

# ***Bloomington School District***

## **SCIENCE- GRADES K-8**

### **CURRICULUM GUIDE**

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## **PURPOSE STATEMENT/PROGRAM DESCRIPTION**

Science involves using systematic and creative processes of investigation, which help students to explore, learn, and question the world around them. Each investigation increases student's knowledge in the Scientific method, which enables them to test their hypotheses.

The approach used for teaching all students in grades K-8 is by performing experiments using scientific tools and equipment. The hands-on, minds-on method will develop their content knowledge and the skills of scientific inquiry. Young adults will gain valuable insights into the nature of scientific work. All pupils have a natural curiosity for science, which is fostered by experimentation.

Consistent with the New Jersey Core Curriculum Content Standards for Science, all students must learn to think critically, problem solve, make decisions, and gather information from the world around them in order to begin to assume their role as a concerned citizen. The science curriculum in grades K-8 prepares the student to interpret their observations of the issues surrounding our global environment and integrates their knowledge and the demand of technology upon our futures. Our world now demands the support for higher level thinkers in science and from assessing scientific data and techniques to fight "newly found viruses" to understanding the complexities of agriculture in order to supply the world's increasing population with food.

This science curriculum has been designed to aid the teacher in guiding students to meet the science demands of everyday life and our future.

## **METHODS OF INSTRUCTION**

- I. INQUIRY METHOD OR HANDS-ON INVESTIGATIONS
- II. DEMONSTRATIONS PERFORMED BY THE TEACHER AND/OR STUDENT
- III. LECTURE
- IV. CLASS DISCUSSION
- V. LAB MANUAL AND/OR TEACHER MADE SHEET ASSIGNMENTS

## **MATERIALS FOR INSTRUCTION**

- I. CHALKBOARDS, SMART BOARDS, BULLETIN BOARDS
- II. AUDIO-VISUAL AIDS INCLUDING FILMS, ACTIVITY VIDEOS, SLIDES, AND TRANSPARENCIES
- III. TEXTBOOK AND LAB MANUALS
- IV. SCIENCE EQUIPMENT KITS /FOSS MATERIALS/MODULES
- V. COMPUTERS

## METHODS OF STUDENT EVALUATION

Teacher observation analysis of:

- I. BEHAVIOR DURING HANDS-ON ACTIVITIES
- II. EFFORT, SERIOUSNESS OF PURPOSE, PROPER USE OF EQUIPMENT, ATTITUDE IN GROUP
- III. PARTICIPATION IN LEARNING CENTERS OR LAB INVESTIGATIONS
  - A. Class discussions
  - B. Problem-solving sessions
  - C. Technology software (practice and assessment, internet, data wonders)
- IV. LABORATORY WORK
  - A. Safety is followed at all times
  - B. Organized materials in desk area
- V. LABORATORY MANUALS AND/ OR LAB REPORTS
  - A. Organization of data/graphing of data if necessary
  - B. Communication of data is clear
  - C. Development of logical conclusions
- VI. HOMEWORK
- VII. TESTS AND QUIZZES
- VIII. BENCHMARK ASSESSMENTS

## NJ World Class Standards Content Area: Science

<b>Standard</b>	<b>5.1 Science Practices</b> All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.
<b>Strand</b>	<b>A. Understand Scientific Explanations:</b> Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.
<b>Strand</b>	<b>B. Generate Scientific Evidence Through Active Investigations:</b> Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.
<b>Strand</b>	<b>C. Reflect on Scientific Knowledge:</b> Scientific knowledge builds on itself over time.
<b>Strand</b>	<b>D. Participate Productively in Science:</b> The growth of scientific knowledge involves critique and communication, which are social practices that are governed by a core set of values and norms.

<b>Standard</b>	<b>5.2 Physical Science:</b> All students will understand that physical science principles, including fundamental ideas about matter, energy, and motion, are powerful conceptual tools for making sense of phenomena in physical, living, and Earth systems science.
<b>Strand</b>	<b>A. Properties of Matter:</b> All objects and substances in the natural world are composed of matter. Matter has two fundamental properties: matter takes up space, and matter has inertia.
<b>Strand</b>	<b>B. Changes in Matter:</b> Substances can undergo physical or chemical changes to form new substances. Each change involves energy.
<b>Strand</b>	<b>C. Forms of Energy:</b> Knowing the characteristics of familiar forms of energy, including potential and kinetic energy, is useful in coming to the understanding that, for the most part, the natural world can be explained and is predictable.
<b>Strand</b>	<b>D. Energy Transfer and Conservation:</b> The conservation of energy can be demonstrated by keeping track of familiar forms of energy as they are transferred from one object to another.
<b>Strand</b>	<b>E. Forces and Motion:</b> It takes energy to change the motion of objects. The energy change is understood in terms of forces.

<b>Standard</b>	<b>5.3 Life Science:</b> All students will understand that life science principles are powerful conceptual tools for making sense of the complexity, diversity, and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics.
<b>Strand</b>	<b>A. Organization and Development:</b> 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.
<b>Strand</b>	<b>B. Matter and Energy Transformations:</b> 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.
<b>Strand</b>	<b>C. Interdependence:</b> All animals and most plants depend on both other organisms and their environment to meet their basic needs.
<b>Strand</b>	<b>D. Heredity and Reproduction:</b> 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.
<b>Strand</b>	<b>E. Evolution and Diversity:</b> 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.

<b>Standard</b>	<b>5.4 Earth Systems Science:</b> All students will understand that Earth operates as a set of complex, dynamic, and interconnected systems, and is a part of the all-encompassing system of the universe.
<b>Strand</b>	<b>A. Objects in the Universe:</b> Our universe has been expanding and evolving for 13.7 billion years under the influence of gravitational and nuclear forces. As gravity governs its expansion, organizational patterns, and the movement of celestial bodies, nuclear forces within stars govern its evolution through the processes of stellar birth and death. These same processes governed the formation of our solar system 4.6 billion years ago.
<b>Strand</b>	<b>B. History of Earth:</b> From the time that Earth formed from a nebula 4.6 billion years ago, it has been evolving as a result of geologic, biological, physical, and chemical processes.
<b>Strand</b>	<b>C. Properties of Earth Materials:</b> Earth's composition is unique, is related to the origin of our solar system, and provides us with the raw resources needed to sustain life.
<b>Strand</b>	<b>D. Tectonics:</b> The theory of plate tectonics provides a framework for understanding the dynamic processes within and on Earth.
<b>Strand</b>	<b>E. Energy in Earth Systems:</b> Internal and external sources of energy drive Earth systems.
<b>Strand</b>	<b>F. Climate and Weather:</b> Earth's weather and climate systems are the result of complex interactions between land, ocean, ice, and atmosphere.
<b>Strand</b>	<b>G. Biogeochemical Cycles:</b> The biogeochemical cycles in the Earth systems include the flow of microscopic and macroscopic resources from one reservoir in the hydrosphere, geosphere, atmosphere, or biosphere to another, are driven by Earth's internal and external sources of energy, and are impacted by human activity.

**COURSE OBJECTIVES  
KINDERGARTEN**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Using evidence to construct and defend arguments</b>	<b>5.1.4.B.3</b>	<b>Formulate explanations from evidence.</b>
	<b>5.1.4.B.4</b>	<b>Communicate and justify explanations with reasonable and logical arguments.</b>
	<b>5.1.4.C.3</b>	<b>Present evidence to interpret and/or predict cause-and-effect outcomes of investigations.</b>
	<b>5.1.4.D.3</b>	<b>Demonstrate how to safely use tools, instruments, and supplies.</b>
	<b>5.1.4.D.4</b>	<b>Handle and treat organisms humanely, responsibly, and ethically.</b>
<b>Motion – Fast and Slow</b>	<b>5.2.2.E.1</b>	<b>Investigate and model the various ways that inanimate objects can move.</b>
<b>Living and Non-Living Things</b>	<b>5.3.2.A.1</b>	<b>Group living and nonliving things according to the characteristics that they share.</b>
<b>Care of Plants and Animals</b>	<b>5.3.2.B.1</b>	<b>Describe the requirements for the care of plants and animals related to meeting their energy needs.</b>
	<b>5.3.2.B.2</b>	<b>Compare how different animals obtain food and water.</b>
	<b>5.3.2.B.3</b>	<b>Explain that most plants get water from soil through their roots and gather light through their leaves.</b>
<b>Weather</b>	<b>5.4.2.F.1</b>	<b>Observe and document daily weather conditions and discuss how the weather influences your activities for the day.</b>

**COURSE OBJECTIVES  
FIRST GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Using evidence from observations to make predictions</b>	<b>5.1.4.B.1</b>	<b>Design and follow simple plans using systematic observations to explore questions and predictions.</b>
	<b>5.1.4.B.3</b>	<b>Formulate explanations from evidence.</b>
	<b>5.1.4.B.4</b>	<b>Communicate and justify explanations with reasonable and logical arguments.</b>
	<b>5.1.4.C.3</b>	<b>Present evidence to interpret and/or predict cause-and-effect outcomes of investigations.</b>
	<b>5.1.4.D.3</b>	<b>Demonstrate how to safely use tools, instruments, and supplies.</b>
	<b>5.1.4.D.4</b>	<b>Handle and treat organisms humanely, responsibly, and ethically.</b>
<b>Living and Non-Living Things (sort and describe)</b>	<b>5.2.2.A.1</b>	<b>Sort and describe objects based on the materials of which they are made and their physical properties.</b>
	<b>5.4.2.E.1</b>	<b>Describe the relationship between the Sun and plant growth.</b>
<b>Solids – Liquids – Gases</b>	<b>5.2.2.A.2</b>	<b>Identify common objects as solids, liquids, or gases.</b>
<b>Changes of Matter (heating and cooling)</b>	<b>5.2.2.B.1</b>	<b>Generate accurate data and organize arguments to show that not all substances respond the same way when heated or cooled, using common materials, such as shortening or candle wax.</b>
<b>Effects of the Sun</b>	<b>5.2.2.C.1</b>	<b>Compare, citing evidence, the heating of different colored objects placed in full sunlight.</b>
<b>Life Cycle</b>	<b>5.3.2.D.1</b>	<b>Record the observable characteristics of plants and animals to determine the similarities and differences between parents and their offspring.</b>
	<b>5.3.2.D.2</b>	<b>Determine the characteristic changes that occur during the life cycle of plants and animals by examining a variety of species, and distinguish between growth and development.</b>
<b>Weather</b>	<b>5.4.2.F.1</b>	<b>Observe and document daily weather conditions and discuss how the weather influences your activities for the day.</b>

<b>Sun and Moon</b>	<b>5.4.2.A.1</b>	<b>Determine a set of general rules describing when the Sun and Moon are visible based on actual sky observations.</b>
<b>Basic Needs of Living Organisms</b>	<b>5.4.2.G.3</b>	<b>Identify and categorize the basic needs of living organisms as they relate to the environment.</b>

**COURSE OBJECTIVES  
SECOND GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Use tools and technologies to measure, gather, evaluate, and share evidence</b>	<b>5.1.4.B.2</b>	<b>Measure, gather, evaluate, and share evidence using tools and technologies.</b>
	<b>5.1.4.B.3</b>	<b>Formulate explanations from evidence.</b>
	<b>5.1.4.B.4</b>	<b>Communicate and justify explanations with reasonable and logical arguments.</b>
	<b>5.1.4.C.3</b>	<b>Present evidence to interpret and/or predict cause-and-effect outcomes of investigations.</b>
<b>Reflection/Refraction</b>	<b>5.2.2.C.2</b>	<b>Apply a variety of strategies to collect evidence that validates the principle that if there is no light, objects cannot be seen.</b>
	<b>5.2.2.C.3</b>	<b>Present evidence that represents the relationship between a light source, solid object, and the resulting shadow.</b>
<b>Light, Sound, Heat</b>	<b>5.2.2.D.1</b>	<b>Predict and confirm the brightness of a light, the volume of sound, or the amount of heat when given the number of batteries, or the size of batteries.</b>
<b>Force and Friction</b>	<b>5.2.2.E.2</b>	<b>Predict an object’s relative speed, path, or how far it will travel using various forces and surfaces.</b>
<b>Magnetism</b>	<b>5.2.2.E.3</b>	<b>Distinguish a force that acts by direct contact with an object (e.g., by pushing or pulling) from a force that can act without direct contact (e.g., the attraction between a magnet and a steel paper clip).</b>

<b>Habitats and Adaptations</b>	<b>5.3.2.C.1</b>	<b>Describe the ways in which organisms interact with each other and their habitats in order to meet basic needs.</b>
	<b>5.3.2.C.2</b>	<b>Identify the characteristics of a habitat that enable the habitat to support the growth of many different plants and animals.</b>
	<b>5.3.2.C.3</b>	<b>Communicate ways that humans protect habitats and/or improve conditions for the growth of the plants and animals that live there, or ways that humans might harm habitats.</b>
	<b>5.3.2.E.2</b>	<b>Describe how similar structures found in different organisms (e.g., eyes, ears, mouths) have similar functions and enable those organisms to survive in different environments.</b>
<b>Genetics (Parents &amp; Offspring, Plants &amp; Animals)</b>	<b>5.3.2.D.1</b>	<b>Record the observable characteristics of plants and animals to determine the similarities and differences between parents and their offspring.</b>
	<b>5.3.2.E.1</b>	<b>Describe similarities and differences in observable traits between parents and offspring.</b>
<b>Earth Materials/Soil</b>	<b>5.4.2.C.1</b>	<b>Describe Earth materials using appropriate terms, such as hard, soft, dry, wet, heavy, and light.</b>
	<b>5.4.2.G.4</b>	<b>Identify the natural resources used in the process of making various manufactured products.</b>
<b>Evaporation, Condensation, &amp; Conservation</b>	<b>5.4.2.G.1</b>	<b>Observe and discuss evaporation and condensation.</b>
	<b>5.4.2.G.2</b>	<b>Identify and use water conservation practices.</b>

**COURSE OBJECTIVES  
THIRD GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Understanding changes over time</b>	<b>5.1.4.B.2</b>	<b>Measure, gather, evaluate, and share evidence using tools and technologies.</b>
	<b>5.1.4.B.3</b>	<b>Formulate explanations from evidence.</b>
	<b>5.1.4.B.4</b>	<b>Communicate and justify explanations with reasonable and logical arguments.</b>
	<b>5.1.4.C.1</b>	<b>Monitor and reflect on one’s own knowledge regarding how ideas change over time.</b>
	<b>5.1.4.C.2</b>	<b>Revise predictions or explanations on the basis of learning new information.</b>
	<b>5.1.4.D.1</b>	<b>Actively participate in discussions about student data, questions, and understandings.</b>
<b>Elements and Compounds</b>	<b>5.2.4.A.1</b>	<b>Identify objects that are composed of a single substance and those that are composed of more than one substance using simple tools found in the classroom.</b>
<b>States of Matter</b>	<b>5.2.4.A.2</b>	<b>Plan and carry out an investigation to distinguish among solids, liquids, and gasses.</b>
	<b>5.2.4.B.1</b>	<b>Predict and explain what happens when a common substance, such as shortening or candle wax, is heated to melting and then cooled to a solid.</b>
<b>Motion</b>	<b>5.2.4.E.1</b>	<b>Demonstrate through modeling that motion is a change in position over a period of time.</b>
	<b>5.2.4.E.2</b>	<b>Identify the force that starts something moving or changes its speed or direction of motion.</b>
<b>Living and Non-Living Organisms</b>	<b>5.3.4.A.1</b>	<b>Develop and use evidence-based criteria to determine if an unfamiliar object is living or nonliving.</b>
	<b>5.3.4.A.2</b>	<b>Compare and contrast structures that have similar functions in various organisms, and explain how those functions may be carried out by structures that have different physical appearances.</b>

<b>Sources of Energy</b>	<b>5.3.4.B.1</b>	<b>Identify sources of energy (food) in a variety of settings (farm, zoo, ocean, forest).</b>
<b>Consumers and Producers Including Photosynthesis</b>	<b>5.3.6.B.1</b>	<b>Describe the sources of the reactants of photosynthesis and trace the pathway to the products.</b>
<b>Comparison of Life Stages</b>	<b>5.3.4.D.1</b>	<b>Compare the physical characteristics of the different stages of the life cycle of an individual organism, and compare the characteristics of life stages among species.</b>
<b>Habitats and Adaptations</b>	<b>5.3.4.E.1</b>	<b>Model an adaptation to a species that would increase its chances of survival, should the environment become wetter, dryer, warmer, or colder over time.</b>
	<b>5.3.4.E.2</b>	<b>Evaluate similar populations in an ecosystem with regard to their ability to thrive and grow.</b>
<b>Ecosystems</b>	<b>5.3.4.C.1</b>	<b>Predict the biotic and abiotic characteristics of an unfamiliar organism's habitat.</b>
	<b>5.3.4.C.2</b>	<b>Explain the consequences of rapid ecosystem change (e.g., flooding, wind storms, snowfall, volcanic eruptions), and compare them to consequences of gradual ecosystem change (e.g., gradual increase or decrease in daily temperatures, change in yearly rainfall).</b>
<b>Water cycle, Clouds, and Weather Instruments</b>	<b>5.4.4.E.1</b>	<b>Develop a general set of rules to predict temperature changes of Earth materials, such as water, soil, and sand, when placed in the Sun and in the shade.</b>
	<b>5.4.4.F.1</b>	<b>Identify patterns in data collected from basic weather instruments.</b>
	<b>5.4.4.G.1</b>	<b>Explain how clouds form.</b>
	<b>5.4.4.G.2</b>	<b>Observe daily cloud patterns, types of precipitation, and temperature, and categorize the clouds by the conditions that form precipitation.</b>
	<b>5.4.4.G.3</b>	<b>Trace a path a drop of water might follow through the water cycle.</b>
	<b>5.4.4.G.4</b>	<b>Model how the properties of water can change as water moves through the water cycle.</b>

**COURSE OBJECTIVES  
FOURTH GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Understanding concepts of physical, life, and earth sciences</b>	<b>5.1.4.A.1</b>	<b>Demonstrate understanding of the interrelationships among fundamental concepts in the physical, life, and Earth systems sciences.</b>
	<b>5.1.4.A.2</b>	<b>Use outcomes of investigations to build and refine questions, models, and explanations.</b>
	<b>5.1.4.A.3</b>	<b>Use scientific facts, measurements, observations, and patterns in nature to build and critique scientific arguments.</b>
	<b>5.1.4.D.2</b>	<b>Work collaboratively to pose, refine, and evaluate questions, investigations, models, and theories.</b>
<b>Weight and Volume</b>	<b>5.2.4.A.3</b>	<b>Determine the weight and volume of common objects using appropriate tools.</b>
<b>Thermal Energy – Electricity</b>	<b>5.2.4.A.4</b>	<b>Categorize objects based on the ability to absorb or reflect light and conduct heat or electricity.</b>
<b>Heat, Light, &amp; Sound</b>	<b>5.2.4.C.1</b>	<b>Compare various forms of energy as observed in everyday life and describe their applications.</b>
	<b>5.2.4.C.2</b>	<b>Compare the flow of heat through metals and nonmetals by taking and analyzing measurements.</b>
	<b>5.2.4.C.3</b>	<b>Draw and label diagrams showing several ways that energy can be transferred from one place to another.</b>
	<b>5.2.4.C.4</b>	<b>Illustrate and explain what happens when light travels from air into water.</b>
<b>Electric Circuits</b>	<b>5.2.4.D.1</b>	<b>Repair an electric circuit by completing a closed loop that includes wires, a battery (or batteries), and at least one other electrical component to produce observable change.</b>
	<b>5.4.6.E.1</b>	<b>Generate a conclusion about energy transfer and circulation by observing a model of convection currents.</b>

<b>Magnetism and Gravity</b>	<b>5.2.4.E.3</b>	<b>Investigate and categorize materials based on their interaction with magnets.</b>
	<b>5.2.4.E.4</b>	<b>Investigate, construct, and generalize rules for the effect that force of gravity has on balls of different sizes and weights.</b>
	<b>5.4.6.D.3</b>	<b>Apply knowledge of Earth's magnetic fields to successfully complete an orienteering challenge.</b>
<b>Human Body</b>	<b>5.3.4.A.3</b>	<b>Describe the interactions of systems involved in carrying out everyday life activities.</b>
	<b>5.3.6.A.2</b>	<b>Model and explain ways in which organelles work together to meet the cell's needs.</b>
<b>Daily Motion of the Sun/Moon/Solar System</b>	<b>5.4.4.A.1</b>	<b>Formulate a general description of the daily motion of the Sun across the sky based on shadow observations. Explain how shadows could be used to tell the time of day.</b>
	<b>5.4.4.A.2</b>	<b>Identify patterns of the Moon's appearance and make predictions about its future appearance based observational data.</b>
	<b>5.4.4.A.3</b>	<b>Generate a model with explanatory value that explains both why objects roll down ramps as well as why the Moon orbits Earth.</b>
	<b>5.4.4.A.4</b>	<b>Analyze and evaluate evidence in the form of data tables and photographs to categorize and relate solar system objects (e.g., planets, dwarf planets, moons, asteroids, and comets).</b>
<b>Fossils</b>	<b>5.4.4.B.1</b>	<b>Use data gathered from observations of fossils to argue whether a given fossil is terrestrial or marine in origin.</b>
	<b>5.4.6.B.1</b>	<b>Interpret a representation of a rock layer sequence to establish oldest and youngest layers, geologic events, and changing life forms</b>
	<b>5.4.6.B.2</b>	<b>Examine Earth's surface features and identify those created on a scale of human life or on a geologic time scale.</b>

<b>Earth Materials – Rocks, Soil</b>	<b>5.4.4.C.1</b>	<b>Create a model to represent how soil is formed.</b>
	<b>5.4.4.C.2</b>	<b>Categorize unknown samples as either rocks or minerals.</b>
	<b>5.4.6.C.1</b>	<b>Predict the types of ecosystems that unknown soil samples could support based on soil properties.</b>
	<b>5.4.6.C.2</b>	<b>Distinguish physical properties of sedimentary, igneous, or metamorphic rocks and explain how one kind of rock could eventually become a different kind of rock.</b>
	<b>5.4.6.C.3</b>	<b>Deduce the story of the tectonic conditions and erosion forces that created sample rocks or rock formations.</b>
	<b>5.4.6.B.3</b>	<b>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.</b>
	<b>5.4.6.B.4</b>	<b>Describe methods people use to reduce soil erosion.</b>

**COURSE OBJECTIVES  
FIFTH GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Science Practices</b>	<b>5.1.8.A.1</b>	<b>Demonstrate understanding and use interrelationships among central scientific concepts to revise explanations and to consider alternative explanations.</b>
	<b>5.1.8.C.1</b>	<b>Monitor one’s own thinking as understandings of scientific concepts are refined.</b>
<b>Marine Biology</b>	<b>5.3.6.B.2</b>	<b>Illustrate the flow of energy (food) through a community.</b>
	<b>5.3.6.C.3</b>	<b>Describe how one population of organisms may affect other plants and/or animals in an ecosystem.</b>
	<b>5.3.6.D.2</b>	<b>Explain how knowledge of inherited variations within and between generations is applied to farming and animal breeding.</b>
<b>Oceanography</b>	<b>5.4.8.E.1</b>	<b>Explain how energy from the Sun is transformed or transferred in global wind circulation, ocean circulation, and the water cycle.</b>
	<b>5.4.8.G.1</b>	<b>Represent and explain, using sea surface temperature maps, how ocean currents impact the climate of coastal communities.</b>
<b>Introductory Chemistry</b>	<b>5.2.6.A.3</b>	<b>Determine the identity of an unknown substance using data about intrinsic properties.</b>
	<b>5.2.6.B.1</b>	<b>Compare the properties of reactants with the properties of the products when two or more substances are combined and react chemically.</b>
<b>Introductory Physics</b>	<b>5.2.6.E.1</b>	<b>Model and explain how the description of an object’s motion from one observer’s view may be different from a different observer’s view.</b>

<b>Invention</b>	<b>5.1.8.C.3</b>	<b>Generate new and productive questions to evaluate and refine core explanations.</b>
	<b>5.1.8.D.1</b>	<b>Engage in multiple forms of discussion in order to process, make sense of, and learn from others' ideas, observations, and experiences.</b>
<b>Astronomy</b>	<b>5.4.6.A.2</b>	<b>Construct and evaluate models demonstrating the rotation of Earth on its axis and the orbit of Earth around the Sun.</b>
	<b>5.4.6.A.4</b>	<b>Compare and contrast the major physical characteristics (including size and scale) of solar system objects using evidence in the form of data tables and photographs.</b>
<b>Environmental Concerns</b>	<b>5.3.6.C.1</b>	<b>Explain the impact of meeting human needs and wants on local and global environments.</b>
	<b>5.3.6.C.2</b>	<b>Predict the impact that altering biotic and abiotic factors has on an ecosystem.</b>
	<b>5.4.6.D.2</b>	<b>Locate areas that are being created (deposition) and destroyed (erosion) using maps and satellite images.</b>
	<b>5.3.6.E.1</b>	<b>Describe the impact on the survival of species during specific times in geologic history when environmental conditions changed.</b>
	<b>5.4.6.G.3</b>	<b>Describe ways that humans can improve the health of ecosystems around the world.</b>

**COURSE OBJECTIVES  
SIXTH GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Science Practices</b>	<b>5.1.8.B.1</b>	<b>Design investigations and use scientific instrumentation to collect, analyze, and evaluate evidence as part of building and revising models and explanations.</b>
	<b>5.1.8.B.2</b>	<b>Gather, evaluate, and represent evidence using scientific tools, technologies, and computational strategies.</b>
<b>Variables</b>	<b>5.2.6.A.1</b>	<b>Determine the volume of common objects using water displacement methods.</b>
	<b>5.2.6.A.2</b>	<b>Calculate the density of objects or substances after determining volume and mass.</b>
	<b>5.2.6.A.3</b>	<b>Determine the identity of an unknown substance using data about intrinsic properties.</b>
	<b>5.4.6.G.1</b>	<b>Illustrate global winds and surface currents through the creation of a world map of global winds and currents that explains the relationship between the two factors.</b>
	<b>5.4.6.D.1</b>	<b>Apply understanding of the motion of lithospheric plates to explain why the Pacific Rim is referred to as the Ring of Fire.</b>
	<b>5.4.6.F.1</b>	<b>Explain the interrelationships between daily temperature, air pressure, and relative humidity data.</b>
	<b>5.3.6.D.1</b>	<b>Predict the long-term effect of interference with normal patterns of reproduction.</b>
	<b>5.3.6.D.2</b>	<b>Explain how knowledge of inherited variations within and between generations is applied to farming and animal breeding.</b>
	<b>5.3.6.D.3</b>	<b>Distinguish between inherited and acquired traits/characteristics.</b>
	<b>5.4.8.F.1</b>	<b>Determine the origin of local weather by exploring national and international weather maps.</b>
	<b>5.4.8.F.2</b>	<b>Explain the mechanisms that cause varying daily temperature ranges in a coastal community and in a community located in the interior of the country.</b>

	<b>5.4.8.F.3</b>	<b>Create a model of the hydrologic cycle that focuses on the transfer of water in and out of the atmosphere. Apply the model to different climates around the world.</b>
<b>Models and Designs</b>	<b>5.2.6.C.1</b>	<b>Predict the path of reflected or refracted light using reflecting and refracting telescopes as examples.</b>
	<b>5.2.6.C.2</b>	<b>Describe how prisms can be used to demonstrate that visible light from the Sun is made up of different colors.</b>
	<b>5.2.6.C.3</b>	<b>Relate the transfer of heat from oceans and land masses to the evolution of a hurricane.</b>
	<b>5.2.6.D.1</b>	<b>Use simple circuits involving batteries and motors to compare and predict the current flow with different circuit arrangements.</b>
	<b>5.2.6.E.1</b>	<b>Model and explain how the description of an object's motion from one observer's view may be different from a different observer's view.</b>
	<b>5.2.6.E.2</b>	<b>Describe the force between two magnets as the distance between them is changed.</b>
	<b>5.2.6.E.3</b>	<b>Demonstrate and explain the frictional force acting on an object with the use of a physical model.</b>
	<b>5.2.6.E.4</b>	<b>Predict if an object will sink or float using evidence and reasoning.</b>
	<b>5.4.6.G.2</b>	<b>Create a model of ecosystems in two different locations, and compare and contrast the living and nonliving components.</b>
	<b>5.4.6.F.2</b>	<b>Create climatographs for various locations around Earth and categorize the climate based on the yearly patterns of temperature and precipitation.</b>

<b>Planetary Science</b>	<b>5.4.6.A.1</b>	<b>Generate and analyze evidence (through simulations) that the Sun’s apparent motion across the sky changes over the course of a year.</b>
	<b>5.4.6.A.3</b>	<b>Predict what would happen to an orbiting object if gravity were increased, decreased, or taken away.</b>
	<b>5.4.8.A.1</b>	<b>Analyze moon-phase, eclipse, and tidal data to construct models that explain how the relative positions and motions of the Sun, Earth, and Moon cause these three phenomena.</b>
	<b>5.4.8.A.2</b>	<b>Use evidence of global variations in day length, temperature, and the amount of solar radiation striking Earth’s surface to create models that explain these phenomena and seasons.</b>
	<b>5.4.8.A.3</b>	<b>Predict how the gravitational force between two bodies would differ for bodies of different masses or bodies that are different distances apart.</b>
	<b>5.4.8.A.4</b>	<b>Analyze data regarding the motion of comets, planets, and moons to find general patterns of orbital motion.</b>

**COURSE OBJECTIVES  
SEVENTH GRADE**

<b>Topic</b>	<b>Standard/Strand</b>	<b>CPI</b>
<b>Scientific Method – Science Practices</b>	<b>5.1.8.A.2</b>	<b>Use mathematical, physical, and computational tools to build conceptual-based models and to pose theories.</b>
	<b>5.1.8.B.3</b>	<b>Use qualitative and quantitative evidence to develop evidence-based arguments.</b>
	<b>5.1.8.B.4</b>	<b>Use quality controls to examine data sets and to examine evidence as a means of generating and reviewing explanations</b>
	<b>5.1.8.D.1</b>	<b>Engage in multiple forms of discussion in order to process, make sense of, and learn from others’ ideas, observations, and experiences.</b>
	<b>5.1.8.D.2</b>	<b>Engage in productive scientific discussion practices during conversations with peers, both face-to-face and virtually, in the context of scientific investigations and model-building.</b>
	<b>5.1.8.D.3</b>	<b>Demonstrate how to safely use tools, instruments, and supplies.</b>
	<b>5.1.8.D.4</b>	<b>Handle and treat organisms humanely, responsibly, and ethically.</b>
<b>Earth History</b>	<b>5.4.8.B.1</b>	<b>Correlate the evolution of organisms and the environmental conditions on Earth as they changed throughout geologic time.</b>
	<b>5.4.8.B.2</b>	<b>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.</b>
	<b>5.4.8.C.1</b>	<b>Determine the chemical properties of soil samples in order to select an appropriate location for a community garden.</b>
	<b>5.4.8.C.2</b>	<b>Explain how chemical and physical mechanisms (changes) are responsible for creating a variety of landforms.</b>
	<b>5.4.8.C.3</b>	<b>Model the vertical structure of the atmosphere using information from active and passive remote-sensing tools (e.g., satellites, balloons, and/or ground-based sensors) in the analysis.</b>

	<b>5.4.8.D.1</b>	<b>Model the interactions between the layers of Earth.</b>
	<b>5.4.8.D.2</b>	<b>Present evidence to support arguments for the theory of plate motion.</b>
	<b>5.4.8.D.3</b>	<b>Explain why geomagnetic north and geographic north are at different locations.</b>
<b>Force and Motion</b>	<b>5.2.8.C.1</b>	<b>Structure evidence to explain the relatively high frequency of tornadoes in “Tornado Alley.”</b>
	<b>5.2.8.C.2</b>	<b>Model and explain current technologies used to capture solar energy for the purposes of converting it to electrical energy.</b>
	<b>5.2.8.D.1</b>	<b>Relate the kinetic and potential energies of a roller coaster at various points on its path.</b>
	<b>5.2.8.E.1</b>	<b>Calculate the speed of an object when given distance and time.</b>
	<b>5.2.8.E.2</b>	<b>Compare the motion of an object acted on by balanced forces with the motion of an object acted on by unbalanced forces in a given specific scenario.</b>
<b>Chemistry – Part 1</b>	<b>5.2.8.A.1</b>	<b>Explain that all matter is made of atoms, and give examples of common elements.</b>
	<b>5.2.8.A.2</b>	<b>Analyze and explain the implications of the statement “all substances are composed of elements.”</b>
	<b>5.2.8.A.3</b>	<b>Use the kinetic molecular model to predict how solids, liquids, and gases would behave under various physical circumstances, such as heating or cooling.</b>
	<b>5.3.8.A.1</b>	<b>Compare the benefits and limitations of existing as a single-celled organism and as a multicellular organism.</b>
	<b>5.3.8.A.2</b>	<b>Relate the structures of cells, tissues, organs, and systems to their functions in supporting life.</b>

**COURSE OBJECTIVES  
EIGHTH GRADE**

Topic	Standard/Strand	CPI
<b>Scientific Method – Science Practices</b>	5.1.8.A.3	Use scientific principles and models to frame and synthesize scientific arguments and pose theories.
	5.1.8.B.4	Use quality controls to examine data sets and to examine evidence as a means of generating and reviewing explanations.
	5.1.8.C.1	Monitor one’s own thinking as understandings of scientific concepts are refined.
	5.1.8.C.2	Revise predictions or explanations on the basis of discovering new evidence, learning new information, or using models.
	5.1.8.C.3	Generate new and productive questions to evaluate and refine core explanations.
<b>Diversity of Life</b>	5.3.8.A.1	Compare the benefits and limitations of existing as a single-celled organism and as a multicellular organism.
	5.3.8.A.2	Relate the structures of cells, tissues, organs, and systems to their functions in supporting life.
	5.3.8.D.3	Describe the environmental conditions or factors that may lead to a change in a cell’s genetic information or to an organism’s development, and how these changes are passed on.
	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.
	5.3.8.B.2	Analyze the components of a consumer’s diet and trace them back to plants and plant products.
	5.3.8.D.1	Defend the principle that, through reproduction, genetic traits are passed from one generation to the next, using evidence collected from observations of inherited traits.
	5.3.8.D.2	Explain the source of variation among siblings.
	5.3.8.E.2	Compare the anatomical structures of a living species with fossil records to derive a line of descent.

<b>Chemistry – Part 2</b>	<b>5.2.8.A.4</b>	<b>Predict the physical and chemical properties of elements based on their positions on the Periodic Table.</b>
	<b>5.2.8.A.5</b>	<b>Identify unknown substances based on data regarding their physical and chemical properties</b>
	<b>5.2.8.A.6</b>	<b>Determine whether a substance is a metal or nonmetal through student-designed investigations.</b>
	<b>5.2.8.A.7</b>	<b>Determine the relative acidity and reactivity of common acids, such as vinegar or cream of tartar, through a variety of student-designed investigations.</b>
	<b>5.2.8.B.1</b>	<b>Explain, using an understanding of the concept of chemical change, why the mass of reactants and the mass of products remain constant</b>
	<b>5.2.8.B.2</b>	<b>Compare and contrast the physical properties of reactants with products after a chemical reaction, such as those that occur during photosynthesis and cellular respiration.</b>
	<b>5.2.8.D.2</b>	<b>Describe the flow of energy from the Sun to the fuel tank of an automobile.</b>
<b>Populations and Ecosystems</b>	<b>5.3.8.C.1</b>	<b>Model the effect of positive and negative changes in population size on a symbiotic pairing.</b>
	<b>5.3.8.E.1</b>	<b>Organize and present evidence to show how the extinction of a species is related to an inability to adapt to changing environmental conditions using quantitative and qualitative data.</b>
	<b>5.4.8.B.2</b>	<b>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.</b>
	<b>5.4.12.G.2</b>	<b>Explain the unintended consequences of harvesting natural resources from an ecosystem.</b>
<b>Brain and Senses</b>	<b>5.3.8.A.2</b>	<b>Relate the structures of cells, tissues, organs, and systems to their functions in supporting life.</b>

## SCIENCE - GRADES K-8

### **CURRICULUM ADDENDA FOR SPECIAL EDUCATION**

This curriculum can be both grade and age appropriate for special education students and serves as a guide for the special education teacher in line with the district's written philosophy of special education concerning Programs for Educationally Disabled Students. Based on the Child Study Team evaluation and consultation with the parent and classroom teacher, an individualized education plan may include modifications to content, instructional procedures, student expectations, and targeted achievement outcomes of this curriculum document in accordance with the identified individual needs of an eligible student. This educational plan will then become a supplemental guide that the classroom teacher, parent, and Child Study Team will use to measure the individual student's performance and achievement.

### **CURRICULUM ADDENDA FOR ENGLISH LANGUAGE LEARNERS**

This curriculum guide is appropriate and is implemented for all students according to age and grade, and is in line with the district's written philosophy of English language acquisition as stated within Policy #6409 concerning Bilingual Instruction and English as a Second Language Programs. In accordance with the New Jersey Administrative Code 6A:15, the contents herein provide equitable instructional opportunities for English Language Learners to meet the Core Curriculum Content Standards and to participate in all academic and non-academic courses. Students enrolled in a Bilingual and/or an ESL program may, in consultation with the classroom teacher and Bilingual and/or ESL teacher, receive modifications to content, instructional procedures, student expectations and targeted achievement outcomes of this curriculum document in accordance with the students developmental and linguistic needs.

## **MODIFICATIONS/SUPPLEMENTARY AIDS IN REGULAR EDUCATION FOR SPECIAL EDUCATION STUDENTS**

To the maximum extent appropriate, an educationally disabled pupil shall be educated with children who are not educationally disabled. In developing the basic plan of the individual education program, the Child Study Team, Regular Education teacher, Special Education teacher, and parent/guardian shall determine the appropriateness of regular education program options with support, such as curricular or instructional modifications.

The following list is only some of the curricular modifications and instructional techniques available for implementation in the Regular Education classroom.

- Read tests orally, record student response; allow test retakes
- Reduce the amount of written work or class work by one half
- Grade student on what is handed in, do not penalize for incomplete assignments / homework / spelling
- Allow student to finish tests and quizzes during school, after school, or in the Resource Center; allow additional time for tests
- Do not require student to make up work when absent
- Provide preferential seating, study carrels
- Keep desk free from extraneous materials
- Provide adequate space for movement
- Extend time for processing information
- Cue student to stay on task
- Establish an individual daily schedule
- Break work into shorter segments
- Rewriting tests / consider spacing and crowding
- Test for content and knowledge in subject areas
- Grading modification based on individual goals
- Verbal cues and prompts
- Proximity control
- Logical consequences / natural reinforcers / immediate feedback
- Augmentative communication systems (i.e., Alpha Talker)
- Books on tape / study guides
- Differentiated activities / assignments
- Homework Clubs, homework assignment pads
- Vary test formats; short answers, matching, essay
- Alternative response modes: points, writes, circles
- Curriculum-based assessment
- Peer tutoring : Individual and Classwide models
- Cooperative learning groups
- Advance organizers / outlines / study guides / mapping guides
- Note-taking assistance / note-taking strategies
- Rephrasing/redirecting /'preview' strategies / mnemonic devices
- Computer assisted instruction
- Assistive technology devices
- Math: calculator, tables, number lines, manipulatives
- Vary input: lecture, demonstration, simulations
- Vary output: oral , written games, role plays
- Vary questioning techniques
- Parallel activity or curriculum
- Provide summary of reading assignment: written / taped
- Use checklist for review / study procedures
- Behavioral contingency contracts / planned ignoring
- Time out/ time away
- Rules and Routine clear and consistent

## **ENGLISH LANGUAGE LEARNERS GENERAL MODIFICATIONS FOR INSTRUCTIONAL ACTIVITIES**

In order to ensure that English Language Learners are fully integrated into classroom life and can participate in all mainstream content areas, certain modifications and differentiated criteria shall be implemented. The following modifications can be utilized to suit the needs of English Language Learners in the mainstream classes outlined in this curriculum guide. After consultation with an ESL/Bilingual teacher and identification of student's proficiency level, the mainstream content area teacher can choose the appropriate strategies. Teachers should:

### **Beginning ESL students**

- Allow students to illustrate answers or vocabulary words
- Allow students to translate vocabulary into native language and use native language dictionary.
- Speak slowly and clearly
- Use gestures, facial expressions, and visuals
- Ask yes/no questions
- Model: use concrete demonstration of abstract concepts
- Use manipulatives, props, pictures, and concrete objectives as much as possible
- Assign a native language partner/peer tutor
- Use study guides/outline chapters
- Monitor use of notebooks
- Differentiated grading and requirements

### **Beginning and Intermediate ESL students**

- Simplify language/avoid idioms
- Use cooperative learning groups/set up peer tutoring pairs to encourage participation
- Use videos to reinforce content
- Tape record lessons and text readings
- Incorporate appropriate student software into planning and assignments
- Highlight key words and concepts
- Reduce the number of items for tests, class work, and homework
- Allow for repetition of material in various modes, (oral, written, visual, song)
- Allow verbal response in place of written
- Use manipulatives and hands-on activities
- Use graphic organizers, Venn diagrams and outlines to visually present information
- Encourage students to organize information through the use of such organizers
- Build background knowledge prior to lesson, students may not be aware of culturally specific events or objects
- Provide multiple choice options for open ended questions
- Use student as a resource whenever possible
- Differentiated grading and requirements

### **Advanced ESL students and recently exited ESL students** (see above as needed)

- Score writing holistically (focus on the content of ideas rather than grammar)
- Use cooperative learning groups/set up peer tutoring pairs
- Highlight key words
- Encourage participation by fostering a supportive class climate and allowing for mistakes
- Use graphic organizers
- Modify and support writing assignments and assessments
- Build background knowledge through class discussions especially if material is culturally specific to the United States
- Use student as a resource whenever possible/highlight student successes

**CORE CURRICULUM CONTENT STANDARDS  
SCIENCE K-8**

**TECHNOLOGICAL LITERACY**

<b>Content Area</b>	<b>Technology</b>
<b>Standard</b>	<b>8.1 Educational Technology:</b> All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.
<b>Standard</b>	<b>8.2 Technology Education, Engineering, and Design</b> All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment.

**21<sup>st</sup> CENTURY LIFE AND CAREERS**

<b>Content Area</b>	<b>21st-Century Life and Careers</b>
<b>Standard</b>	<b>9.1 21st-Century Life &amp; Career Skills</b> All students will demonstrate the creative, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures.
<b>Standard</b>	<b>9.2 Personal Financial Literacy</b> All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.
<b>Standard</b>	<b>9.3 Career Awareness, Exploration, and Preparation</b> All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.
<b>Standard</b>	<b>9.4 Career and Technical Education</b> All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the <a href="#">Career Clusters Table</a> .)

## SCIENCE – GRADES K-8

### CAREER INFUSION

#### I. AWARENESS OF SELF

- A. Becomes aware of personal characteristics including strengths and limitations
  - 1. Considers careers in terms of strengths and limitations
  - 2. Accurately describes own scholastic abilities
- B. Identifies a preferred life style
  - 1. Understands that careers are related to life style
  - 2. Identifies from a variety of life styles those most compatible with personal characteristics and needs.
- C. Relates personal needs, values, and interests to behavior decisions and careers
  - 1. Explores personal interests.
  - 2. Explores careers in terms of interests and abilities.
  - 3. Understands that one's career can combine skills and interests.

#### II IMPROVE HUMAN RELATIONSHIPS, INCREASE INTERPERSONAL SKILLS

- A. Reacts positively to constructive criticism.
  - 1. Gives and profits from constructive criticism.
  - 2. Use information gained through constructive criticism to effect change in self and others.
- B. Works with others regardless of sex, race, or cultural differences.
- C. Affirms the need for positive interpersonal relationships.
  - 1. Uses positive means for working with others.
  - 2. Assumes an active role in group situations.
  - 3. Understands the need for and maintains open communication.

#### III. IIMPROVE CAREER PLANNING AND DECISION-MAKING SKILLS

- A. Able to use decision-making processes.
  - 1. Obtains adequate and relevant information for decisions.
  - 2. Uses information sources effectively in making decision.
- B. Demonstrates the ability to participate in group decision-making.
  - 1. Identifies the kinds of decisions that are made in groups.
  - 2. Participates effectively in group decision-making.

#### IV. IMPROVE WORK, ATTITUDES, AND APPRECIATION FOR CAREER SUCCESS

- A. Demonstrates initiative and independence
  - 1. Engages in activities independently.
  - 2. Engages in independent study and independent tasks.
- B. Exhibits positive work attitude.

1. Identifies ways in which occupation, jobs, and work situations can be personally satisfying.
  2. Identifies ways in which workers can improve their work in terms of satisfaction.
- C. Plans and completes tasks efficiently and thoroughly.
1. Demonstrates self-discipline in completing tasks.
  2. Values planning in organizing work and completing jobs.
- D. Uses health and safety habits.
1. Explores safety aspects of jobs.
  2. Evidences concern for safety of self and others.

V. IMPROVE PROFICIENCY OF COMMUNICATION AND COMPUTATIONAL SKILLS

- A. Understand how good listening skills apply to careers explored.
- B. Uses writing and speaking skills effectively.
1. Uses writing and speaking skills in and out of school.
  2. Uses diverse writing and speaking skills effectively.

VI. GAIN KNOWLEDGE OF THE CAREER IMPLICATION OF SUBJECT MATTER

- A. Identifies career implication of school experiences.
1. Explores careers and plans school experiences in terms of personal interests and skills already learned.
  2. Applies course content to career interests.
- B. Relates specific school experiences to job requirements.
1. Understand career implication of specific subject matter.
  2. Explores career in terms of educational requirements.

VII. ACQUIRE AND APPLY SOCIO-TECHNOLOGICAL-ECONOMIC-POLITICAL UNDERSTANDING

- A. Evidences technological understanding.
1. Traces impact of technology on careers explored
  2. Acquires skills needed to work with technologies related to preferred Occupations

VIII. INCREASE KNOWLEDGE OF CAREER AND OCCUPATIONAL INFORMATION

- A. Uses knowledge of personal values, interest, needs, and limitations to explore career options by relating personal characteristics to preferred occupations.
- B. Develop awareness of a range of career options and their requirements by developing skills which can be combined in a number of ways in different careers.

IX. MARKETABLE SKILLS AND ADAPTABILITY

- A. Understands effects of technological change.
  - 1. Explores emerging careers and occupations.
  - 2. Considers implications of future technological change on preferred occupations.

X. LEISURE PREFERENCES

- A. Identifies personal leisure preferences.
  - 1. Relates values and interests to use of leisure time.
  - 2. Evaluates leisure activities in terms of personal values and goals.
- B. Describes the role of leisure in living: pleasure, personal, social, intellectual development, health, and fitness.
  - 1. Assesses the value of hobbies and activities in personal development.
  - 2. Values leisure activities.

XI. CAREER DAY

- A. Students in Grades 5-8 will participate in Career Day which will involve them in projects, interviews, resume writing, etc.