

## PLANNED COURSE

**SUBJECT AREA:** Science and Technology

**GRADE/COURSE:** 3

**Standard And Strand** 3.1 Unifying Themes

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>A. Know that natural and human made objects are made up of parts.</p>	<p>Identify and describe what parts make up a system.</p> <p>Identify system parts that are natural and human made (e.g., ball point pen, simple electrical circuits, plant anatomy)</p> <p>Describe the purpose of analyzing systems.</p> <p>Know that technologies include physical technology systems (e.g., construction, manufacturing, transportation) informational systems and biochemical related systems.</p>	<p>Teacher observation</p> <p>Tests</p> <p>Models</p> <p>Diagrams</p> <p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>B. Know models as useful simplifications of objects or processes.</p> <p>C. Illustrate patterns that regularly occur and reoccur in nature.</p>	<p>Identify different types of models.</p> <p>Identify and apply models as tools for prediction and insight.</p> <p>Apply appropriate simple modeling tools and techniques</p> <p>Identify theories that serve as models (e.g., molecules)</p> <p>Identify observable patterns (e.g., growth patterns in plants, crystal shapes in minerals, climate, structural patterns in bird feathers)</p> <p>Use knowledge of natural patterns to predict next occurrences (e.g., seasons, leaf patterns, lunar phases)</p>	<p>Diagrams, models, teacher observation, booklets.</p> <p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>D. Know that scale is an important attribute of natural and human made objects, events and phenomena.</p> <p>E. Recognize change in natural and physical systems.</p>	<p>Identify the use of scale as it relates to the measurement of distance, volume and mass.</p> <p>Describe scale as a ration (e.g., map scales)</p> <p>Explain the importance of scale in producing models and apply it to a model.</p> <p>Recognize change as fundamental to science and technology concepts.</p> <p>Examine and explain change by using time and measurement.</p> <p>Describe relative motion.</p> <p>Describe the change to objects caused by heat, cold, light or chemicals.</p>	<p>Models, maps, diagrams</p> <p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>







OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>C. Know that characteristics are inherited and thus offspring closely resemble their parents.</p> <p>D. Identify changes in living things over time.</p>	<p>Identify characteristics for animals and plant survival in different climates.</p> <p>Identify physical characteristics that appear in both parents and offspring and differ between families, strains or species.</p> <p>Compare extinct life forms with living organisms.</p> <p>Know that differences in individuals of the same species may give some advantage in survival and reproduction.</p>	<p>Tests</p> <p>Reports</p> <p>Diagrams</p> <p>Drawings</p> <p>Photographs</p> <p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>

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**Standard And Strand** 3.4 Physical Science, Chemistry and Physics

<b>OBJECTIVES</b>	<b>PERFORMANCE INDICATORS</b>	<b>ASSESSMENTS (Variety as per Section 4.52, Chapter 4)</b>
A. Recognize basic concepts about the structure and properties of matter.	Describe properties of matter (e.g., hardness, reactions to simple chemical tests)  Know that combining two or more substances can make new materials with different properties.  Know different material characteristics (e.g., texture, state of matter, solubility).	<b>*More specific assessments will be designed upon purchase of new science materials.</b>

OBJECTIVES	PERFORMANCE INDICATORS	ASSESSMENTS (Variety as per Section 4.52, Chapter 4)
<p>B. Know basic energy types, sources and conversions.</p>	<p>Identify energy forms and examples (e.g., sunlight, heat, motion).</p> <p>Know the concepts of the flow of energy by measuring flow through an object or system.</p> <p>Describe static electricity in terms of attraction, repulsion and sparks. Apply knowledge of the basic electrical circuits to design and construct simple direct current circuits.</p> <p>Classify materials as conductors and nonconductors.</p> <p>Know and demonstrate the basic properties of heat by producing it in a variety of ways.</p> <p>Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image.</p>	<p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>





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**Standard And Strand** 3.6 Technology

<b>OBJECTIVES</b>	<b>PERFORMANCE INDICATORS</b>	<b>ASSESSMENTS (Variety as per Section 4.52, Chapter 4)</b>
<p>A. Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting.</p> <p>B. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving, and decoding.</p> <p>C. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design.</p>		<p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>

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**Standard And Strand** 3.7 Technological Devices

<b>OBJECTIVES</b>	<b>PERFORMANCE INDICATORS</b>	<b>ASSESSMENTS (Variety as per Section 4.52, Chapter 4)</b>
A. Explore the use of basic tools, simple materials and techniques to safely solve problems.  B. Select appropriate instruments to study materials.  C. Identify basic computer operations and concepts.  D. Use basic computer software.  E. Identify basic computer communication systems.		<b>*More specific assessments will be designed upon purchase of new science materials.</b>

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**Standard And Strand** 3.8 Science, Technology and Human Endeavors

<b>OBJECTIVES</b>	<b>PERFORMANCE INDICATORS</b>	<b>ASSESSMENTS (Variety as per Section 4.52, Chapter 4)</b>
<p>A. Know that people select, create and use science and technology and that they are limited by social and physical restraints.</p> <p>B. Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.</p> <p>C. Know the pros and cons of possible solutions to scientific and technological problems in society.</p>		<p><b>*More specific assessments will be designed upon purchase of new science materials.</b></p>