Empowering Educators And Students to Meet The New Science Standards

Content provided by DefinedSTEM
Empowering Educators and Students to Meet the New Science Standards
Today’s Presenters

Kari Neri
Executive Director of Curriculum
Rockford Public School District

Mellissa Douglas
Dean of Elementary Literacy
Rockford Public School District
Agenda

➢ Why Rockford shifted their curriculum
➢ How district leaders empowered their teachers to implement authentic performance tasks that help students meet the new standards
➢ The impact this shift has had on teaching and learning
Rockford Public School District, Illinois

RSD Key Stats:

- 28,000+ students PreK-12
- 44 schools
Vision: Collaboratively engage all students in a world class education. Be the first choice for all families.
Curriculum Design Process

- Forming Teams
- Understanding and Implementing Standards
- Determining Assessment Methods and Practices
- Aligning Instructional Practices with Standards and Assessments
- Reviewing and Selecting Resources
- Establishing a System for Continuous Improvement
Why did our district need a shift in curriculum?

➢ **The Problem:** Students did not have enough classroom time to engage in the content learning area.
  ➢ Science, Social Science, and Health

➢ **The Solution:** Integrated Literacy – a curriculum that includes four content areas:
Professional Development and Support for Teachers

- **Summer Professional Development & Institute Days**
  - Curriculum Overview
  - Resources

- **Embedded Professional Development**
  - Building Visits by Curriculum Dean
  - Instructional Coaches

- **Next Steps**
  - Schoology Online Module
How do you integrate four content areas?

**NGSS Crosscutting Concepts**

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

**C3 Social Science**

Essential Skills:
- Asking questions
- Conducting research / investigations to answer questions
- Making Claims / Arguments, supported by evidence / data
- Demonstrate knowledge / learning through outcome (product / action)
Crosscutting concepts bind concepts together that on the surface look disconnected.

<table>
<thead>
<tr>
<th>Crosscutting Concept</th>
<th>Science Content</th>
<th>Social Studies Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patterns</td>
<td>Genetics</td>
<td>Geography (Locations of cities and bodies of water)</td>
</tr>
<tr>
<td>Scale, Proportion, and Quantity</td>
<td>Planets, Stars, and the Universe</td>
<td>Cities → States → Nation</td>
</tr>
</tbody>
</table>
What does it look like as a district?

### Year at a glance
- Essential Learning Outcomes & Learning Targets

### Continuity
- All seven concepts
- Scope and sequence

### Report card
- Standards-based
- Curriculum-aligned

---

#### TRIMESTER ONE

**CROSSCUTTING CONCEPT: STRUCTURE AND FUNCTION**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Essential Learning Outcomes</th>
<th>Follett Texts</th>
<th>NSTA Picture Perfect Science Activities</th>
<th>Defined STEM Performance Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School Rules</strong></td>
<td>Ask and answer questions about the relationship between the structure of school rules and their functions, using appropriate conversation skills. Use fiction and nonfiction texts as a model for writing narrative stories.</td>
<td>English Miss Mingo and the Fire Drill (Mentor) Too Cool for School Rules at School&lt;br&gt;Spanish La Seguridad Cuental (Mentor) Gato y Perro en la Escuela Reglas en la Escuela</td>
<td>N/A</td>
<td>School Nurse</td>
</tr>
<tr>
<td><strong>Health Safety</strong></td>
<td>Ask and answer questions about the relationship between the structure of health safety rules and their function, using appropriate conversation skills. Use fiction and nonfiction texts as a model for writing narrative stories.</td>
<td>English Do unto Otters: A About Manners (Mentor) No, David! Safety in My Neighborhood&lt;br&gt;Spanish Trata a los Otros las Nutrias: Un Libro Sobre Buenos Modales (Mentor) No, David! Raspeta las Reglas</td>
<td>N/A</td>
<td>School Nurse</td>
</tr>
<tr>
<td><strong>Identify Parts and Jobs</strong></td>
<td>Ask and answer questions to determine the structure of plants and animals and relate to their functions.</td>
<td>English Teeth Why Do Kittens Purr?&lt;br&gt;Spanish</td>
<td>More PPS Ch. 11 “Over in the Ocean”&lt;br&gt;Featured Picture Books: Over in the Ocean: In a Coral Reef</td>
<td>N/A</td>
</tr>
</tbody>
</table>
What does it look like in the classroom?

Authentic resources:

Defined Stem
- Customized to our Essential Learning Outcomes
- Engaging
- Rigorous texts
- Background knowledge
- Project-based

NSTA Picture Perfect Science
- Authentic texts
- Inquiry
- Hands-on learning

Follett Texts
- Authentic
- Aligned
- Rigorous
What does it look like in the classroom?

**Expectations**
- Balanced-literacy framework
- One Defined Stem task per trimester in year 1
- One NSTA lesson per trimester in year 2

**Planning**
- Teachers use the engaging science tasks in a variety of ways:
  - Launch a theme
  - End a theme
  - Whole group
  - Student independent learning activities
Student/Teacher Video

Meaningful Learning Experiences
Year One Progress

- Teachers are getting more comfortable
- Conversations are starting to move from how-to towards feedback
- Teachers are engaging in problem/solving around how to plan, schedule, and assess the curriculum
Next Steps

➢ More customized tasks from Defined Stem
➢ More common texts for students
➢ Working out the logistics around ordering supplies
➢ Ongoing feedback and PD
More on Defined STEM
What is Defined STEM and how is it used?

Defined STEM is a K-12 project based learning solution that provides engaging, authentic lessons built around careers.

Our engaging standards-aligned projects provide opportunities for students to deepen understanding and apply their knowledge in real world scenarios.

School Curriculum Integration

STEM/PBL Elective Rotation

After School and/or Summer Enrichment
Defined STEM Performance Tasks

- Career Exposure
  - Solve a Real World Problem
  - Collaborate and Think Critically
  - Student Portfolio & Reflection

- Performance Tasks
  - Product Creation
  - Real World Video

- Student Portfolio
Empowering Educators to Measure Students’ Progress of Important 21st-Century Skills
Questions?

Kari Neri
Executive Director of Curriculum
Rockford Public School District

Mellissa Douglas
Dean of Elementary Literacy
Rockford Public School District
Thank You!