

Oneness-Family School - 4th and 5th Grade - Science and Cultural Benchmarks Academy

SCIENCE & CULTURE

History & Culture	Physical Science	Biology
<p>Formation of Earth</p> <p>Understands how electricity changed life on earth</p> <p>Describes how electric energy can be converted to heat, light, and motion</p> <p>Understands the formation of the earth and can demonstrate it</p> <p>Understands the properties of rocks and minerals reflect the processes that formed them</p> <p>Identifies common rock-forming minerals</p> <p>Understands the force of water in shaping and reshaping the land</p> <p>Differentiate observation from interpretation</p> <p>Formulates cause and effect</p> <p>Follows a set of written instructions for a scientific investigation</p> <p>Knows that plants are the primary source of matter and energy entering most food chains</p> <p>Understands the food chain</p>	<p>Scientific inquiry</p> <p>Understands the processes of life, motion, force, energy, heat, sound and light.</p> <p>Demonstrates an understanding of Astronomy</p> <p>Demonstrates knowledge of rocks, and their properties,</p> <p>Understands chemistry (atomic, molecular structure, the periodic table of the elements).</p> <p>Simple & Complex Machines</p> <p>Understands work(as defined by physical science) and the mechanical advantages of six simple machines to make work easier.</p> <p>Understands the basic six simple machines (inclined plane, wedge, screw, lever, pulley, and wheel-and-axle).</p> <p>Evaluates the mechanical advantage of simple machines.</p> <p>List the general steps of the engineering design process.</p>	<p>Consistently builds concrete atomic diagrams of chemical elements</p> <p>Identifies three states of matter</p> <p>Recognizes changes in physical states of matter are related to temperature</p> <p>Recognizes the sun is a star</p> <p>Compare the relative distances of the planets</p> <p>Describes characteristics of planets</p> <p>Understands cause of day and night on earth</p> <p>Identifies climate zones</p> <p>Identifies the layers of the earth</p> <p>Recognizes geologic time periods and their life forms on Timeline of Life</p> <p>Identifies characteristics of classes of vertebrates in the timeline of humans</p> <p>Awareness of Five Kingdoms</p>

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<p>Understands that living organisms depend on their environment for survival</p> <p>Timeline of Life</p> <p>Reviews the TimeLine of Life(Paleozoic, Mesozoic, Cenozoic, Neozoic eras)</p> <p>Demonstrates the ability to analyze and interpret fact versus opinion.</p> <p>Demonstrate the ability to develop</p> <p>Early Humans</p> <p>Defines prehistory</p> <p>Demonstrates the importance of archeology and anthropology to understand early human history.</p> <p>Understands significance and characteristics of Early Humans, beginning with Australopithecus</p> <p>Understands timeline of Lower Paleolithic Age</p> <p>Understands timeline of Upper Paleolithic Age</p> <p>Understands the B.C./A.D. timeline</p> <p>Understands the gifts of civilizations</p> <p>Studies the concept of Archeology/Anthropology</p>	<p>Designs simple and compound machines.</p> <p>Thinks critically about the importance of the machines they encounter in life.</p> <p>Use their knowledge of simple and compound machines to design and build a small Rube Goldberg machines.</p>	<p>Knows nomenclature for plant, leaf, root, stem, flower, fruit, seed</p> <p>Knows the scientific method: identify the question, propose hypotheses, identify variables, propose conclusions</p> <p>Recognizes the fundamental needs of people</p> <p>Recognizes basic land and water forms</p> <p>Consistently able to read maps and globes</p> <p>Demonstrates the location the equator and northern and southern hemispheres on a globe or map</p> <p>Identifies and locates all seven continents</p> <p>Botany</p> <p>Identifies the tree of life, plant phyla, internal functions and structural functions of plants</p> <p>Understands environmental ecology</p> <p>Reads informational text, answers questions based on the text, and makes inferences</p> <p>Conducts research in books and online and organize the information gathered</p> <p>Reads and follows lab procedures</p>

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<p>Studies growth of cultures, migrations, explorations</p> <p>Demonstrates the development and significance of the relationship between hominids and their changing environment</p> <p>Identifies three distinctive traits of human beings.</p> <p>Native American Studies</p> <p>Demonstrates familiarity with research trends and new directions in Native American Studies.</p> <p>Demonstrates knowledge of qualitative research methods.</p> <p>Understands and appreciate the roles of art, culture, history, literature, and politics in the development of the tribal world, that relate to contemporary Native American issues.</p> <p>Recognizes stereotypes about Native Americans and explain how and why these images became popular over the years.</p> <p>Understand historical experiences and contemporary issues in the U.S. as well as the larger Western Hemisphere.</p>		<p>Human Body</p> <p>Reads an informational text, answer questions based on the text, and make inferences</p> <p>Conducts research in books and online and organize the information gathered</p> <p>Reads and follow a lab procedure or directions for an activity</p> <p>Understands how the human body system function in order to maintain life.</p> <p>Understands how matter and energy are processed by the body to build, maintain, and repair the body.</p> <p>Develops their skills and abilities to do the scientific investigation.</p> <p>Understands the importance of collaboration and sharing of ideas in the pursuit of scientific understanding and developing skills to do this.</p> <p>Know six human body systems, vocabulary, and functions: skeletal, muscular, digestive, circulatory and lymphatic system.</p>

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<p>Early European Immigrants in North America</p> <p>Compares and contrasts the development of English settlement and colonization during the 17th century.</p> <p>Investigate how mercantilism and transAtlantic trade led to the development of colonies.</p> <p>Explains the development of the Southern Colonies, including but not limited to reasons established, the impact of location and place, relations with Indigenous people, and economic development.</p> <p>Explains the development of New England Colonies, including but not limited to reasons established, the impact of location and place, relations with American Indians, and economic development.</p> <p>Understands the development of the Mid-Atlantic Colonies, including but not limited to reasons established, the impact of location and place, relations with Indigenous people, and economic development.</p> <p>Describes the early English colonial society and investigate the development of its governance.</p> <p>Describes European cultural diversity including the contributions of ethnic/religious groups.</p>		

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<p>Describes the Middle Passage, the growth of the POW Africans population and the development of European colonies from their labor, especially in agriculture, architecture, cultural and political development.</p> <p>Can describe the different methods of colonial self-governance in the period of Salutary Neglect.</p> <p>Explains the role of the Great Awakening in creating unity in the colonies and challenging traditional authority.</p>		
<p>Human Geography</p> <p>Understands the interdependence of Man</p> <p>Understands the study of natural resources and industries</p> <p>Understands the United States (as a country), States (individual)</p> <p>Understands the production of goods</p> <p>Understands the difference between imports and exports</p> <p>Understands the concept of taxation</p>		