

## Central Bucks School District K-12 Science Program Philosophy

The goal of science education in Central Bucks is to prepare students to: (1) experience the richness and excitement of knowing about and understanding the natural world; (2) use appropriate scientific processes and principles in making personal decisions; (3) engage intelligently in public discourse and debate about matters of scientific and technological concern; and (4) increase their economic productivity through the use of the knowledge, understanding, and skills of the scientifically literate person in their careers.<sup>1</sup>

A comprehensive, K-12 science program uses national and state science education standards as a framework to inform students with appropriate knowledge and skills.

### CB K-12 Science Program: Principles of Learning and the Nature of Science

- **Research shows that active learning is essential to learning science.**  
Therefore, we will provide students with a variety of rigorous and relevant experiences including inquiry-based learning.
- **All students can achieve scientific literacy.**  
Therefore, we will provide opportunities for reading, writing, and discussion in science class. (ex: debate on bioethics, or environmental issues or defend a topic)
- **Learning science is more effective with the appropriate use of technology.**  
Therefore we will provide opportunities for real time data, simulations, imaging, etc.
- **Science is not static.**  
Therefore, we will provide dynamic and relevant curriculum.
- **Assessment should be ongoing, diagnostic, and aligned with instruction.**  
Therefore, we will provide multiple, authentic assessment tools and assess prior knowledge before introducing a new topic.
- **Science is a human endeavor.**  
Therefore, we will demonstrate how scientific knowledge evolves over time, almost always building on earlier knowledge.
- **Stewardship of the natural world is the responsibility of all citizens.**  
Therefore, we will equip students with an understanding of the issues in their natural world, including environmental, ethical, and bioethical concepts.
- **Science is a process that interconnects many areas of study.**  
Therefore, teachers will emphasize enduring understandings between and among various disciplines of study by developing essential questions.

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<sup>1</sup> National Research Council. (n.d.). In *National Science Education Standards* (pp. 12-13). Washington, D.C: National Academy Press.