



# Building Blocks

OF SCIENCE™ | 3D

**Comprehensive, Custom-Designed  
Professional Development**

Carolina Biological Supply Company

**CAROLINA®**  
[www.carolina.com](http://www.carolina.com)

## **Overview**

Carolina Biological Supply Company and the Smithsonian Science Education Center are committed to providing comprehensive, custom-designed professional development to meet the needs of teachers and staff. Professional development is the key to successful implementation of the inquiry-based K–8 programs offered by Carolina and the Smithsonian Science Education Center.

Professional development is based on a learning progression for teachers. Teachers have different needs and experiences. The following professional development progression provides multiple opportunities in a variety of formats for all teachers to master the curriculum and implement best practices.

## **Delivery**

Professional development will be offered in multiple formats including hands-on workshops and webinars. The hands-on workshops are taught by exemplary, practicing educators who attend training each summer. Webinars are presented by experts in the field.

## **Carolina Professional Development**

Carolina professional development represents a working partnership between the district and Carolina staff to develop a needs-based progression of learning for teachers. The progression of learning consists of planning, implementing, assessing, advancing, and sustaining. The content of each step is determined by the district.



## **Planning**

Upon adoption, a meeting will occur between Science Leadership and Carolina Leadership to customize a comprehensive plan that meets specific professional development needs. This plan will be evaluated mid-year and again at the end of the year, but adjustments may be made at any time.

The professional development progression developed in this partnership will be built from the ground up to assist teachers in becoming successful not only in program implementation but in science content, pedagogy, and STEM education. Each unit of the progression adds to the teacher’s repertoire. Leadership may select from the Menu of Professional Development Offerings to develop a comprehensive, coherent professional development. The developed plan may include professional development goals, measurable objectives, and assessment tools. The delivery of the professional development may be face-to-face or online sessions, including webinars and how-to videos.



### **Implementing**

Based on this partnership plan, the implementation step of the professional development will prepare Trainers of Trainers and teachers to understand the program features, the 5E model, pedagogy, inquiry-based investigations, and program components, including CarolinaScienceOnline.com. All professional development will be in the context of your specific science standards. The format options for implementation are face to face, webinars and online resources. A Who-To-Call list is included so that immediate service can be provided for any issue related to program materials, technology, or content.

### **Assessing/Needs Check-Up**

Assessing and needs check-up provides opportunities for teacher self-evaluation and teacher-needs assessment, as well as a Principal's NGSS Checklist to help administrators determine additional areas of improvement for professional development. The professional development progression can be redesigned as needed.

### **Advancing**

Based on needs and the district professional development partnership plan, advancing opportunities will be provided for teachers. These opportunities offer targeted support in such areas as NGSS, engineering design, and managing materials. See a complete list on the Menu of Professional Development Opportunities.

### **Sustaining**

Implementing state science standards potentially mean changes in content and in practices. Once these changes become institutionalized, it is important to sustain these improvements. Carolina will continue to partner with districts to ensure the continuation of the professional development over time. Developing trainers of trainers in each district will ensure continuity and sustainability. See the Menu of Professional Development Opportunities for possible sustaining opportunities.

### **Assessing/Needs Check-Up**

In the spirit of on-going, continual improvement, progress and needs must be assessed regularly. Teacher self-evaluation, teacher-needs assessment, and principal walk-throughs are some of the tools to be provided. Any additional needs determined as a result of these assessments can be addressed through professional development. The professional development progression can be redesigned or added to for the following year.



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## Menu of Professional Development Opportunities

The chart below lists options for professional development sessions that may be selected for your custom-designed progression that will be developed during your partnership planning meeting.

Implementation	Advancing	Sustaining
Trainer of Trainers: Program Components, Philosophy, 5E Model, Pedagogy, and Teaching Strategies	Trainer of Trainers: NGSS, Engineering Design, and Authentic Assessments	Trainer of Trainers: Seminars by Experts (attend a workshop at a state or regional conference)
Science and Literacy Strategies—Using Informational Text	Implementation—Self-Assessment	NGSS 3-Dimensional Learning Model Lessons: Beginning & Intermediate
Specific content background and misconceptions	Engineering Design	Advanced Content Knowledge
Authentic Notebooking	Interactive Notebooking	Assessment from Notebooking
Inquiry and Argument (CER)	Evidence-Based Conclusions	Engineering Projects
Differentiation Strategies	Meeting the Needs of All Students	How to Assess Projects
Science and Mathematics Integration Strategies	Use of Informational Text to Assess Learning	Use of Informational Text to Assess Learning
Materials Management Strategies	Cooperative Grouping	Classroom Management Strategies
Seamless Technology—Using CarolinaScienceOnline.com	Technology Updates	Technology Updates
Curriculum Mapping—Unit Pacing and Lesson Planning	Lesson Planning – Integrating Science Instruction with Math and Literacy	Lesson Planning with Additional Resources
Administrator Training—Program Implementation, Best Practices in Inquiry-Based Science Instruction	Administrator Training—Assessing NGSS Science	Administrator Training—Time Management and Inquiry-Based Science Instruction

For More Information About Professional Development  
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