

## 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> |

**SUBJECT AREA:** Science and Technology

**GRADE/COURSE:** 3

**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)<br><br>Know that combining two or more substances can make new materials with different properties.<br><br>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.<br/>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> |





**SUBJECT AREA:** Science and Technology

**GRADE/COURSE:** 3

**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> |

**SUBJECT AREA:** Science and Technology

**GRADE/COURSE:** 3

**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.<br><br>B. Select appropriate instruments to study materials.<br><br>C. Identify basic computer operations and concepts.<br><br>D. Use basic computer software.<br><br>E. Identify basic computer communication systems. |                               | <b>*More specific assessments will be designed upon purchase of new science materials.</b> |

**SUBJECT AREA:** Science and Technology

**GRADE/COURSE:** 3

**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> |