

**NORWIN SCHOOL DISTRICT
CURRICULUM MAP**

Course Name Science – Grade 6 *Course Number* _____ *Length of Course* Year

<i>Grading Period</i>	<i>CONTENT</i>	<i>SKILLS</i>
<i>First Nine Weeks</i>	<p>NATURE OF SCIENCE</p> <ul style="list-style-type: none"> - Description of Science - Branches of Science (life, earth, and physical) - Scientific Method (know steps, use to perform and experiment, describe parts). - Use data tables and graphs. - Construct data tables and graphs - Identify prefixes and suffixes for science and their meanings - Laboratory safety, rules and symbols (discuss and learn) - Learn basic metric units (length, weight, liquid) - Difference in weight and mass - Solve for density - Teach formulas for volume and density - Tech about laboratory equipment to be used in the lab <p>EARTH SCIENCE</p> <ul style="list-style-type: none"> - Stress and crust - Faulting (normal, reverse, and thrust) - Rift valleys - Folding (anticline and syncline) - Crust, mantle, isostasy, core - Earthquakes (p waves, s waves, L waves) - Volcanoes (cinder, composite, shield) - Ring of Fire - Plate Tectonics B continental drift - Sea floor spreading – subduction 	<ul style="list-style-type: none"> - Describe the process of science and the branches of science. - Identify the steps in the scientific method - Explain the importance of safety rules in the laboratory. - Discuss the importance of universal language of measurement. - Identify the metric units used in scientific measurement - Identify the common laboratory tools used to measure length, volume, mass, and temperature - Compare/contrast mass and weight <ul style="list-style-type: none"> - Describe how the earth=s crust is deformed - Define isostasy and explain its effect of the movement of the earth=s crust - Explain what happens during an earthquake - Classify the three types of volcanoes - Identify the locations of major zones of earthquake and volcanic activity - Discuss the theory of plate tectonics

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<i>Second Nine Weeks</i>	<ul style="list-style-type: none"> - Plate boundaries (convergent, divergent, and strike slip) - Convection currents - Minerals (formation, identification, uses, color, luster, hardness, streak, density, shape, cleavage, and fracture) - Rock (types and cycle) <ul style="list-style-type: none"> Igneous B intrusive and extrusive. Sedimentary B clastic, organic, and chemical - Metamorphic B heat and pressure - Scientific Method (perform experiments, describe & use.) - Fossils - Petrification - History of rocks and fossils - Index fossils - Radiocarbon dating - Age of the Earth - Precambrian, Paleozoic, Mesozoic, Cenozoic ELECTRICITY - Atoms and electricity - Charge and force - Electric fields - Static Electricity - Methods of charging - Lightning - Movement of electric charge - Electric current, circuits, resistance, Ohm=s Law, electric energy - Magnetic poles, fields, domains, and materials - Earth as a magnet - Sources of magnetism - Solar winds - Magnetosphere - Auroras 	<ul style="list-style-type: none"> - Define the term mineral - Describe the rock cycle - Describe how igneous rocks are classified - Identify the main categories of sedimentary rocks - Describe the forces that change existing rocks into metamorphic rocks - Identify different types of fossils - Use relative age to determine the age of rocks and fossils - Determine how radioactive dating enables scientists to determine absolute age - Identify the four geologic eras - Identify life forms from each geologic era - Describe basic events from each era. - Identify sources of electric charge - Describe how electric charge behaves - Explain how neutral object acquire charge - Define and describe static electricity - Explain how to produce electric charge - Describe the relationship between electric current, voltage and resistance - Work problems using Ohm=s Law - Label parts of a circuit - Describe the difference between a series and parallel circuit - Define electric power - Define the characteristics of a magnetic field - Describe how magnetism is related to atomic structure - List the magnetic properties of Earth - Explain how a compass works - Describe how magnetic fields alter the motion of charged particles

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<i>Third Nine Weeks</i>	<p>PHYSICAL SCIENCE/ CHEMISTRY</p> <ul style="list-style-type: none"> - Matter - Mass and weight - Inertia - Gravity - Volume and Density - 4 Phases of matter - Physical and chemical properties <ul style="list-style-type: none"> - Classes of matter B mixtures, solutions, elements, and compounds - Heterogeneous and homogenous - Solubility and alloys - Elements and Symbols - Compounds and molecules - Chemical formulas and equations - Models of atoms B Greek, Dalton=s, Thomsons, - - Rutheford=s, Bohr, and Wave - Atomic structure B nucleus, atomic number, isotopes, mass number, atomic mass, electrons, and quarks 	<ul style="list-style-type: none"> - Explain the four general properties of matter - Describe the difference between mass and weight - Explain how to determine the density of an object - Recognize the four phases of matter - Describe the gas laws - Define the relationship between energy and phase changes - Define the difference between and chemical property and chemical change, physical property and physical change <ul style="list-style-type: none"> - Describe how matter is classified according to its make-up - Describe the relationship and differences in mixtures and solutions and compare their properties - Explain why elements are considered pure substances - Describe how chemical symbols, formulas, and balanced equations are used to describe a chemical reaction. - Define compounds and molecules - Describe how the atomic model has changed over time - Classify subatomic particles. - Identify the relationship among atomic number, isotope, mass number and atomic mass - Describe the structure of an atom according to the modern atomic theory - Identify how the four forces in nature are related to atomic structure - List the parts of an atom

<i>Grading Period</i>	<i>CONTENT</i>	<i>SKILLS</i>
<i>Fourth Nine Weeks</i>	<p>OWLS</p> <ul style="list-style-type: none"> - Habitat - Food web - Owl pellet dissection <p>RAINFOREST</p> <ul style="list-style-type: none"> - Climate / Precipitation - People - Resources / Medicines - Animals - Plants <p>EMBRYOLOGY</p> <ul style="list-style-type: none"> - Daily Embryo Development - Parts of an egg <p>LIFE SCIENCE</p> <ul style="list-style-type: none"> - Characteristics of living things. - Basic needs of living organisms. - Inorganic and organic compounds. - The cell theory - Structure and function of cells - Cell processes - Cell growth and division 	<p>OWLS</p> <ul style="list-style-type: none"> - Identify appropriate habitats necessary for owl survival. - Discuss the impact of the breakdown of a food web. - Identify the skeletal remains found in the owl pellet. <p>RAINFOREST</p> <ul style="list-style-type: none"> - Explain how climate and precipitation relate to the types of plants and animals indigenous to the rainforest. - Explain how the indigenous people are forced to choose between the survival of the rainforest and their own survival. - List various resources and contributions to medicine. - List the various types of animals that live in the four layers of the rainforest and their adaptations. - Compare and contrast the types of plants in the rainforest with those of a Pennsylvania deciduous forest. <p>EMBRYOLOGY</p> <ul style="list-style-type: none"> - Describe how an embryo develops from the original fertilized cell to a complete organism. - Explain the incubation process. - Incubate fertilized eggs. <ul style="list-style-type: none"> - List characteristics of living things. - Define basic needs of living organisms. - Explain the difference between elements and compounds and how they relate to organic or inorganic compounds. - Describe the structure of a typical cell. - Identify the functions of the individual cell parts. - Compare and contrast plant and animal cells. - Explain the cell theory. - Demonstrate how materials pass in and out of the cell through osmosis and diffusion. - Define active transport. - Describe the events occurring during cell division. - Compare and contrast meiosis and mitosis.