



Our vision for education at The Berkeley School (TBS) emphasizes making thinking visible, encouraging student engagement and voice in all disciplines, and promoting teachers and students to collaborate as both learners and teachers. Social and emotional learning plays an important role in providing tools to create safe spaces for students to take risks and respectfully collaborate and communicate. We nurture students' ability to ask questions, to provide evidence for their ideas, and to become thoughtful and discerning thinkers. We value a wide range of learners, and the enrichment that diversity provides our thinking. Classes are differentiated to provide multiple entry points and varied ways of expressing understanding in an environment that challenges them. We believe students are more engaged when connected with the ever-changing world around them. Through service learning and classroom learning, we provide opportunities for students to address issues that are important to them and develop their compassion, citizenship, and drive for justice. Our assessment practices cultivate individual students' growth, capacity, and ownership of their learning, rather than competition or grades. In service of this philosophy, we highlight connections between disciplines like science, humanities, math, health, engineering, technology, art, and information literacy, and use interdisciplinary approaches to learn about the world.

TBS Science Vision

Because science, engineering, and technology are integral to our daily lives, we will enable all our students to be responsible, scientifically literate citizens who recognize challenges and opportunities facing our modern world, apply scientific methodologies to explore and design solutions, make informed decisions grounded in scientific principles, and possess the mindset and foundation to become scientists and engineers.

We believe that science is for everyone. Science understanding starts with a sense of curiosity and wonder that is sparked by direct interaction with natural phenomena and the human world. We will provide students with opportunities to “**figure out**,” rather than passively “**learn about**” science from a teacher, by describing phenomena through exploration, experimentation, evaluation, and exposure to science as an intrinsic component of the human experience. We believe that the teacher's role is to give students opportunities to build and deepen their understanding, through making connections, engaging in sense-making discussion, learning from mistakes, and engaging with tools and technologies to further their scientific literacy.¹

In order for student scientists and engineers to deeply engage, we will provide them

¹ From [A Framework for K-12 Science Education](#) by the National Research Council.

with effective tools and adequate time to mindfully reflect on problems. We will develop their collaboration and communication skills and their ability to synthesize and defend models using scientific evidence to validate new ideas and support their arguments. Students will learn skills and knowledge through problem-solving scenarios, be inspired by discovery, and be empowered to apply these to real-world problems.

Students will learn the foundational science behind challenges facing the modern world (for example, about their bodies and health, food safety, neuroscience and behavior, conscious consumerism, waste reduction, climate change, resource stewardship, diminishing biodiversity, technology, etc.) to make informed decisions and guide their behavior age-appropriately. Informed by recent quality curricular standards², we will cultivate skills in science and engineering **practices**³ (such as asking questions and defining problems, engaging in argument from evidence, and applying mathematics and conceptual thinking) and their understanding of **crosscutting concepts** (such as cause and effect, identifying patterns, scale and proportion) to make sense of what they learn. We will integrate scientific ways of thinking, practices, and knowledge in the **NGSS disciplinary core ideas** (physical, life, earth and space sciences as well as engineering, technology and applications of science) into instruction at each grade level.

To support this work, TBS science teachers will participate in experiential science professional development to learn more about the science they teach, how best to teach science in developmentally appropriate ways, and how to develop confidence in themselves as scientists and engineers. Teachers will attend local and national conferences and engage in regular professional learning and reflection with colleagues. We will provide opportunities for teachers to create integrated units that combine science with other disciplines. TBS will provide opportunities annually for student field trips and fieldwork, integrated into the scope and sequence, to investigate scientific phenomena. We will provide new classroom resources and work with teachers to identify new materials, time, and space for science. Materials will include age-appropriate scientific texts, databases, and media that support student learning, as well as technology and laboratory tools to support inquiry-based investigations. To provide opportunities for extended experiments, design, and building in the elementary school, we will establish dedicated science laboratory and exploration space. Students will be equipped to explore and discover how the universe works, make responsible decisions as engaged citizens, recognize challenges facing our society, and design solutions. With this foundation, our scientific vision will make real our TBS mission to “ignite curious minds, awaken generous hearts, and engage a changing world.”

² From the Next Generation Science Standards

³ From the Next Generation Science Standards