

Tesla STEM High School

inspire

educate

innovate



Lake Washington School District

Every Student Future Ready

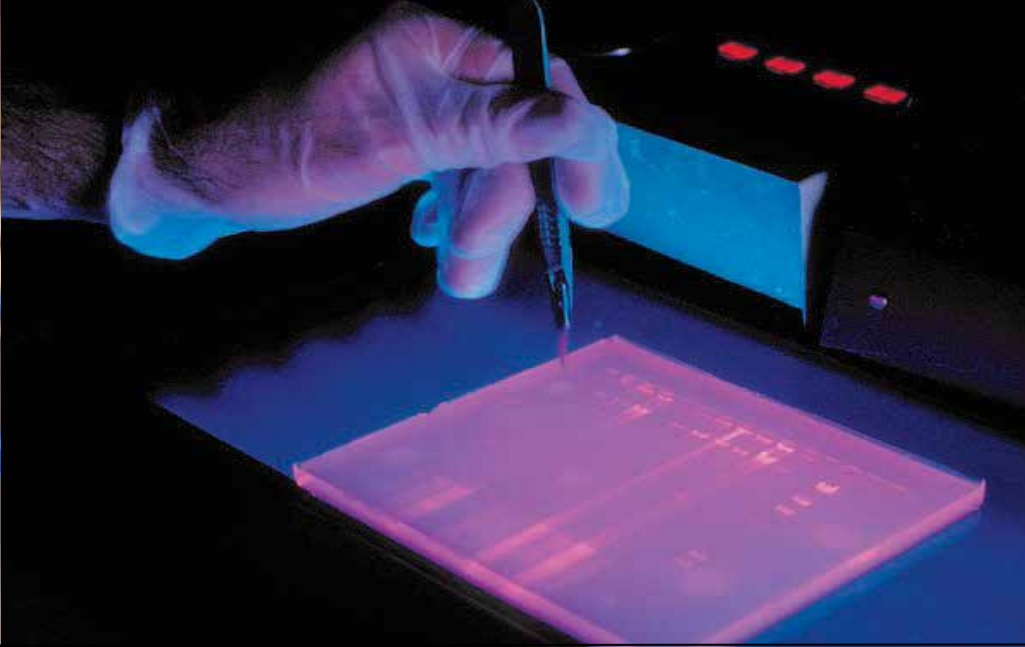
$$\frac{\partial}{\partial a} \ln f_{a, \sigma^2}(\xi_1) = \frac{(\xi_1 - a)}{\sigma^2} \quad f_{a, \sigma^2}(\xi_1) = \frac{1}{\sqrt{2\pi\sigma^2}} \exp\left\{-\frac{(\xi_1 - a)^2}{2\sigma^2}\right\}$$
$$\int_{\mathcal{R}_n} T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M\left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(\xi, \theta)\right)$$
$$\int_{\mathcal{R}_n} T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L(x, \theta)\right) \cdot f(x, \theta) dx = \int_{\mathcal{R}_n} T(x) \left(\frac{\partial}{\partial \theta} \frac{f(x, \theta)}{f(x, \theta)}\right) f(x, \theta) dx$$
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We're about **STEM Education**.

STEM education is an interdisciplinary approach to learning where:

- Rigorous academic concepts are coupled with real-world lessons
- Application of science, technology, engineering, and mathematics is placed in the context of problem solving (Problem-Based Learning)
- Connections between school, work, community, and global enterprise enable the development of STEM literacy
- Students educated to compete in our global society
- Enhance student interest in science, technology, engineering, and mathematics entrepreneurship
- Fuse STEM education with the social sciences, humanities, law, business, and world language needed to address complex societal issues
- Prepare students to translate invention to innovation; to develop market ventures that scale to global solutions in the public interest



We're about 21st Century Skills.

Educate students to be:

Problem-solvers—able to define questions and problems, design investigations to gather data, collect and organize data, draw conclusions, and then apply understandings to new and novel situations.

Innovators—creatively use science, mathematics, and technology concepts and principles by applying them to the creative engineering process.

Inventors—recognize the needs of the world and creatively design, test, redesign, and then implement solutions (engineering process).

Self-reliant—able to use initiative and self-motivation to set agendas, develop and gain self-confidence, and work within time specified frames.

Logical thinkers—able to apply rational and logical thought processes of science, mathematics, and engineering design to innovation and invention.

Technologically literate—understand and explain the nature of technology, develop the skills needed, and apply technology appropriately.



We're about preparing students to work on **real solutions**

Curriculum: University Ready, Industry Ready, Future Ready

- Sciences required through grade 12
- Math required through grade 12
- Engineering design process required through grade 12
- Technology required through grade 12
- Humanities integrated with the sciences through grade 12
- Social Sciences required through grade 12
- The Arts integrated with STEM PBL and design
- Spanish required through level three

The STEM School academic program offers a wide variety of learning opportunities, including Honors and Advanced Placement (AP) course work, internships, practicums, and independent study. All of these learning experiences are designed to help students investigate, explore, think critically, and solve problems while balancing analysis with creativity.



Applications to real problems in the **real world.**

The Foundation Years – Grades 9 and 10

A key academic feature frames the first two years of a student's experience at the STEM School. Students are immersed in an integrated Science, Engineering, and Humanities sequence where the focus is on the students' development of multiple skills, including conducting authentic research and working with primary source documents, developing scientific investigations, understanding and applying the engineering design process, collaboratively working in the Problem-Based Learning (PBL) environment, developing digital literacy, and expanding critical thinking skills. Students study the core academic competencies and raise the bar by using their knowledge, skills, and creativity to investigate a real world problem. Students wrestle with an open-ended challenge, engage in the compelling questions, and bring research and debate into the equation while working towards resolution. Course schedules include the Science, Engineering, and Humanities Program aligned and supported with Mathematics, Technology, World Language, the Arts, and the Social Sciences.

The Application Years – Grades 11 and 12

It is during these final two years that students work in partnership with STEM School faculty, college professors, industry experts, and community and business leaders in a combined effort to further support and enrich students' interests and curiosity in science, technology, engineering, and mathematics. Students work in a defined STEM lab concentration, conduct inquiry and research, explore questions of their own, and champion their own ideas to the level of publication. Individual schedules are tailored to a student's interests and college readiness standards and application requirements.

Internship

Internships/Partnerships

- As a critical component in STEM education, internships and partnerships transform STEM subjects into real life for students and faculty. Student internships allow the learner to take those connections made in their STEM courses/ content support areas and use their knowledge and skills in real time with the experts and leaders in the specific STEM fields. By experiencing this “industry readiness” factor as they work with STEM professionals, students can gauge their personal readiness as they plan for college, graduate school, and professional careers.
- Partnerships with STEM businesses, research facilities, and organizations provide the STEM School faculty with the ongoing training needed to stay current with industry standards while addressing the quickly evolving body of knowledge of STEM. This real time training means the STEM School faculty is highly qualified to teach both the trans-disciplinary contents and the 21st Century Skills to all of our students.

We're about **global scholarship** . . .



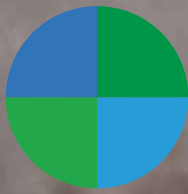
Academic Benefits

- Mastery and enjoyment of key concepts and ways of thinking in science, technology, engineering, and mathematics sufficient to meet the standards in entry level college/university courses that could conceivably lead towards a major in these fields of study.
- Mastery and enjoyment of key cognitive strategies, those intelligent behaviors that are practiced, intentional, and habitual, and lead to college and university success. These include intellectual openness, inquisitiveness, analysis, reasoning/argumentation/proof, interpretation, precision and accuracy, problem solving.
- Mastery and enjoyment of interacting successfully with a wide range of faculty, students, community and business leaders, and industry experts, including among them many who come from different backgrounds and have different points of view.
- Mastery and enjoyment of reading, writing, research, and study skills and strategies at the standard to process the full range of textual materials commonly encountered in first year college/ university courses.

College Readiness, David Conley

. solutions for the **common good**.





STEM

We Believe

Education allows students to become thinkers, problem solvers, and innovators.

Connections to local, national, and global communities add meaning to the learning process.

Education transforms students when it is knowledge driven.

We are all a culmination of our experiences; this allows us to choose, think, and act.

A literate society is our planet's survival.

Respect, trust, integrity for all people.

Students can and will change the world.

Global stewardship: solutions for the common good.

We Embrace

Problem-Based Learning

Professional Learning Community

Integrated Curricula

Scientific Inquiry

Constructivist Learning

We Deliver

Learning environments enrich the mind, spark the imagination, and ignite intellectual risk taking.

The Lake Washington School District Nikola Tesla STEM High School follows all choice school lottery and application processes, requirements, and timelines. Please review this information found on the district website. Thank you.