 |
| 1 | 3.02 Investigate several ways in which objects can be described, sorted or classified. | FOSS Solids and Liquids Investigation 1, Part 2, pgs 17-20 Investigation 3, Parts 2 and 4, pgs 14-18, 24-27 |
| 1 | 3.03 Classify solids according to their properties: -Color -Texture -Shape (ability to roll or stack) -Ability to float or sink in water (buoyancy) | FOSS Solids and Liquids Investigation 1, Part 2, pgs 17-20 Investigation 3, Part 2 and 4, pgs 14-19, 24-27 FOSS Solids and Liquids Science Stories , "Everything Matters", pg 6, "Solids and Liquids", pgs 8-9 |
| 1 | 3.04 Determine the properties of liquids: -Color -Ability to float or sink in water (buoyancy) -Tendency to flow | FOSS Solids and Liquids Investigation 2, Parts 1-3, pgs 10-27 FOSS Solids and Liquids Science Stories , "Solids and Liquids", pgs 11-12 |
| 1 | 3.05 Observe mixtures including: -Solids with solids -Liquids with liquids -Solids with liquids | FOSS Solids and Liquids Investigation 3, Parts 2 and 4, pgs 14-18, 24-27 Investigation 4, Parts 1 and 2, pgs 7-22 FOSS Solids and Liquids Science Stories , "Mix It Up!", pgs 18-21 |
| Competency Goal 4: The learner will make observations and conduct investigations to build an understanding of balance, motion and weighing of objects. | | |
| 1 | 4.01 Describe different ways in which objects can be moved. | FOSS Balance and Motion Investigation 2, Parts 1-3, pgs 8-25 Investigation 3, Parts 1-3, pgs 6-25 FOSS Balance and Motion Science Stories , "Push or Pull?", pgs 10-13, "Tools and Machines", pgs 14-17, "Move It, But Don't Touch It", pgs 18-21, "Things That Spin", pgs 22-25, "Rolling, Rolling, Rolling!", pgs 26-31 |
| 1 | 4.02 Observe that movement of an object can be affected by pushing or pulling. | FOSS Balance and Motion Investigation 2, Parts 1-3, pgs 8-25 Investigation 3, Parts 1-3, pgs 6-25 FOSS Balance and Motion Science Stories , "Push or Pull?", pgs 10-13, "Tools and Machines", pgs 14-17, "Move It, But Don't Touch It", pgs 18-21 |
| 1 | 4.03 Investigate and observe that objects can move steadily or change direction. | FOSS Balance and Motion Investigation 2, Parts 1-3, pgs 8-25 Investigation 3, Parts 1-3, pgs 6-25 |
| 1 | 4.04 Observe and describe balance as a function of position and weight. | FOSS Balance and Motion Investigation 1, Parts 1-4, pgs 8-28 FOSS Balance and Motion Science Stories , "Make It Balance", pgs 3-9 |
| 1 | 4.05 Describe and observe systems that are unstable and modify them to reach equilibrium. | Balance and Motion Investigation 1, Parts 1-4, pgs 8-28 |

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| GRADE 2 | | |
| Competency Goal 1: The learner will conduct investigations and build an understanding of animal life cycles. | | |
| 2 | 1.01 Describe the life cycle of animals: -Birth -Developing into an adult -Reproducing -Aging and death. | FOSS Insects Investigation 1, Parts 1-3, pgs 8-25 Investigation 2, Parts 1-3, pgs 8-24 Investigation 3, Parts 1-3, pgs 8-26 Investigation 4, Parts 1-5, pgs 10-31 Investigation 5, Parts 1-3, pgs 10-24 FOSS Insects Science Stories , "Insect Life Cycles", pgs 16-21, "Life Goes Around", pgs 22-33 |
| 2 | 1.02 Observe that insects need food, air and space to grow. | FOSS Insects Investigation 1, Part 1, pgs 8-15; Investigation 2, Part 1, pgs 8-13; Investigation 3, Part 2, pgs 12-20; Investigation 4, Part 2, pgs 14-18; Investigation 5, Part 1, pgs 10-15 |
| 2 | 1.03 Observe the different stages of an insect life cycle. | FOSS Insects Investigation 1, Parts 1-3, pgs 8-25; Investigation 2, Parts 1-3, pgs 8-24; Investigation 3, Parts 1-3, pgs 8-26 Investigation 4, Parts 1-5, pgs 10-31; Investigation 5, Parts 1-3, pgs 10-24. FOSS Insects Science Stories , "Insect Life Cycles", pgs 16-21, "Life Goes Around", pgs 22-25 |
| 2 | 1.04 Compare and contrast life cycles of other animals such as mealworms, ladybugs, crickets, guppies, or frogs. | FOSS Insects Science Stories , "Insect Life Cycles, pgs 16-21, "Life Goes Around", pgs 22-33 |
| Competency Goal 2: The learner will conduct investigations and use appropriate tools to build an understanding of the changes in weather. | | |
| 2 | 2.01 Investigate and describe how moving air interacts with objects. | FOSS Air and Weather Investigation 1, Parts 1, 4-6, pgs 8-12, 21-38 Investigation 3, Parts 1, 3, 4, pgs 8-11, 17-27 FOSS Air and Weather Science Stories , "What Is All Around Us?", pgs 1-6 |
| 2 | 2.02 Observe the force of air pressure pushing on objects | FOSS Air and Weather Investigation 1, Parts 4 and 5, pgs 21-33 |
| 2 | 2.03 Describe weather using quantitative measures of: -Temperature -Wind direction -Wind speed -Precipitation | FOSS Air and Weather Investigation 2, Parts 1, 2, 4, pgs 8-19, 24-27 Investigation 3, Parts 2 and 4, pgs 12-16, 22-27 |
| 2 | 2.04 Identify and use common tools to measure weather: -Wind vane and anemometer -Thermometer -Rain gauge | FOSS Air and Weather Investigation 2, Parts 1, 2, 4, pgs 8-19, 24-27 Investigation 3, Parts 2 and 4, pgs 12-16, 22-27 |
| 2 | 2.05 Discuss and determine how energy from the sun warms the land, air, and water | FOSS Air and Weather Investigation 2, Part 2, pgs 14-19 FOSS Air and Weather Science Stories , "Seasons", pgs 20-21 |
| 2 | 2.06 Observe and record weather changes over time and relate to time of day and time of year | FOSS Air and Weather Investigation 2, Part 1, pgs 8-13 Investigation 4, Parts 1 and 2, pgs 8-18 |

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| Competency Goal 3: The learner will observe and conduct investigations to build an understanding of changes in properties. | | |
| 2 | 3.01 Identify three states of matter: -Solid -Liquid -Gas | DSM States of Matter Activity 1, pgs 13-18; Activity 2, pgs 19-26; Activity 3, pgs 27-34; DSM States of Matter Student Reader pgs 4, 5, 6, 8, 9, 10. |
| 2 | 3.02 Observe changes in state due to heating and cooling of common materials. | DSM States of Matter , Activity 4, pgs 35-42; Activity 7, pgs 57-64; Activity 11, pgs 89-96 DSM States of Matter Student Reader , pgs 8, 9, 10 |
| 2 | 3.03 Explain how heat is produced and can move from one material or object to another. | DSM States of Matter , Activity 8, pgs 65-72 DSM States of Matter Student Reader , pgs 8-9 |
| 2 | 3.04 Show that solids, liquids, and gases can be characterized by their properties. | DSM States of Matter , Activity 1, pgs 13-18; Activity 2, pgs 19-26; Activity 3, pgs 27-34 DSM States of Matter Student Reader , pg 2 |
| 2 | 3.05 Investigate and observe how mixtures can be made by combining solids, liquids, or gases and how they can be separated again. | DSM States of Matter , Activity 8, pgs 65-72; Activity 9, pgs 73-80; Activity 10, pgs 81-88; DSM States of Matter Student Reader , pgs 7-11. |
| 2 | 3.06 Observe that a new material is made by combining two or more materials with different properties from the original material. | DSM States of Matter , Activity 12, pgs 97-102; DSM States of Matter Student Reader , pg 12 |
| Competency Goal 4: The learner will conduct investigations and use appropriate technology to build an understanding of the concepts of sound. | | |
| 2 | 4.01 Demonstrate how sound is produced by vibrating objects and vibrating columns of air. | FOSS Physics of Sound , Investigation 2; FOSS Physics of Sound Science Stories , "Highs & Lows, pgs 11-13; "Making Waves", pg 14; "Sound Off!", pgs 15-16; "Scoping Our Sound", pg 17. DSM Sound , Activity 1, pgs 13-20; Activity 2, pgs 21-28 DSM Sound Student Reader pgs 2-3, 6-7. |
| 2 | 4.02 Show how the frequency can be changed by altering the rate of the vibration | FOSS Physics of Sound , Investigation 2; FOSS Physics of Sound Science Stories , "Highs & Lows, pgs 11-13; "Making Waves", pg 14; "Sound Off!", pgs 15-16; "Scoping Our Sound", pg 17. DSM Sound , Activity 8, pgs 67-72; Activity 12, pgs 99-105 DSM Sound Student Reader , pgs 6-7, 12-13 |
| 2 | 4.03 Show how the frequency can be changed by altering the size and shape of a variety of instruments. | FOSS Physics of Sound , Investigation 2; FOSS Physics of Sound Science Stories , "Highs & Lows, pgs 11-13; "Making Waves", pg 14; "Sound Off!", pgs 15-16; "Scoping Our Sound", pg 17. DSM Sound , Activity 8, pgs 67-72; Activity 9, pgs 73-82; Activity 10, pgs 83-90. DSM Sound Student Reader , pgs 6-7, 12-13 |
| 2 | 4.04 Show how the human ear detects sound by having a membrane that vibrates when sound reaches it. | FOSS Physics of Sound , Investigation 1, Part 3, pgs 25-29 FOSS Physics of Sound Science Stories , "Your Source & Receiver", pgs 9-10 DSM Sound , Activity 4, pgs 37-44 DSM Sound Student Reader , pgs 10-11, 14. |

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| 2 | 4.05 Observe and describe how sounds are made by using a variety of instruments and other "sound makers" including the human vocal cords. | FOSS Physics of Sound , Investigation 2; FOSS Physics of Sound Science Stories , "Your Source & Receiver", pgs 9-10 DSM Sound , Activity 7, pgs 59-66; Activity 8, pgs 67-72 DSM Sound Student Reader , pgs 6-7, 9 |

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| Grade 3 | | |
| Competency Goal 1: The learner will conduct investigations to build an understanding of plant growth and adaptations. | | |
| 3 | 1.01 Observe and measure how the quantities and qualities of nutrients, light, and water in the environment affect plant growth. | FOSS Structures of Life Investigation 2, Parts 2 and 3, pgs 8-22 |
| 3 | 1.02 Observe and describe how environmental conditions determine how well plants survive and grow in a particular environment. | FOSS Structures of Life Investigation 2, Science Extension, pg 24 |
| 3 | 1.03 Investigate and describe how plants pass through distinct stages in their life cycle: -Growth -Survival -Reproduction | FOSS Structures of Life Investigation 2, Parts 1-3, pgs 8-22 FOSS Web, Activity: Life Cycles |
| 3 | 1.04 Explain why the number of seeds a plant produces depends on variables such as light, water, nutrients, and degree of pollination. | FOSS Structures of Life Investigation 1, Parts 1-3, pgs 8-22 |
| 3 | 1.05 Observe and discuss how bees pollinate flowers | |
| 3 | 1.06 Observe, describe and record properties of germinating seeds | FOSS Structures of Life Investigation 1, Parts 2 and 3, pgs 8-33 Investigation 2, Part 1, pgs 8-13 |
| Competency Goal 2: The learner will conduct investigations to build an understanding of soil properties. | | |
| 3 | 2.01 Observe and describe the properties of soil such as color, texture, and capacity to retain water. | DSM Soil Science , Activity 1, pgs 15-20; Activity 2, pgs 21-28; Activity 3, pgs 29-36; Activity 4, pgs 37-44; Activity 7, pgs 59-68 DSM Soil Science Student Reader , pgs 2-3, 7-8 |
| 3 | 2.02 Investigate and observe that different soils absorb water at different rates | DSM Soil Science Student Reader , pgs 7-8 |
| 3 | 2.03 Determine the ability of soil to support the growth of many plants, including those important to our food supply. | DSM Soil Science , Activity 7, pgs 59-68; Activity 8, pgs 69-80; Activity 10, pgs 91-98 DSM Soil Science Student Reader , pgs 7-8, 10-12 |
| 3 | 2.04 Identify the basic components of soil: -Sand -Clay -Humus | DSM Soil Science , Activity 2, pgs 21-28; Activity 3, pgs 29-36; Activity 4, pgs 37-44 DSM Soil Science Student Reader , pgs 2-3, 7-8 |
| 3 | 2.05 Determine how composting can be used to recycle discarded plant and animal material | DSM Soil Science Student Reader , pg 12 |
| 3 | 2.06 Determine the relationship between heat and decaying plant matter in a compost pile | |

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| Competency Goal 3: The learner will make observations and use appropriate technology to build an understanding of the earth/moon/sun system. | | |
| 3 | 3.01 Observe that light travels in a straight line until it strikes an object and is reflected and/or absorbed | FOSS Ideas and Inventions Investigation 4, Parts 1-3, pgs 8-21 FOSS Ideas and Inventions Science Stories , "Light and Reflection", pgs 28-29 |
| 3 | 3.02 Observe that objects in the sky have patterns of movement including: Sun, Moon, Stars | FOSS Ideas and Inventions Science Stories , "Looking at the Sky", pgs 33-36 |
| 3 | 3.03 Using shadows, follow and record the apparent movement of the sun in the sky during the day | FOSS Ideas and Inventions Science Stories , "Looking at the Sky", pg 33 |
| 3 | 3.04 Use appropriate tools to make observations of the moon. | FOSS Ideas and Inventions Science Stories , "Looking at the Sky", pgs 33-38 |
| 3 | 3.05 Observe and record the change in the apparent shape of the moon from day to day over several months and describe the pattern of changes | FOSS Ideas and Inventions Science Stories , "Looking at The Sky", pg 37 |
| 3 | 3.06 Observe that patterns of stars in the sky stay the same, although they appear to move across the sky nightly | FOSS Ideas and Inventions Science Stories , "Looking at The Sky", pg 37 |
| Competency Goal 4: The learner will conduct investigations and use appropriate technology to build an understanding of the form and function of the skeletal and muscle systems of the human body. | | |
| 3 | 4.01 Identify the skeleton as a system of the human body. | FOSS Human Body Investigation 1, Parts 1 and 2, pgs 8-20 FOSSWeb, Activity: Mr. Bones FOSS Human Body Science Stories , "A Marvelous Machine", pgs 1-3 |
| 3 | 4.02 Describe several functions of bones: -Support -Protection -Locomotion | FOSS Human Body Investigation 1, Parts 1 and 2, pgs 8-20 FOSS Human Body Science Stories , "A Marvelous Machine", pgs 1-3 |
| 3 | 4.03 Describe the functions of different types of joints: -Hinge -Ball and socket -Gliding | FOSS Human Body Investigation 2, Parts 1-4, pgs 8-25 FOSS Human Body Science Stories , "Comparing Joints", pgs 12-13 |
| 3 | 4.04 Describe how different kinds of joints allow movement and compare this to the movement of mechanical devices. | FOSS Human Body Investigation 2, Parts 1-4, pgs 8-25 Investigation 2, Science Extension, pg 32 FOSS Human Body Science Stories , "Comparing Joints", pgs 12-13 |
| 3 | 4.05 Observe and describe how muscles cause the body to move. | FOSS Human Body Investigation 3, Parts 1-3, pgs 8-21 FOSS Human Body Science Stories , "Muscles", pgs 14-15, "Muscles and Bones: Working Together", pg 16 |

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| GRADE 4 | | |
| Competency Goal 1: The learner will make observations and conduct investigations to build an understanding of animal behavior and adaptation. | | |
| 4 | 1.01 Observe and describe how all living and non-living things affect the life of a particular animal including: Other animals, Plants, Weather, Climate | FOSS Environments , Investigation 1 FOSS Environments Science Stories , "Amazon Rainforest Journal", pgs 1-8; "Terrestrial Environments Around the World", pgs 9-17 |
| 4 | 1.02 Observe and record how animals of the same kind differ in some of their characteristics and discuss possible advantages and disadvantages of this variation (atlas p 83) | FOSS Environments , Investigation 2 FOSS Environments Science Stories , "Beetles", pgs 18-20; "The Darkling Beetle", pg 21. |
| 4 | 1.03 Observe and discuss how behaviors and body structures help animals survive in a particular habitat. | |
| 4 | 1.04 Explain and discuss how humans and other animals can adapt their behavior to live in changing habitats. | FOSS Environments , Investigation 2, Part 2, pgs 16-21; FOSS Environments Science Stories , "Terrestrial Environments Around the World", pgs 9-17 |
| 4 | 1.05 Recognize that humans can learn about themselves better by learning about other animals. (atlas p 83) | |
| Competency Goal 2: The learner will conduct investigations and use appropriate technology to build an understanding of the composition and uses of rocks and minerals. | | |
| 4 | 2.01 Describe and evaluate the properties of a several minerals. | FOSS Earth Materials Investigation 2, Parts 1 and 2, pgs 8-21; Investigation 4, Part 1, pgs 8-13 FOSS Earth Materials Science Stories , "Digging It Up: Mining for Minerals", pgs 12-13, "Birthstones: A Mineral for Each Month, pgs 14-15, "Identifying Minerals", pgs 30-33 |
| 4 | 2.02 Recognize that minerals have a definite chemical composition and structure resulting in specific physical properties including: -Hardness -Streak color -Luster -Magnetism | FOSS Earth Materials Investigation 2, Parts 1 and 2, pgs 8-21; Investigation 4, Part 1, pgs 8-13 FOSS Earth Materials Science Stories , "Identifying Minerals", pgs 30-33 |
| 4 | 2.03 Explain how rocks are composed of minerals. | FOSS Earth Materials ; Investigation 1, Parts 2 and 3, pgs 16-29; Investigation 4, Part 1, pgs 8-13 FOSS Earth Materials Science Stories , "Identifying Minerals", pg 30 |
| 4 | 2.04 Show that different rocks have different properties. | FOSS Earth Materials Science Stories , "Where Do Ricks Come From?", pgs 34-37 |
| 4 | 2.05 Discuss and communicate the uses of rocks and minerals. | FOSS Earth Materials Investigation 3, Science Extension, pg 24; Investigation 4, Science Extension, pg 20 FOSS Earth Materials Science Stories , "Rock of Ages", pgs 24-29 |
| 4 | 2.06 Classify rocks and rock-forming minerals using student-made rules. | FOSS Earth Materials Investigation 1, Part 2, pgs 19-23 |

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| 4 | 2.06 Identify and discuss different rocks and minerals in North Carolina including their role in Geologic formations and distinguishing Geologic regions | FOSS Earth Materials Investigation 4, Part 2, pgs 14-18 FOSS Earth Materials Science Stories , "Where Do Rocks Come From?", pgs 34-37. |
| Competency Goal 3: The learner will make observations and conduct investigations to build an understanding of magnetism and electricity. | | |
| 4 | 3.01 Observe and investigate the pull of magnets on all materials made of iron and the pushes or pulls on other magnets. | FOSS Magnetism and Electricity Investigation 1, Parts 1-4, pgs 8-34 FOSS Magnetism and Electricity Science Stories , "Magnus Gets Stuck", pgs 1-4, "Magnificent Magnetic Models", pg 5, "How Magnets Interact", pg 6, "Make a Compass", pgs 7-9 |
| 4 | 3.02 Describe and demonstrate how magnetism can be used to generate electricity. | FOSS Magnetism and Electricity Science Stories , "From Rags to Science: A Story of Michael Faraday", pg 23, "Magnets and Electricity in Your Life", pgs 30-31 |
| 4 | 3.03 Design and test an electrical circuit as a closed pathway including an energy source, energy conductor, and energy receiver. | FOSS Magnetism and Electricity Investigation 2, Parts 1-4, pgs 8-29 |
| 4 | 3.04 Explain how magnetism is related to electricity | FOSS Magnetism and Electricity Investigation 4, Parts 1-3, pgs 8-22 FOSS Magnetism and Electricity Science Stories , "From Rags to Science: A Story of Michael Faraday", pg 23, "How Electromagnets Stopped a War", pgs 24-27, "Magnets and Electricity in Your Life", pgs 28-32 |
| 4 | 3.05 Describe and explain the parts of a light bulb. | FOSS Magnetism and Electricity Investigation 2, Science Extension, pg 32 FOSS Magnetism and Electricity Science Stories , "Magnets and Electricity in Your Life", pg 32 |
| 4 | 3.06 Describe and identify materials that are conductors and nonconductors of electricity. | FOSS Magnetism and Electricity Investigation 1, Part 3, pgs 20-25 |
| 4 | 3.07 Observe and investigate that parallel and series circuits have different characteristics. | FOSS Magnetism and Electricity Investigation 3, Parts 1-3, pgs 10-26 |
| 4 | 3.08 Observe and investigate the ability of electric circuits to produce light, heat, sound, and magnetic effects. | FOSS Magnetism and Electricity Investigation 1, Parts 1 and 2, pgs 8-19 Investigation 2, Parts 1 and 2, pgs 10-21 Investigation 3, Parts 1-3, pgs 8--22 Investigation 4, Parts 1 and 2, pgs 8-21 FOSS Magnetism and Electricity Science Stories , "Magnets and Electricity in Your Life", pgs 32-33 |
| 4 | 3.09 Recognize lightning as an electrical discharge and show proper safety behavior when lightning occurs | FOSS Magnetism and Electricity Science Stories , "Making Static", pg 11, "A Fictional Interview with Benjamin Franklin", pgs 12-13 |
| Competency Goal 4: The learner will conduct investigations and use appropriate technology to build an understanding of how food provides energy and materials for growth and repair of the body. | | |
| 4 | 4.01 Explain why organisms require energy to live and grow | FOSS Food and Nutrition Investigation 1 FOSS Food and Nutrition Science Stories , "Face the Facts", pgs 1-5 |

| GRADE LEVEL | NORTH CAROLINA STANDARDS | GRADE APPROPRIATE FOSS and/or DSM MODULE |
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| 4 | 4.02 Show how calories can be used to compare the chemical energy of different foods | FOSS Food and Nutrition Investigation 4 FOSS Food and Nutrition Science Stories , "Food Labels", pgs 27-29 |
| 4 | 4.03 Discuss how foods provide both energy and nutrients for living organisms | FOSS Food and Nutrition Investigations 1-4 FOSS Food and Nutrition Science Stories , "Healthy Kids", pgs 37-40 |
| 4 | 4.04 Identify starches and sugars as carbohydrates | FOSS Food and Nutrition Investigation 2 FOSS Food and Nutrition Science Stories , "Food Labels", pgs 27-29 |
| 4 | 4.05 Determine that foods are made up of a variety of components: carbohydrates, fats, proteins, water, vitamins, minerals | FOSS Food and Nutrition Investigations 1-4 FOSS Food and Nutrition Science Stories , "Vitamins", pgs 21-23 |

| GRADE LEVEL | NORTH CAROLINA STANDARDS | GRADE APPROPRIATE FOSS and/or DSM MODULE |
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| Grade 5 | | |
| Competency Goal 1: The learner will conduct investigations to build an understanding of the interdependence of plants and animals. | | |
| 5 | 1.01 Describe and compare several common ecosystems (communities of organisms and their interaction with the environment). | FOSS Environments , Investigation 4 FOSS Environments Science Stories , "Terrestrial Environments around the World", pgs 9-17, "Aquatic Environments around the World", pgs 27-35, "What is an Ecosystem?", pgs 38-41, "What Happens When Ecosystems Change?", pgs 49-52 |
| 5 | 1.02 Identify and analyze the functions of organisms within the population of the ecosystem: producers, consumers, and decomposers. | FOSS Environments , Investigation 4 FOSS Environments Science Stories , "What is an Ecosystem?", pgs 38-41, "The Mono Lake Story", pgs 43-45 |
| 5 | 1.03 Explain why an ecosystem can support a variety of organisms. | FOSS Environments , Investigation 4 FOSS Environments Science Stories , "What is an Ecosystem?", pgs 38-41; "The Mono Lake Story", pgs 43-45; "Aquatic Environments Around the World", pgs 27-35. |
| 5 | 1.04 Discuss and determine the role of light, temperature, and soil composition in an ecosystem's capacity to support life. | FOSS Environments Science Stories , "What is an Ecosystem?", pgs 38-41 |
| 5 | 1.05 Determine the interaction of organisms within an ecosystem. | FOSS Environments Investigation 4, Parts 1-3, pgs 8-22 FOSS Environments Science Stories , "What is an Ecosystem?" pgs 38-41, "The Mono Lake Story", pgs 43-45, "How Organisms Depend on Each Other", pgs 53-55 |
| 5 | 1.06 Explain and evaluate some ways that humans effect an ecosystem: habitat reduction due to development, pollutants, increased nutrients | FOSS Environments Science Stories , "Water Pollution: The Lake Erie Story", pgs 36, "Sources of Water Pollution, pg 37, "The Mono Lake Story", pgs 43-45, "What Happens When Ecosystems Change?", pgs 51-52 |
| 5 | 1.07 Determine how materials are recycled in nature | FOSS Environments FOSSWeb, Pictures: Oxygen Cycle, Nitrogen Cycle, Carbon Cycle, Water Cycle FOSS Environments Science Stories , "What is an Ecosystem?", pgs 39-41 |
| Competency Goal 2: The learner will make observations and conduct investigations to build an understanding of landforms. | | |
| 5 | 2.01 Identify and analyze forces that cause change in landforms over time. -Water and ice -Wind -Gravity | FOSS Landforms Investigation 2, Parts 1 and 2, pgs 8-22 Investigation 3, Parts 1-3, pgs 8-24 FOSSWeb, Movie: Grand Canyon Rapids FOSS Landforms Science Stories , "Rivers and Controlling the Flow", pgs 15-17, "Shapes of the Earth", pgs 25-29 |
| 5 | 2.02 Investigate and discuss the role of the water cycle and how movement of water over and through the landscape helps shape land forms | FOSS Landforms Investigation 2, Parts 1 and 2, pgs 8-22 Investigation 3, Parts 1-3, pgs 8-24 FOSSWeb, Movie: Grand Canyon Rapids FOSS Landforms Science Stories , "Rivers and Controlling the Flow", pgs 15-17 |
| 5 | 2.03 Discuss and consider the wearing away and movement of rock and soil in erosion and its importance in forming: canyons, valleys, meanders, tributaries | FOSS Landforms Investigation 2, Parts 1 and 2, pgs 8-22 FOSSWeb, Movie: Grand Canyon Rapids FOSS Landforms Science Stories , "Rivers and Controlling the Flow", pgs 15-17 |

| GRADE LEVEL | NORTH CAROLINA STANDARDS | GRADE APPROPRIATE FOSS and/or DSM MODULE |
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| 5 | 2.04 Describe the deposition of eroded material and its importance in establishing landforms including: deltas, flood plains | FOSS Landforms Investigation 2, Parts 1 and 2, pgs 8-22 FOSSWeb, Movie: Grand Canyon Rapids FOSS Landforms Science Stories , "Rivers and Controlling the Flow", pgs 15-16, 18 |
| 5 | 2.05 Discuss how the flow of water and the slope of the land affect erosion. | FOSS Landforms Investigation 3, Part 1, pgs 8-14 |
| 5 | 2.06 Identify and use models, maps and aerial photographs as ways of representing landforms. | FOSS Landforms Investigation 1, Parts 1-3, pgs 8-24 Investigation 4, Parts 1-3, pgs 8-24 Investigation 5, Parts 1-3, pgs 8-26 FOSS Landforms Science Stories , "Maps and How They Are Made", pgs 1-6, "Topographic Maps", pgs 33-34 |
| 5 | 2.07 Discuss and analyze how humans influence erosion and deposition in local communities, including school grounds, as a result of: clearing land, planting vegetation, building dams | FOSS Landforms Science Stories , "Real People in the Grand Canyon", pgs 13-14, "Rivers and Controlling the Flow", pgs 19-21, "The Eye of the Needle", pgs 43-44 |
| Competency Goal 3: The learner will conduct investigations and use appropriate technology to build an understanding of weather and climate. | | |
| 5 | 3.01 Investigate the water cycle including processes of: -Evaporation -Condensation -Precipitation -run-off | DSM Weather Forecasting Student Reader , pg 4 |
| | 3.02 Discuss and determine how the following are affected by predictable patterns of weather: temperature, wind direction and speed, precipitation, cloud cover, air pressure | DSM Weather Forecasting , Activity 3, pgs 25-32; Activity 4, pgs 33-40; Activity 5, pgs 41-48; Activity 9, pgs 69-74 DSM Weather Forecasting Student Reader , pgs 3-5, 7, 11, 14 |
| 5 | 3.03 Describe and analyze the formation of various types of clouds and discuss their relation to weather systems. | DSM Weather Forecasting , Activity 9, pgs 69-74; Activity 10, pgs 75-80 DSM Weather Forecasting Student Reader , pg 7 |
| 5 | 3.04 Explain how global atmospheric movement patterns affect local weather. | DSM Weather Forecasting , Activity 1, pgs 13-18; Activity 2, pgs 19-24; Activity 6, pgs 49-54; Activity 7, pgs 55-62; Activity 8, pgs 63-68 DSM Weather Forecasting Student Reader , pg 5 |
| 5 | 3.05 Compile and use weather data to establish a climate record and reveal any trends. | DSM Weather Forecasting , Activity 3, pgs 25-32; Activity 4, pgs 33-40; Activity 5, pgs 41-48 DSM Weather Forecasting Student Reader , pgs 3-5, 7, 11, 14 |
| 5 | 3.06 Discuss and determine the influence of geography on weather and climate: mountains, sea breezes, water bodies | DSM Weather Forecasting , Activity 7, Science Challenge |
| Competency Goal 4: The learner will conduct investigations and use appropriate technologies to build an understanding of forces and motion in technological designs. | | |
| 5 | 4.01 Determine the motion of an object by following and measuring its position over time | FOSS Models and Designs Investigation 3, Parts 2 and 3, pgs 13-23 |
| | 4.02 Evaluate how pushing or pulling forces can change the position and motion of an object | FOSS Models and Designs Investigation 3, Parts 1-3, pgs 8-23 Investigation 4, Parts 1 and 2, pgs 6-15 |

| GRADE LEVEL | NORTH CAROLINA STANDARDS | GRADE APPROPRIATE FOSS and/or DSM MODULE |
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| 5 | 4.03 Explain how energy is needed to make machines move: moving air, gravity | FOSS Models and Designs Investigation 3, Parts 1-3, pgs 8-23 Investigation 4, Parts 1 and 2, pgs 6-15 |
| 5 | 4.04 Determine that an unbalanced force is needed to move an object or change its direction | FOSS Models and Designs Investigation 3, Parts 2-3, pgs 13-23 Investigation 4, Parts 1 and 2, pgs 6-15 |
| 5 | 4.05 Determine factors that affect motion including: force, friction, inertia, momentum | FOSS Models and Designs Investigation 3, Part 2, pgs 13-19 Investigation 4, Parts 1 and 2, pgs 6-15 |
| 5 | 4.06 Build and use a model to solve a mechanical design problem. Devise a test for the model. Evaluate the results of the test. | FOSS Models and Designs Investigation 2, Parts 1 and 2, pgs 8-21 Investigation 3, Parts 1-3, pgs 8-20 |
| 5 | 4.07 Determine how people use simple machines to solve problems | FOSS Models and Designs Investigation 2, Parts 1 and 2, pgs 8-21 FOSS Models and Designs Science Stories, "The Path to Invention", pgs 21-24. |