

Next Generation Science Standards emphasize student engagement through hands-on activities and problem-solving techniques used by scientists and engineers.



Innovation serving education

Carolina Biological Supply Company's innovative products support students and educators at every level.

In 1927, Dr. Thomas E. Powell, Jr., a young professor of geology and biology at Elon College – now Elon University – began collecting specimens in the field and selling the surplus to his colleagues. From that unpretentious start, Carolina Biological Supply Company has grown to an enterprise with over 400 employees and sales to customers across the world.

Dr. Powell believed that innovation, quality and service were the key elements to his educational materials supply company's growth and success. Indeed, innovations in kit design and manufacturing, curriculum development and distance education propelled Carolina to the top tier of educational suppliers, serving institutions ranging from elementary schools to research universities.

➤ Rethinking the Basics

Designing and manufacturing science kits are some of the core functions of our company. These kits are essential to teaching science at every level. Bringing innovation to them begins with rethinking how they are used in the classroom and laboratory. Computers and new science education standards are the key drivers in this innovation.

Since computers are nearly ubiquitous in today's classrooms and students are digital natives, many of our kits now include digital resources such as videos, teacher's manuals and interactive lessons that enhance the learning experience. Our website, Carolina.com, provides a wealth of free information on organism care, laboratory techniques, lessons and activities.

The Next Generation Science Standards (NGSS) are the latest national science education standards. These emphasize student engagement through hands-on activities and practicing the investigative and problem-solving techniques used by scientists and engineers.

Carolina has been working to produce science kits and curricula to help teachers and students experience the rich, rewarding learning experience that the standard developers intended.

➤ Creating Curricula

Two hands-on curricula that we developed in partnership and independently are Smithsonian Science for the Classroom and Building Blocks of Science 3D. These curricula for K–5 students specifically address the NGSS and 3-dimensional learning. Three-dimensional learning is the heart of the NGSS and includes disciplinary core ideas, science and engineering practices and crosscutting concepts. It engages students' hands and minds.

Smithsonian Science for the Classroom was developed in partnership with the Smithsonian Science Education Center. We have a long history of collaboration with the Smithsonian in creating educational materials. This latest collaboration provides educators with a curriculum that focuses on engineering while integrating English Language Arts (ELA) and math. It gives teachers all the tools they need to help their students meet the NGSS, and students the tools they need for real, hands-on engineering activities.

Building Blocks of Science 3D was developed in house and enables teachers to give an effective science lesson in as little as 30 minutes a day. Centered on the NGSS and 3-dimensional learning, it is flexible and provides robust teacher support for efficient lesson planning. Each unit includes hands-on materials, digital media and printed resources. The journaling and reading help students develop ELA and math skills.

➤ Going the Distance

Distance learning, or providing online courses to off campus students, is one of the fastest growing segments of higher

education. The challenge for institutions has been how to conduct laboratory science courses online. Carolina Distance Learning was created to help institutions meet that challenge by providing kits and materials that enable students to safely and successfully complete a laboratory science class in their own homes.

Each Distance Learning kit we offer has been thoroughly tested in a home setting for safety and reliability and includes the necessary personal protective equipment for the student. Students are guided through the kit activities with easy-to-follow digital manuals containing embedded videos. Feedback from students and faculty on these kits and materials has been positive and encouraging.

These kits bring campus quality courses to students who may have no other way of receiving them. They are also cost effective — customization allows faculty to include in the kit only the activities they specify. Sales have exceeded our forecasts, and we believe the future of distance education, and Carolina Distance Learning, is bright.

Over 90 years ago, Dr. Powell planted the seed for an educational supply company rooted in innovation, quality and service. Today, it is flourishing and eager to face the challenges ahead.



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