New Hampshire Science Curriculum Framework, 2006	ESS Presentations
(Grades K-2) ESS1– The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.	
1. ATMOSPHERE, CLIMATE, AND WEATHER	
S:ESS1:2:1.1 Recognize that weather conditions change frequently, and that weather patterns change over the seasons.	Weather
S:ESS1:2:1.2 Describe and compare weather using observations and measurements of local weather conditions.	Weather
2. COMPOSITION AND FEATURES	
S:ESS1:2:2.1 Recognize that solid rocks, soils, and water in its liquid and solid states can be found on the Earth's surface.	Rocks Soil Weather Water Cycle
S:ESS1:2:2.2 Use observable properties, such as color and texture, to classify and organize rocks and minerals.	Rocks
S:ESS1:2:2.3 Recognize that Earth materials have a variety of properties, including size, shape, color and texture.	Rocks Soil
5. PROCESSES AND RATES OF CHANGE	
S:ESS1:2:5.1 Recognize that some changes are too slow or too fast to be easily observed.	
6. ROCK CYCLE	
S:ESS1:2:6.1 Explain that large rocks can be broken down into smaller rocks.	Rocks Soil Erosions, Transportation and Deposition
S:ESS1:2:6.2 Describe rocks and soils in terms of their physical properties.	Rocks Soil
7. WATER	
S:ESS1:2:7.1 Recognize that water can be a liquid or a solid; and explain that it can be made to change from one state to the other, but the amount (mass) of water always remains the same in either state.	Hot and Cold Changing State
(Grades K-2) ESS2– The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.	
1. EARTH, SUN, AND MOON	
S:ESS2:2:1.1 Recognize the basic patterns of the Sun, including its appearance during the daytime, and how its position in the sky changes through the seasons.	Shadows Days and Seasons

K-2 Product

3-5 Product

S:ESS2:2:1.2 Recognize the basic patterns of the Moon, including its appearance sometimes at night and sometimes during the day; and how it appears to change shape through the month.	The Moon
2. ENERGY	
S:ESS2:2:2.1 Recognize that the light and heat the Sun provides to the Earth is necessary for life.	Food Chains
4. VIEW FROM EARTH	
S:ESS2:2:4.1 Recognize that the Sun, Moon and stars all appear to move slowly across the sky.	Shadows
S:ESS2:2:4.2 Recognize that as the position of the Sun changes in relation to the Earth it creates shadows of varying length and direction.	Shadows
S:ESS2:2:4.3 Explain that people should not look directly at the Sun because it is dangerous and may cause injury to the eyes.	Light and Dark
(Grades K-2) ESS3– The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.	
2. STARS AND GALAXIES	
S:ESS3:2:2.1 Recognize there are too many stars to count, and that they are unequal in their brightness.	Our Solar System
(Grades K-2) ESS4– The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.	
2. TOOLS	
S:ESS4:2:2.1 Recognize, and with assistance, safely demonstrate the use of tools to gather data and extend the senses, such as thermometers, hand lenses and balances.	Springs Growing Plants Weather Soil
3. LOCAL AND GLOBAL ENVIRONMENTAL ISSUES	
S:ESS4:2:3.1 Differentiate between natural and man-made materials.	Changing Materials
S:ESS4:2:3.2 Identify environments that are natural, such as a forest, meadow, or mountains and those that have been built or modified by people, including cities, roads, farms, and houses.	
S:ESS4:2:3.3 Describe actions that can help the environment, such as recycling and proper disposal of waste materials.	Pollution
4. CAREER TECHNICAL EDUCATION CONNECTIONS	

S:ESS4:2:4.1 Recognize that some jobs/careers require knowledge and use of Earth science content and/or skills.	
(Grades K-2) LS1– All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).	
1. CLASSIFICATION	
S:LS1:2:1.1 Differentiate between living and nonliving things; and categorize objects in each group using the significant observable characteristics they share, such as color, shape and size.	Living Things Animals and Plants Marvellous Materials Materials Matter
S:LS1:2:1.2 Recognize plants and animals as living things and describe how they are alike and different.	Living Things Animals and Plants
2. LIVING THINGS AND ORGANIZATION	
S:LS1:2:2.1 Recognize that plants and animals have features that help them survive in different environments.	Living Things Growing Plants Habitats
3. REPRODUCTION	
S:LS1:2:3.1 Recognize that parents and offspring of many species closely resemble one another; and describe the similarities in appearance of given plant and animal families.	Growing Up
S:LS1:2:3.2 Recognize that living things have a life cycle, during which they are born, grow, and die.	Growing Up
(Grades K-2) LS2– Energy flows and matter recycles through an ecosystem.	
1. ENVIRONMENT	
S:LS2:2:1.1 Recognize that living things can be found almost anyplace in the world; and that specific types of environments are required to support the many different species of plant and animal life.	Habitats
S:LS2:2:1.2 Recognize that animals, including humans, interact with their surroundings using their senses; and that different senses provide different kinds of information.	Senses
S:LS2:2:1.3 Recognize that some plants and animals go through changes in appearance when the seasons change.	
2. FLOW OF ENERGY	
S:LS2:2:2.1 Identify the resources plants and animals need for growth and energy, and describe how their habitat provides these basic needs.	Living Things Growing Plants Habitats
(Grades K-2) LS3– Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).	
1. CHANGE	

S:LS3:2:1.1 Recognize that some living things, which lived on Earth long ago, are now extinct, such as dinosaurs, mammoths, giant tree ferns, and horsetail trees.	Fossils
2. EVIDENCE OF EVOLUTION	
S:LS3:2:2.1 Recognize that some plants and animals, which are alive today, are similar to living things which have become extinct, such as elephants and mammoths.	Fossils
3. NATURAL SELECTION	
S:LS3:2:3.1 Recognize and describe the similarities and differences in both behavior and appearance of plants and animals.	Animals and Plants Living Things
S:LS3:2:3.2 Recognize that there are different species of living things in various places around the world.	Animals and Plants Living Things
(Grades K-2) LS4– Humans are similar to other species in many ways, and yet are unique among Earth's life forms.	
1. BEHAVIOR	
S:LS4:2:1.1 Recognize and describe how living things respond when exposed to helpful and harmful situations.	
S:LS4:2:1.2 Recognize that humans learn from each other in many different ways, such as listening and speaking, watching and imitating.	
S:LS4:2:1.3 Recognize that humans can gather different kinds of information about an object by adjusting their proximity to it.	
S:LS4:2:1.4 Recognize that some of the things humans can do, such as playing games, reading, and writing, must be learned.	
2. DISEASE	
S:LS4:2:2.1 Recognize that proper nutrition, exercise and rest are all important factors in maintaining good health.	
S:LS4:2:2.2 Recognize that humans can spread germs that cause disease.	Microorganisms
S:LS4:2.2.3 Identify and describe the basic personal hygiene habits for maintaining good health, such as washing one's hands with soap and water and brushing one's teeth.	
S:LS4:2:2.4 Recognize symptoms, such as fever, rashes, coughing and congestion for common illnesses.	
3. HUMAN IDENTITY	
S:LS4:2:3.1 Recognize similarities and individual differences among people, and that children closely resemble their parents.	
S:LS4:2:3.2 Identify the sense organs, including eyes, ears, nose mouth, and skin; and describe how each can warn an individual about danger.	Senses
S:LS4:2:3.3 Recognize that two parents, both a father and mother, are required for human reproduction.	

S:LS4:2:3.4 Recognize and describe the human life cycle from birth to old age.	
S:LS4:2:3.5 Recognize that humans need food, water, air, waste removal and a particular range of temperatures in their environment, just as other animals do.	
(Grades K-2) LS5– The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.	
1. DESIGN TECHNOLOGY	
S:LS5:2:1.1 Recognize that new products can be made out of natural materials, such as paper from trees and cloth from various plants and animals.	Changing Materials
2. TOOLS	
S:LS5:2:2.1 Recognize that some tools, such as magnifiers, balances and thermometers, have special uses and can help gather information and extend the senses.	Springs Growing Plants Weather Soil
3. SOCIAL ISSUES	
S:LS5:2:3.1 Recognize that technology is used in medicine to prevent and cure diseases through vaccinations and medications.	
S:LS5:2:3.2 Provide examples from personal experience that illustrate how medicine helps humans recover from illness.	
4. CAREER TECHNICAL EDUCATION CONNECTIONS	
S:LS5:2:4.1 Recognize that some jobs/careers require knowledge and use of life science content and/or skills.	
(Grades K-2) PS1– All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).	
1. COMPOSITION	
S:PS1:2:1.1 Recognize that objects can be composed of different types of materials, such as wood, metal, and paper.	Marvellous Materials Materials Matter
S:PS1:2:1.2 Recognize that objects can be made of one or more materials.	Marvellous Materials Materials Matter Changing Materials
2. PROPERTIES	
S:PS1:2:2.1 Identify the observable properties of different objects, such as color, size, shape, weight and texture.	Marvellous Materials Materials Matter Changing Materials

(Grades K-2) PS2– Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.	
1. CHANGE	
S:PS2:2:1.1 Describe how the properties of certain materials can change when specific actions are applied to them, such as freezing, mixing, heating, cutting, dissolving and bending.	Changing Materials Separating Mixtures
S:PS2:2:1.2 Recognize that not all materials react the same way when an action is applied to them.	Changing Materials Materials Matter Mysterious Magnets Separating Mixtures
3. ENERGY	
S:PS2:2:3.1 Recognize that sound is produced by vibrating objects and that the pitch of the sound can be varied by changing the rate of vibration.	Sounds
S:PS2:2:3.2 Explain that the Sun provides the Earth with heat and light.	Weather Light and Dark
S:PS2:2:3.3 Describe that heat can be produced in a variety of ways, such as burning, rubbing, and mixing substances together.	
S:PS2:2:3.4 Recognize that energy comes from different sources, such as electricity and water, and is utilized in many common objects.	Energy Forms
(Grades K-2) PS3– The motion of an object is affected by force.	
1. FORCES	
S:PS3:2:1.1 Describe the properties of magnetism and demonstrate how magnets can be used to move some things without touching them.	Mysterious Magnets Magnets
S:PS3:2:1.2 Describe and demonstrate that things close to the Earth drop to the ground unless something supports them.	
2. MOTION	
S:PS3:2:2.1 Describe the many different ways things can move, such as in a straight line, zigzag or circular motion, back and forth, and fast and slow.	Feel the Force
S:PS3:2:2.2 Describe and demonstrate how the position and motion of an object can be changed by applying force, such as pushing and pulling; and explain that the greater the force, the greater the change.	Feel the Force Springs Magnets
S:PS3:2:2.3 Describe the position of an object by referencing its location in relation to another object or background.	Springs
(Grades K-2) PS4– The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.	

1. DESIGN TECHNOLOGY	
S:PS4:2:1.1 Recognize that new objects can be made out of physical materials, such as cloth and paper.	Materials Matter
2. TOOLS	
S:PS4:2:2.1 Identify tools and simple machines, such as a wheel, and explain how they work.	
S:PS4:2:2.2 Demonstrate how to use tools, such as rulers, scales, balances, magnifiers and thermometers to measure properties of objects, such as size, weight, temperature.	Springs Growing Plants Weather Soil
3. SOCIAL ISSUES	
S:PS4:2:3.1 Provide examples of how man uses energy in everyday life, such as providing light, warmth in winter, cooling in summer, TVs, computers, telephones, transportation, factories.	Energy Forms
S:PS4:2:3.2 Provide examples of items that are manufactured or produced.	
4. CAREER TECHNICAL EDUCATION CONNECTIONS	
S:PS4:2:4.1 Recognize that some jobs/careers require knowledge and use of physical science content and/or skills.	
(Grades 3-4) ESS1– The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.	
1. ATMOSPHERE, CLIMATE, AND WEATHER	
S:ESS1:4:1.1 Explain how water exists in the atmosphere in different forms and describe how it changes from one form to another through various processes such as freezing, condensation, precipitation and evaporation.	Water Cycle Changing State
S:ESS1:4:1.2 Explain that air surrounds the Earth, it takes up space, and it moves around as wind.	
S:ESS1:4:1.3 Based on data collected from daily weather observations, describe weather changes or weather patterns.	Predicting the Weather
S:ESS1:4:1.4 Explain how the use of scientific tools helps to extend senses and gather data about weather (i.e., weather/wind vane– direction; wind sock– wind intensity; anemometer– speed; thermometer– temperature; meter sticks/rulers– snow depth; rain gauges– rain amount in inches).	Weather Predicting the Weather
2. COMPOSITION AND FEATURES	
S:ESS1:4:2.1 Describe Earth materials such as gases found in the atmosphere, rocks, soils, and water in its liquid and solid states.	Rocks Soil Water Cycle Changing State

S:ESS1:4:2.2 Describe rock as being composed of different combinations of minerals.	
S:ESS1:4:2.3 Given information about Earth materials, explain how their characteristics lend themselves to specific uses.	Rocks
S:ESS1:4:2.4 Given certain Earth materials (soils, rocks, or minerals) use physical properties to sort, classify, and/or describe them.	Rocks Soil
3. FOSSILS	
S:ESS1:4:3.1 Recognize and explain that fossils offer evidence of plants, animals and the nature of environments that existed long ago.	Fossils
4. OBSERVATION OF THE EARTH FROM SPACE	
S:ESS1:4:4.1 Recognize features of the Earth as viewed by astronauts in orbit and as transmitted by scientific instruments on satellites and spacecraft.	
5. PROCESSES AND RATES OF CHANGE	
S:ESS1:4:5.1 Identify and describe processes that affect the features of the Earth's surface, including weathering, erosion, deposition of sediment.	Erosion, Transportation and Deposition
S:ESS1:4:5.2 Explain how wind, water, or ice shape and reshape the Earth's surface.	Erosion, Transportation and Deposition
6. ROCK CYCLE	
S:ESS1:4:6.1 Explain that smaller rocks come from the breaking and weathering of larger rocks and bedrock.	Erosion, Transportation and Deposition
S:ESS1:4:6.2 Distinguish between the three categories of rocks (metamorphic, igneous and sedimentary) and describe the processes that create them.	
S:ESS1:4:6.3 Identify minerals by their physical properties, such as color, texture and cleavage, and describe simple tests used in the identification process.	
S:ESS1:4:6.4 Use results from an experiment to draw conclusions about how water interacts with earth materials (e.g., percolation, erosion, frost heaves).	Erosion, Transportation and Deposition
7. WATER	
S:ESS1:4:7.1 Recognize and describe the Earth's surface as mostly covered by water.	Water Cycle
S:ESS1:4:7.2 Explain that most of Earth's water is salt water, which is found in the oceans, and that fresh water is found in rivers, lakes, underground sources, and glaciers.	Water Cycle
(Grades 3-4) ESS2– The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.	
1. EARTH, SUN, AND MOON	
S:ESS2:4:1.1 Explain that night and day are caused by the Earth's rotation on its axis; and that the Earth rotates approximately once, every 24 hours.	Days and Seasons
S:ESS2:4:1.2 Describe the Sun as a star.	Our Solar System
2. ENERGY	

S:ESS2:4:2.1 Recognize that the Sun provides the light and heat necessary to maintain the temperature of the Earth.	Days and Seasons
3. SOLAR SYSTEM	
S:ESS2:4:3.1 Recognize that the Moon orbits the Earth.	The Moon
S:ESS2:4:3.2 Recognize that the Earth is one of a number of planets that orbit the Sun.	Our Solar System
4. VIEW FROM EARTH	
S:ESS2:4:4.1 Recognize that although star patterns seen in the sky appear to move slowly each night from east to west they actually remain the same, and explain why different stars can be seen during different seasons.	Our Solar System
S:ESS2:4:4.2 Explain why the planets look like stars, and why, over a period of time, they appear to wander among the constellations.	
(Grades 3-4) ESS3– The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.	
1. SIZE AND SCALE	
S:ESS3:4:1.1 Recognize that astronomical objects in space are massive in size and are separated from one another by vast distances.	Our Solar System
S:ESS3:4:1.2 Explain that telescopes magnify the size of distant objects and significantly increase the number of these objects that can be viewed from Earth.	Our Solar System
2. STARS AND GALAXIES	
S:ESS3:4:2.1 Recognize and describe the stars, like the Sun, as spherical in nature.	Our Solar System
S:ESS3:4:2.2 Recognize that stars come in different colors, and that the Sun is a yellow star.	
(Grades 3-4) ESS4– The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.	
1. DESIGN TECHNOLOGY	
S:ESS4:4:1.1 Recognize that man uses various mechanical devices to record changes in the weather and the Earth.	Predicting the Weather
2. TOOLS	
S:ESS4:4:2.1 Demonstrate the use of simple instruments to collect weather data, including thermometers, windsocks, meter sticks, and rain gauges.	Weather Predicting the Weather
3. LOCAL AND GLOBAL ENVIRONMENTAL ISSUES	
S:ESS4:4:3.1 Distinguish between and provide examples of materials that can be recycled/reused and those that cannot.	Pollution
S:ESS4:4:3.2 Provide examples of technology that have changed the environment and explain whether the effect had a positive or negative impact.	

S:ESS4:4:3.3 Explain how to dispose of waste so that it does not harm the environment.	Pollution
S:ESS4:4:3.4 Recognize there are pros and cons to using different types of energy, such as solar energy and fossil fuels, and compare the differences.	
4. CAREER TECHNICAL EDUCATION CONNECTIONS	
S:ESS4:4:4.1 Identify some jobs/careers that require knowledge and use of Earth science content and/or skills.	
(Grades 3-4) LS1– All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).	
1. CLASSIFICATION	
S:LS1:4:1.1 Recognize and identify the various ways in which living things can be grouped	Habitats
S:LS1:4:1.2 Sort/classify different living things using similar and different characteristics; and describe why organisms belong to each group or cite evidence about how they are alike or not alike.	Habitats
2. LIVING THINGS AND ORGANIZATION	
S:LS1:4:2.1 Recognize that living organisms have certain structures and systems that perform specific functions, facilitating survival, growth and reproduction.	Adaptations
S:LS1:4.2.2 Identify and describe the function of the plant structures responsible for food production, water transport, support, reproduction, growth and protection.	Plant Reproduction
S:LS1:4:2.3 Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire).	Adaptations Plant Reproduction
S:LS1:4:2.4 Identify the basic needs of plants and animals in order to stay alive (i.e., water, air, food, space).	Living Things Growing Plants Food Chains Plant Reproduction
3. REPRODUCTION	
S:LS1:4:3.1 Distinguish between plant and animal characteristics that are inherited, such as eye color in humans and the shape of leaves in plants, and those that are affected by their environment, such as grass turning brown due to lack of water.	
S:LS1:4:3.2 Recognize that living organisms have life cycles, which include birth, growth and development, reproduction, and death; and explain how these life cycles vary for different organisms.	Growing Up Plant Reproduction
S:LS1:4:3.3 Describe the reproductive process of plants, explaining some plants grow from seed, while others grow from the parts of other plants.	Plant Reproduction
S:LS1:4-3.4 Predict, sequence, or compare the life stages of organisms (plants and animals): e.g., put images of life stages of an organism in order, predict the next stage in sequence, and compare two organisms.	Growing Up Plant Reproduction

(Grades 3-4) LS2– Energy flows and matter recycles through an ecosystem.	
1. ENVIRONMENT	
S:LS2:4:1.1 Describe how the nature of an organism's environment, such as the availability of a food source, the quantity and variety of other species present, and the physical characteristics of the environment affect the organism's patterns of behavior.	Habitats Adaptations Interdependence
S:LS2:4:1.2 Describe the interaction of living organisms with nonliving things.	Habitats
2. FLOW OF ENERGY	
S:LS2:4:2.1 Recognize that the transfer of energy through food is necessary for all living organisms and describe the organization of food webs.	Food Chains Interdependence
S:LS2:4:2.2 Recognize that energy is needed for all organisms to stay alive and grow or identify where a plant or animal gets its energy.	Food Chains
3. RECYCLING OF MATERIALS	
S:LS2:4:3.1 Recognize that plants and animals interact with one another in various ways besides providing food, such as seed dispersal or pollination.	Plant Reproduction
S:LS2:4:3.2 Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).	Habitats Plant Reproduction Food Chains Interdependence
(Grades 3-4) LS3– Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).	
1. CHANGE	
S:LS3:4:1.1 Provide examples of how environmental changes can cause different effects on different organisms.	Adaptations Interdependence Habitats
S:LS3:4:1.2 Provide examples of how an organism's inherited characteristics can adapt and change over time in response to changes in the environment.	Adaptations
S:LS3:4:1.3 Using information (data or scenario), explain how changes in the environment can cause organisms to respond (e.g., survive there and reproduce, move away, die).	Adaptations Interdependence
2. EVIDENCE OF EVOLUTION	
S:LS3:4:2.1 Compare information about fossils to living organisms and other fossils to determine any similarities and differences.	Fossils
3. NATURAL SELECTION	
S:LS3:4:3.1 Recognize that individuals of the same species differ in their characteristics; and explain that sometimes these differences give individuals an advantage in survival and reproduction.	Adaptations

S:LS3:4:3.2 Recognize that for any particular environment, some kinds of animals and plants survive well, some less well, and some cannot survive at all.	Adaptations
(Grades 3-4) LS4– Humans are similar to other species in many ways, and yet are unique among Earth's life forms.	
1. BEHAVIOR	
S:LS4:4:1.1 Recognize that an individual organism's behavior is affected by internal cues, such as hunger and thirst; and describe how an organism uses its senses to understand and respond to these cues.	
S:LS4:4:1.2 Recognize that an individual organism's behavior is influenced by external cues, such as seasonal change; and describe how an organism might react, such as migrating or hibernating.	Adaptations
S:LS4:4:1.3 Recognize behaviors that may be unsafe or unhealthy for themselves and others.	
2. DISEASE	
S:LS4:4:2.1 Explain how the amount of rest and the types of food, exercise and recreation humans choose can influence and affect their well-being.	
S:LS4:4:2.2 Recognize that vitamins and minerals are needed in small amounts and are essential to maintain proper health.	
S:LS4:4:2.3 Explain how proper food preparation and appropriate food handling practices can maintain the safety and quality of food.	
3. HUMAN IDENTITY	
S:LS4:4:3.1 Identify what the physical structures of humans do (e.g., sense organs– eyes, ears, skin, etc.) or compare physical structures of humans to similar structures of animals.	Body Systems Reflection and Refraction Sounds
S:LS4:4:3.2 Distinguish between characteristics of humans that are inherited from parents (i.e., hair color, height, skin color, eye color) and others that are learned (e.g., riding a bike, singing a song, playing a game, reading).	
S:LS4:4:3.3 Recognize the nutritional value of different foods and distinguish between healthy and unhealthy food choices using data gathered from food labels and dietary guidelines, such as the food pyramid.	
(Grades 3-4) LS5– The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.	
1. DESIGN TECHNOLOGY	
S:LS5:4:1.1 Recognize that man uses various mechanical devices to record and describe living organisms.	Microorganisms

2. TOOLS	
S:LS5:4:2.1 Demonstrate the use of appropriate tools and simple equipment, such as thermometers, magnifiers and microscopes to gather data and extend the senses.	Changing State Microorganisms
S:LS5:4:2.2 Identify and describe the purpose of tools used by health care professionals, such as X-rays and stethoscopes.	
3. SOCIAL ISSUES	
S:LS5:4:3.1 Recognize that medical technology provides information about a body's condition, such as determining blood pressure, and recognizing the need to repair, replace and support the affected body parts.	
S:LS5:4:3.2 Recognize that biotechnology refers to the different ways humans modify the living environment to meet their needs, including growing food, genetic engineering and using living organisms such as yeast to prepare foods.	
4. CAREER TECHNICAL EDUCATION CONNECTIONS	
S:LS5:4:4.1 Identify some jobs/careers that require knowledge and use of life science content and/or skills.	
(Grades 3-4) PS1– All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).	
1. COMPOSITION	
S:PS1:4:1.1 Explain that materials may be composed of parts that are too small to be seen without magnification.	
S:PS1:4:1.2 Use measures of weight (data) to demonstrate that the whole equals the sum of its parts.	
2. PROPERTIES	
S:PS1:4:2.1 Recognize that substances can be classified by observable properties.	Insulators and Conductors
S:PS1:4:2.2 Explain that some materials can exist in different states; and describe the distinct physical properties of each state of matter.	Changing State
S:PS1:4:2.3 Explain how some materials, such as water, can change from one state to another by heating or cooling.	Changing State
S:PS1:4:2.4 Make a prediction about what might happen to the state of common materials when heated or cooled; or categorize materials as solid, liquid, or gas.	Changing State
S:PS1:4:2.5 Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility).	Changing State Gravity
(Grade 3-4) PS2– Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.	

1. CHANGE	
S:PS2:4:1.1 Recognize that energy has the ability to create change.	Energy Forms Separating Mixtures
3. ENERGY	
S:PS2:4:3.1 Identify the various forms of energy, such as electrical, light, heat, sound.	Energy Forms
S:PS2:4:3.2 Recognize that electricity in circuits can produce light, heat, sound, and magnetic effects.	Energy Forms Circuits Electromagnets
S:PS2:4:3.3 Identify and describe the organization of a simple circuit.	Circuits
S:PS2:4:3.4 Differentiate between objects and materials that conduct electricity and those that are insulators of electricity.	Insulators and Conductors
S:PS2:4:3.5 Explain that light travels in a straight line until it strikes an object; and describe how it can be reflected by a mirror, bent by a lens, or absorbed by the object.	Reflection and Refraction
S:PS2:4:3.6 Given a specific example or illustration (e.g., simple closed circuit, rubbing hands together) predict the observable effects of energy (i.e., the bulb lights, a bell rings, hands warm up). A test item may ask, “What will happen when…?”	Circuits
S:PS2:4:3.7 Use observations of light in relation to other objects/substances to describe the properties of light (i.e., can be reflected, refracted, or absorbed).	Reflection and Refraction
S:PS2:4:3.8 Experiment, observe, or predict how heat might move from one object to another.	Insulators and Conductors
(Grade 3-4) PS3– The motion of an object is affected by force.	
1. FORCES	
S:PS3:4:1.1 Recognize that magnets attract certain kinds of other materials; and classify objects by those magnets will attract and those they will not.	Mysterious Magnets Magnets Electromagnets
S:PS3:4:1.2 Recognize that magnets attract and repel each other.	Magnets Electromagnets
S:PS3:4:1.3 Explain that electrically charged material pulls on all other materials and can attract or repel other charged materials.	
S:PS3:4:1.4 Recognize that the Earth’s gravitational force pulls any object toward it.	Gravity
S:PS3:4:1.5 Use observations of magnets in relation to other objects to describe the properties of magnetism (i.e., attract or repel certain objects or has no effect).	Mysterious Magnets Magnets Electromagnets
2. MOTION	
S:PS3:4:2.1 Use data to predict how a change in force (greater/less) might affect the position, direction of motion, or speed of an object (e.g., ramps and balls).	Forces Friction

(Grades 3-4) PS4– The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.	
1. DESIGN TECHNOLOGY	
S:PS4:4:1.1 Understand that materials are used in certain products based on their properties, such as strength and flexibility.	Marvellous Materials Materials Matter
S:PS4:4:1.2 Recognize that products are made using a combination of technologies, such as how an escalator uses both a pulley system and an electrical motor.	
2. TOOLS	
S:PS4:4:2.1 Demonstrate how to use tools, such as magnifiers, scales, balances, rulers, and thermometers to gather data and extend the senses.	Microorganisms Gravity Changing State Growing Plants Springs Soil
S:PS4:4:2.2 Describe how some tools can be used to modify natural materials by processes such as separating, shaping, and joining, to produce new materials.	Separating Mixtures
3. SOCIAL ISSUES	
S:PS4:4:3.1 Give examples of transportation systems used in New Hampshire, such as buses, trains, cars, and bicycles; and describe the sources of energy they use.	
S:PS4:4:3.2 Explain that manufactured products are designed to solve a problem or meet a need.	
S:PS4:4:3.3 Provide an example to illustrate that manufacturing involves changing natural materials into finished products; and explain that this results in the production of a large number of objects that look almost identical.	
4. CAREER TECHNICAL EDUCATION CONNECTIONS	
S:PS4:4:4.1 Identify some jobs/careers that require knowledge and use of physical science content and/or skills.	