

“During this experience, I filled my teacher suitcase with science tools and motivation, enthusiasm and expertise, and am eager to pass them to my students.”

– Luigina Renzi, Liceo Scientifico Sansi-Leonardi-Volta, Spoleto (PG)



Quick Facts

- In a typical year, ABE reaches approximately **90,000 students** and **1,500 teachers**
- Program curriculum, professional development, and all materials needed are provided free of charge
- The program has impacted nearly **850,000 students to date**
- Independent and rigorous evaluation data found that students exposed to ABE have significant and substantial learning in biotechnology and increased interest and confidence in doing science and biotechnology
- By the end of 2023, ABE should have reached nearly **1,000,000 students** because of the Amgen Foundation's more than **\$40 million** commitment to the program
- ABE is currently available in the following regions: Australia, Canada, France, Germany, Hong Kong SAR, Ireland, Italy, Japan, Mainland China, the Netherlands, Singapore, Turkey, United Kingdom, and the United States (Kentucky, Los Angeles, Massachusetts, Rhode Island, San Diego, San Francisco, Tampa, Washington D.C., and Puerto Rico, with affiliate sites in Washington State and Pittsburgh)

Contact Us

Inquiries: Anna Pascucci, Director,
Email: direttore.abe@anisn.it
Tel: +39 333 3181128

Maria Alfano, Segreteria
Email: info.abe@anisn.it

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Inspiring the Scientists of Tomorrow

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The Amgen Biotech Experience (ABE) is an innovative science education program that introduces secondary school students to the excitement of scientific discovery. ABE provides secondary school teachers with the loan of research-grade equipment, supplies, curriculum and professional development at no cost.

BIOTECHNOLOGY

Biotechnology has brought about the discovery and development of a new generation of human therapeutics. Advancements in both cellular and molecular biology have allowed scientists to identify and develop a host of new medicines for patients with serious illness. Biotechnology provides the tools and techniques for modern pharmaceutical research and drug development, and it is critical that future citizens are knowledgeable about this field.

PROGRAM BACKGROUND

The Amgen Biotech Experience began 30 years ago through a unique collaboration of Amgen scientists and educators with a passion for sharing the joy of science and discovery. With the vision to bring the excitement of biotechnology to the fingertips of students, they developed a robust curriculum that is now available in 24 regions across the globe. In 2013, the Amgen Foundation joined forces with Education Development Center, a global nonprofit organization with deep experience and expertise in science education, to establish a Program Office to support and strengthen the program worldwide.

THE PROGRAM AND CURRICULUM

The ABE program integrates a curriculum that allows students to explore the steps involved in creating biotechnology therapies. Aligned with the core biology curriculum, the program supports the larger goal of fostering scientific literacy. In addition to the curriculum and teacher professional development to understand the lab protocols and science, participating teachers receive a loaned kit, free of charge, with research-grade equipment and supplies that allow students to participate in advanced science laboratories.

THE LAB AND MATERIALS

The ABE labs parallel some of the important steps taken by the biotechnology industry to develop medicines to treat a variety of diseases. The labs incorporate core technologies used by scientists in the discovery of human therapeutics, so that students will better understand the role of biotechnology and the potential impact of this industry on our future. In addition, by engaging in this program, students may be more motivated to understand the underlying science concepts and perhaps even pursue careers in science. In collaboration with the Amgen Foundation and ABE teachers, [LabXchange](#) has created a collection of pathways designed to enhance the ABE lab experience. The pathways are modular to allow you to mix and match concepts and practice with lab techniques in the way that best supports your students.

ABE ITALY

ABE Italy is led by National Association of Natural Science Teachers (ANISN) and the University of Naples “Federico II”. The program benefits from the scientific and educational competencies of these two organizations, excellent infrastructures and facilities, and the consolidated expertise in innovative teacher training programs in Inquiry Based Science Education (IBSE). ABE Italy trains in-service secondary school teachers through ABE professional development workshops and supports trained teachers in the implementation of ABE labs in their local schools.

