Unifying Concept: Systems, Order, Organization; Evidence, Models, and Explanation; Evolution and Equilibrium; Form and Function

Big Idea: All organisms have a life cycle. Organisms have special characteristics, behaviors, and adaptations that enable them to survive in their environments.

Sub Concept I: Live animals in the classroom have rights.

Sub Concept II: Each crayfish is unique, although they share the characteristics of all crustaceans.

Sub Concept III: Crayfish behavior helps them to survive in their environment.

Sub Concept IV: We can learn more about crayfish through observation, investigation, and research.

Description of Assessment: Suggestions include creating a concept map, evaluating the final research project, and evaluating other student work (e.g. science notebooks)

Science Process Skills: Observing, Questioning, Comparing, Communicating, Inferring, and Interpreting

National Science Standards: 5-8 Life Science; History & Nature of Science; Science as Inquiry

California Science Standards: 5: Investigation & Experimentation 6b-e, g-l

VIPS 2000
**Unifying Concept:** Systems, Order, and Organization; Evidence, Models, and Explanation; Form and Function

**Big Idea:** Bones and teeth in a skeletal system have specific structures and functions.

**Sub Concept I:** An owl pellet contains the bones and fur from animals an owl has eaten.

**Sub Concept II:** Major bone groups have specific functions.

**Sub Concept III:** Animal teeth and jaws indicate the kinds of food they eat.

**Sub Concept IV:** Joints help different parts of the body move.

**Sub Concept V:** Bones are living tissue.

**Description of Assessment:** Introductory questionnaire, embedded assessments (LE11), final assessment, final questionnaire and performance assessment, evaluating student work (e.g. science notebooks)

**Science Process Skills:** Observing, Questioning, Comparing, Communicating, Interpreting, Relating, Inferring, and Predicting

**National Science Standards:** 5-8 Life Science; Science in Personal and Social Perspectives; History and Nature of Science; Science as Inquiry

**California Science Standards:** 5: Investigation and Experimentation 6a

VIPS 2000
**Unifying Concept**: Evidence, Models, and Explanation; Constancy, Change, and Measurement; Evolution and Equilibrium; Form and Function

**Big Idea**: Solar energy is an alternative energy source. Solar energy can be transferred to materials. Factors influence the effectiveness of the transfer.

**Sub Concept I**: By observing shadows throughout the day, one can see the effects of the apparent motion of the sun around the earth.

**Sub Concept II**: The sun heats the Earth’s atmosphere and earth materials.

**Sub Concept III**: Solar energy can be captured and used to heat water.

**Sub Concept IV**: Solar energy can be captured and used to heat a model house.

**Description of Assessment**: End-of-unit assessment includes hands-on task, pictorial assessment, and reflective questions assessment, review student work (e.g., science notebooks)

**Science Process Skills**: Observing, Questioning, Comparing, Communicating, Organizing, and Relating

**National Science Standards**: 5-8 Earth/Space Science; Physical Science; Science and Technology; Science in Personal and Social Perspectives; History & Nature of Science; Science as Inquiry

**California Science Standards**: 6: Physical Science 3a,d; Earth Science 4b; Investigation and Experimentation 7b-e

**VIPS 2000**
Unifying Concept: Systems, Order, and Organization; Evidence, Models, and Explanation; Constancy, Change, and Measurement; Form and Function

Big Idea: Electric current flows in a complete circuit — that is a continuous loop that connects the critical points of the battery or other power source.

Sub Concept I: A circuit is a pathway along which electric current travels.

Sub Concept II: Two examples of circuits are series and parallel.

Sub Concept III: Different components can change or interrupt the flow of electricity.

Sub Concept IV: New knowledge and systematic problem-solving helps in figuring out hidden circuits.

Description of Assessment: Introductory questionnaire, embedded assessments (LE7 and LE14), final assessment and final questionnaire and performance assessment, evaluating student work (e.g. science notebooks)

Science Process Skills: Observing, Questioning, Comparing, Communicating, Interpreting, and Applying

National Science Standards: 5-8 Physical Science; Science and Technology; Science in Personal and Social Perspectives; History and Nature of Science; Science as Inquiry

California Science Standards: 5: Investigation and Experimentation 6b

VIPS 2000
Unifying Concept: Systems, Order, and Organization; Evidence, Models, and Explanation; Constancy, Change, and Measurement; Evolution and Equilibrium

Big Idea: Our world is constantly changing. Our ability to recognize these changes and understand what causes them can provide us with valuable information about our environment.

Sub Concept I: Change is a constant process.

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<tbody>
<tr>
<td>Observing, recording, and discussing change and evidence of change</td>
<td>Inferring causes of change based on evidence and previous experience</td>
<td>Observing change and evidence of change at school</td>
<td>Looking for evidence of different kinds of change at school</td>
<td>Finding evidence of change caused by non-human forces</td>
<td>Setting up demonstrations of erosion and weathering</td>
<td>Observing conditions at the site; Verifying L7 predictions</td>
<td>Observing and recording evidence of change; Determining desirable changes Discussing ways to influence change</td>
<td>Making a time line</td>
<td>Classifying rocks according to how they were formed</td>
<td>Observing and recording results from LE6</td>
<td>Comparing natural weathering and erosion with a classroom simulation; Inferring causes for the weathering of buildings</td>
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Sub Concept II: Weathering and erosion are agents of natural (non-human) changes.

Learning Experience 13
- Back to the Sites
- Mapping conditions at the site; Verifying L7 predictions
- Making new predictions

Learning Experience 14
- Rock to Sand and Sand to Soil
- (embedded assessment)
- Observing how sand and rock fragments can form soil

Sub Concept III: We can observe changes over time.

Learning Experience 17
- The Last Site Visit
- Observing and recording evidence of change; Determining desirable changes Discussing ways to influence change

Sub Concept IV: Geologic change over time can result in the formation of minerals, rocks, and fossils.

Learning Experience 15
- Evidence of Geologic Change Fossils
- Learning how fossils are formed; Simulating fossil formation

Learning Experience 16
- Biography of a Rock
- Writing the history of a rock showing changes over time

Description of Assessment: Introductory questionnaire, embedded assessment (LE14), final assessment: final questionnaire and performance assessment, evaluating student work (e.g. science notebook)

Science Process Skills: Observing, Questioning, Comparing, Communicating, Inferring, and Categorizing

National Science Standards: 5-8 Earth/Space Science; Physical Science; Science in Personal and Social Perspectives; History and Nature of Science; Science as Inquiry

California Science Standards: 5: Investigation and Experimentation 6a

*optional VIPS 2000