Long Beach Public Schools

Elementary Social Studies & Science Curriculum

April 20, 2017
Standards Drive the Curriculum

Social Studies
- New York State K-12 Social Studies Framework
- Based on C3 Framework: College, Career, & Civic Life

Science
- New York State Science Learning Standards (NYSSLS)
- Based on Next Generation Science Standards (NGSS)
Diving More Deeply Into

Social Studies
The C3 Framework Unpacked

• The C3 is driven by the following shared principles about high quality social studies education:
  • Social studies prepares the nation’s young people for college, careers, and civic life.
  • Inquiry is at the heart of social studies.
  • Social studies involves interdisciplinary applications and welcomes integration of the arts and humanities.
  • Social studies is composed of deep and enduring understandings, concepts, and skills from the disciplines. Social studies emphasizes skills and practices as preparation for democratic decision-making.
  • Social studies education should have direct and explicit connections to the CCSS for English Language Arts.
Social Studies “Practices”

• Gathering, Interpreting, and Using Evidence
• Chronological Reasoning and Causation
• Comparison and Contextualization
• Geographic Reasoning
• Economics and Economic Systems
Key Curricular Resources

- PNW BOCES – Integrated Social Studies / ELA Curriculum
- Teacher Friendly
- Standards-Based
- Aligned to:
  - the key ideas,
  - conceptual understandings,
  - content specifications,
  - and social studies practices found in the Framework
Scope and Sequence

• K: “Getting to Know Myself and Others”
• 1<sup>st</sup>: “My Family and Other Families Now and Long Ago”
• 2<sup>nd</sup>: “My Community and Other United States Communities”

<table>
<thead>
<tr>
<th>September - November</th>
<th>December - March</th>
<th>April - June</th>
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<tbody>
<tr>
<td>Active Citizenship</td>
<td>Rural, Urban and Suburban</td>
<td>Geography of Communities</td>
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• 3<sup>rd</sup>: “Communities Around the World: Learning About People and Places”
• 4<sup>th</sup>: “New York State History and Government”
• 5<sup>th</sup>: “The Western Hemisphere: The United States, Canada, and Latin America”
“Living History”
Next Steps for Social Studies

- Better and more purposeful integration with reading and writing units of study
- Greater focus on inquiry and analysis
- Interpretation of facts takes precedence over memorization of facts
- Creating participating citizens in our democracy is primary goal
Diving More Deeply Into
Science
Science Standards

Current
• 1996 Elementary Science Core Curriculum
• Subset of the Math, Science, and Technology Standards Based on Content and Skills
• Primarily About What to Know and How to Apply

Future
• New York State Science Learning Standards
• Unique Set of Standards Based on the Next Generation Science Standards (NGSS)
• Primarily About Inquiry and Problem Solving
Demonstrating Learning

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**The Ice Is Breaking**

By Ariella Damiani

Imagine living in the cold Arctic. Hungry animals are roaming the Arctic looking for food and family members. Polar bears are facing an unfortunate event. Global warming is affecting polar bears and we need to help.

**Why Are Polar Bears Suffering?**

Due to global warming, polar bears’ habitat is melting. All the heat we generate from cars, factories, machines and fuels rise and create a hot layer surrounding the Earth’s atmosphere. David Mizloewski, a naturalist states, “Addiction to dirty fuels is causing global warming.” Skinny polar bears can’t get pregnant without ice because they cannot reproduce. Without ice, the polar bear population will decrease. In addition to that, polar bears cannot catch prey without ice to roam.
Current Approaches – 5E Model

- **Engagement** - Object, event or question used to engage students. Connections facilitated between what students know and can do.

- **Exploration** - Objects and phenomena are explored. Hands-on activities, with guidance.

- **Explanation** - Students explain their understanding of concepts and processes. New concepts and skills are introduced as conceptual clarity and cohesion are sought.

- **Elaboration** - Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.

- **Evaluation** - Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.
Students in Action

Hands-On  Collaborative
Students in Action

Evidence-Based

Student-Centered
The New Standards Arranged by:

- Science and Engineering Practices
- Disciplinary Core Idea Progressions
- Crosscutting Concepts
Science & Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information
Practice – Solution Design
Disciplinary Core Ideas

• Developmental progression that allows children to continually revise knowledge and abilities
• Limited number of core ideas to avoid shallow coverage and allow in-depth exploration
• Emphasizes integration of scientific practices and explanations needed to engage in inquiry

<table>
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<tr>
<th>Life Science Progression</th>
<th>K-2</th>
<th>3-5</th>
<th>6-8</th>
<th>9-12</th>
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<tbody>
<tr>
<td><strong>LS1.A</strong> Structure and function</td>
<td>All organisms have external parts that they use to perform daily functions.</td>
<td>Organisms have both internal and external macroscopic structures that allow for growth, survival, behavior, and reproduction.</td>
<td>All living things are made up of cells. In organisms, cells work together to form tissues and organs that are specialized for particular body functions.</td>
<td>Systems of specialized cells within organisms help perform essential functions of life. Any one system in an organism is made up of numerous parts. Feedback mechanisms maintain an organism’s internal conditions within certain limits and mediate behaviors.</td>
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<tr>
<td><strong>LS1.B</strong> Growth and development of organisms</td>
<td>Parents and offspring often engage in behaviors that help the offspring survive.</td>
<td>Reproduction is essential to every kind of organism. Organisms have unique and diverse life cycles.</td>
<td>Animals engage in behaviors that increase the odds of reproduction. An organism’s growth is affected by both genetic and environmental factors.</td>
<td>Growth and division of cells in organisms occurs by mitosis and differentiation for specific cell types.</td>
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Disciplinary Core Idea – Life Cycles
Crosscutting Concepts

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Systems and System Models
- Energy and Matter: Flows, Cycles, and Conservation
- Structure and Function
- Stability and Change

**Progression Across the Grades**

**In grades K-2**, students understand objects and organisms can be described in terms of their parts; and systems in the natural and designed world have parts that work together.

**In grades 3-5**, students understand that a system is a group of related parts that make up a whole and can carry out functions its individual parts cannot. They can also describe a system in terms of its components and their interactions.

**In grades 6-8**, students can understand that systems may interact with other systems; they may have sub-systems and be a part of larger complex systems. They can use models to represent systems and their interactions—such as inputs, processes and outputs—and energy, matter, and information flows within systems. They can also learn that models are limited in that they only represent certain aspects of the system under study.

**In grades 9-12**, students can investigate or analyze a system by defining its boundaries and initial conditions, as well as its inputs and outputs. They can use models (e.g., physical, mathematical, computer models) to simulate the flow of energy, matter, and interactions within and between systems at different scales. They can also use models and simulations to predict the behavior of a system, and recognize that these predictions have limited precision and reliability due to the assumptions and approximations inherent in the models. They can also design systems to do specific tasks.
Crosscutting Concepts Address Fundamental Aspects of Nature
Next Steps for Science

- Complete writing inquiry-based units of study in science
- Professional development for teachers in the new standards and inquiry-based learning
- Unleash our students’ curiosity as a vehicle for learning
- Develop Maker Space and STEAM opportunities
- Incorporate engineering design into science instruction
Thank You & Any Questions?

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