



*This is the story of
Delta High School*

2010


Delta
High School



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DELTA HIGH SCHOOL

We are exploring our individual passions and curiosities to make confident decisions for our lives and futures. Together with our peers, educators, and community we are recreating a culture of discovery that will change the world.

It begins with a group of determined individuals who recognize the critical role science, technology, engineering, and mathematics (STEM) will play in the future challenge to stay competitive in our global and local economies.

*"The important thing is not to stop questioning.
Curiosity has it's own reason for existing."*

- Albert Einstein

2006

Battelle

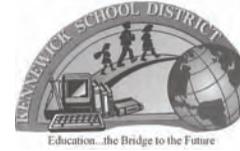
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"As I think about the promise of, and possibilities for, Delta High School, it offers our community and the partners in this effort the opportunity to contribute positively and substantively to the future of education in America. I think this quote sums it up nicely: The terms and circumstances of human existence can be expected to change radically during the next human life span. Science, mathematics, and technology will be at the center of that change – causing it, shaping it, responding to it. Therefore, they will be essential to the education of today's children for tomorrow's world. What should the substance and character of such education be? (Science for All Americans, American Association for the Advancement of Science, 1989.)"
- Jeff Estes, Science & Engineering Education, Pacific Northwest National Laboratory

Founding partners, Battelle, WSU Tri-Cities, Kennewick, Pasco, and Richland School Districts start exploring the concept of a STEM school for the Tri-Cities. The school would be the only one of its kind in the Tri-Cities and the state. The innovative high school offers options to improve learning and teaching that will help put Tri-Cities at the forefront of education reform in the region.

An Advisory group is formed to be the force behind making the visionary school a reality. The group will research and analyze funding viability, facility options, and community partnerships.

"I've always said – we need our students to be highly trained in science, technology, engineering and math to compete globally and ensure our success in the 21st Century economy. As the state moves forward with bold reform measures in our



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K-12 education system, we need to make sure our young learners are effectively trained in these core subjects. Our future economic prosperity depends on it. That's why I applaud the work and innovation of Delta High School, and admire the commitment of the school's many partners to ensure its success."

- Gov. Chris Gregoire

The Advisory group meets with the Kennewick, Pasco, and Richland School Boards to peak their interest in bringing a STEM school to the Tri-Cities and to ask for their support. The result? A unanimous go-ahead! This gives the Advisory Board the freedom to move forward in their exploration of STEM school development.

Amy Ochander is hired as Project Manager to lead the organization of the work.

"It is widely known that over the past 20 years, the United States has been outpaced by many countries in these areas. In response, public/private partnerships are pulling their resources together to offer students another education option that focuses on rigor and relevance so they can be successful in the 21st century job market and help grow their region's economies."

- Amy Ochander

A Core Planning Team is assembled to develop a program of study. The team is comprised of educators, scientists, engineers, community members, and higher education professionals. They will create a unique program of study, not only connecting science, technology, engineering, and mathematics (STEM) lessons, but intentionally integrating them with other subjects like English/language arts and social studies.

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The Paul G. Allen Foundation gives the first grant to the project in November of 2008 for \$250,000 to assist with the program of study development.

"The Paul G. Allen Family Foundation is proud to support Delta High School. The Tri-Cities' robust research and development community is at the cutting-edge of development in biotechnology, energy and engineering, and Delta graduates will ensure our leadership positions in these areas. At Delta High School, tomorrow's leaders are being developed today."

- The Paul G. Allen Family Foundation



Delta High School Principal
Deidre Holmberg

Planning Principal Deidre Holmberg is hired. Deidre leads efforts in program development, student recruitment, and hiring of teachers. She has a passion for learning, challenging students, and igniting enthusiasm in others.



Washington State STEM Education Foundation is formed to support the school.

"STEM helps develop students into the next generation of American leaders who understand and solve problems especially at a time when we face global challenges in water, climate, and energy. STEM literacy is a foundational skill that matters for all careers, not just the technology workforce."

- Washington State STEM Education Foundation

"Our concept is for Delta High School to have a broader impact on STEM education in all of the Tri-City area high schools and allow that impact to propagate to middle and elementary schools in our community and other high schools around our state. In addition, our strong partnerships with Columbia Basin College and Washington State University Tri-Cities are bridging the gap between high school graduation and entrance into STEM careers."

- Phil Ohl, Washington State STEM Education Foundation President



Columbia Basin College officially joins the project and offers their former Richland campus, virtually RENT-FREE, to serve as the initial school site! This effort continues to be truly a community effort from local companies, schools, and individuals.

"We are so pleased that Delta High School is providing this community with a first-class educational institution that is innovating science, math and technical subjects in education.

We fully expect that the best practices by Delta will serve as a model for other communities in the Northwest. Columbia Basin College is grateful for the opportunity to participate in this great project that is empowering our youth to face the challenges of the future with strong hearts and minds."

**– Dr. Richard Cummins, CBC
President**

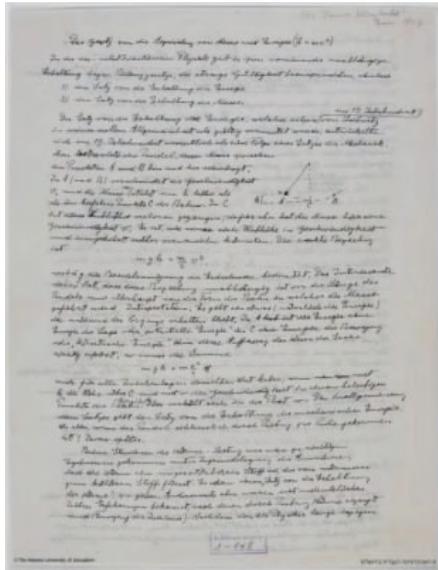
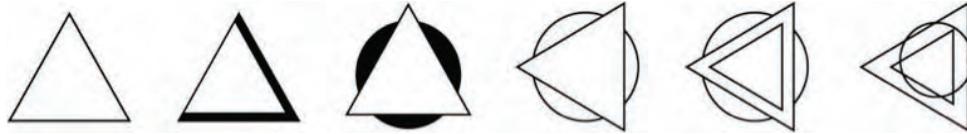
An inter-local agreement is formed among the three school districts (Kennewick, Pasco, and Richland). Having three schools operate one high school, technically a program, is a new model for the state of Washington.

"Delta's instructional program and infrastructure are designed to combine personalized instruction, hands-on learning and internship opportunities, and a solid grounding in language and the social sciences to produce graduates who are critical thinkers, fluent communicators, and fully prepared to lead our state and our country in meeting the scientific, economic, and political challenges of an increasingly integrated and competitive global society. After three years of collaborative planning, this vision is Delta High School."

**- Sandra L. Hill, Pasco School
District Superintendent**

2009

Delta High School is selected as the name of the school, to represent the convergence of communities dedicated to STEM and students focused on thinking differently about school and their futures.



A behind the scenes look at how the Delta logo was inspired by the likeness of Albert Einstein's own handwriting from his $E=mc^2$ manuscript.



"Amy Ochander and I, along with many others, worked hand-in-hand to get the school ready to open. Throughout the entire process I never ran into a single situation where, when we were seeking in-kind or monetary contributions or donations, and someone said, "Thanks, but no thanks." All I heard was, "How can we help, what do we need to do to make this happen for our community?" It was pretty special when you think about it, really amazing. Contractors, specialists, volunteers, business owners...they all saw the vision of Delta. I'm very proud of our community. I'm honored to be part of Delta."

**- Jim Bixler, PNNL Facilities and
Operations Program Manager**



Delta is the recipient of widespread support from Battelle, Columbia Basin College (CBC), community businesses and organizations, the U.S. Department of Energy's Pacific Northwest National Laboratory, the Paul G. Allen Family Foundation, the State of Washington, Tri-Cities school districts, and Washington State University Tri-Cities. This includes \$1.5 million in corporate support from Battelle, approximately \$1.0 million in cash and in-kind contributions from local companies, organizations and individuals, \$650,000 from the Paul G. Allen Family Foundation, \$800,000

from the state to help renovate Delta's home on the CBC Richland campus, and nearly \$365,000 in Basic Education Act (BEA) funds from the Kennewick, Pasco and Richland School Districts.

"Battelle has long recognized that meeting national challenges in the areas of fundamental science, energy, the environment, and national security require the dedication and passion of bright individuals. This is one of the reasons that Battelle invests in science education in our community. Yet individuals working on their own, solely within



their own disciplines, won't be able to have the kind of impact that is needed for scientific breakthroughs. Delta's interdisciplinary approach to learning and problem solving, much like PNNL's approach, is critical to solving the complex challenges facing our world. In providing a forum that nurtures interdisciplinary thought and action, Delta is not only filling a pipeline of individuals passionate about science and technology, it's also providing the foundation that these students can use in any profession. I'm proud to be part of this legacy."

-Michael Kluse, Sr. Vice President of Battelle and PNNL Director

Nearly 300 students apply for enrollment—a lottery results in 110 students being accepted into the inaugural class. In the first year of operation the school will have only freshmen, eventually growing to four grades with a total of about 400 students.

Five veteran teachers and an administrative assistant are hired from the three school districts. The teachers are: Linda Estes, math, Pasco School District; Jim Hendricks, engineering technology, Kennewick School District; Jenny Rodriquez, social studies, Pasco School District; Linda Stairet, Humanities/English Language Arts, Richland School District; and Mary Beth Tilson, science, Kennewick School District; and Grecia Gutierrez, Administrative Assistant.

Student Orientation takes place. Staff welcome students, introduce them to the new Standards-Based Grading method, and clarify the school's expectations of ethical behavior, self-directed learning, and responsibility.

"Before Delta opened, one comment frequently heard was that its STEM focus would attract only academically gifted students. Nothing could be further from the truth. Students came to Delta for at least four very different reasons. Some came for STEM, and they do well in math, science, and engineering. The humanities, however, are challenging for them. Some came because it was small and personal. Some came because it was a new, something unique, an adventure they wanted to be a part of. And some came because it was an alternative to a traditional education model, a model in which they were failing. In short, Delta's demographic is the same as any comprehensive high school, and with admission based on a lottery system, it will likely remain that way."

- Linda Stairet, Delta English language arts teacher

The dream becomes a reality and Delta High School welcomes the first class of students.



"The teachers are one of the best things about Delta. They're willing to help and provide lots of feedback, which helps my learning. My reading skills have improved greatly, too!"

- Zachary Smith



"I chose Delta because I love science, math, and technology, and I was looking for something different than traditional high school. It turned into the best school year I've ever had, which is pretty amazing."

- Ilse Martinez



"My favorite project was the Rube Goldberg assignment. We had to create devices that take combinations of six simple machines (i.e. lever, wheel and axle, pulley, inclined plan, wedge, screw) along with anything else we could come up with in order to achieve a very simple

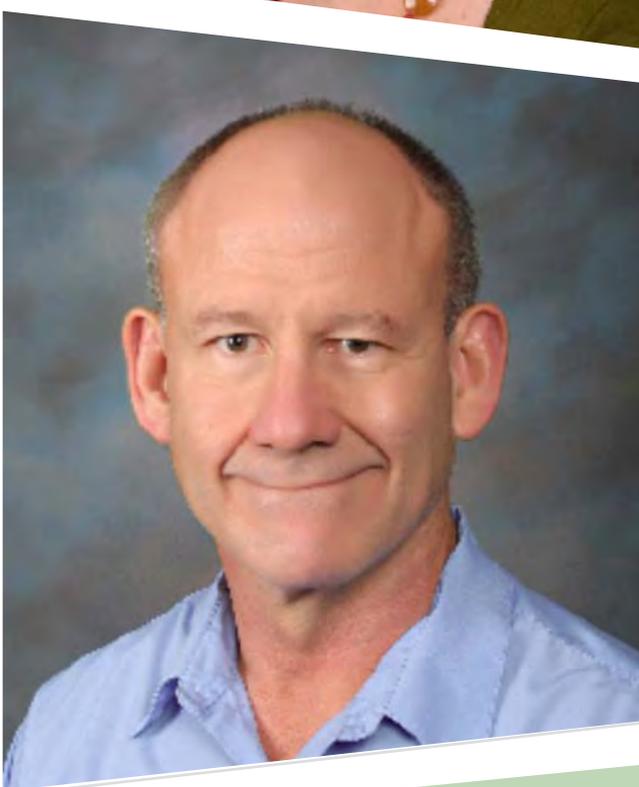
task like closing a book, and have 10 energy transfers before it was completed. It's fun to do these projects; eventually I want to get an engineering job, so I hope the math- and science-based programs will help me with that."

- Levi Steel



"I chose this school because my dream is to either be a doctor or a chemist, so attending Delta is a priority to help reach my goals. My classes are challenging, which I love because it forces me to learn and ask more questions."

- Nate Gomez





Building Young Brain Power Catching on at Delta High.

*By: Deidre Holmberg, Principle
Sunday, March. 28, 2010 issue of the
Tri-City Herald*

One of my students came to my office in tears a couple of weeks ago. To be really honest, I wasn't looking forward to hearing about the latest perceived ninth-grade slight, but I invited her in to sit down anyway. Tissues, check. Caring posture, check. Soft voice, on it.

When I asked her what was wrong she replied with the most beautiful of all sentences ever uttered, "Mrs.

Holmberg, all we ever do at this school is THINK!"

The stars aligned, angelic voices lifted in my ears, the earth moved, and the heavens opened before me. Delta High School had arrived.

When I explained to my charge that thinking is and was the whole purpose of school, she cried harder.

"When do we get to stop?"

My answer? "Never."

At Delta, a student must submit evidence of learning.

They must be proved guilty of having learned through problem-

solving exercises that span the subjects. This process, in turn, keeps our students busy thinking. It is exhausting, I'll give them that. If we teach students a technical skill, it will be outdated in two years. If we teach students how to think and how to learn, it will last the 85 or so years these 14-year-olds have left.

Problem-solving, after all, never goes out of style. Problem-solving is the new black. Problem solving is Delta High.



SEPT. 1 2009 SCHOOL BEGINS

Delta is for students who want a highly personalized, small school, where academic subjects are connected to each other and the world beyond school walls. The exchange of knowledge will reflect the way scientists and engineers work and learn in the real world.

The school attracts a broad spectrum of students from all academic levels, interests, and backgrounds.

In honor of National Make a Difference Day, over 100 community members, students, and family volunteers share in efforts to improve the school grounds by painting, spreading rock, planting gardens, and other activities.

November marks the end of the first trimester and the first Intersession. Intersession is a short period usually between trimesters where the students engage in hands-on learning activities that connect classroom with the world beyond.

The students spend Intersession at Walla Walla University, Whitman College, Washington State University Tri-Cities, and Columbia Basin College.

"Being a partner with the three school districts and Battelle to create Delta High School has been a wonderful collaboration for Washington State University Tri-Cities. We look forward to expanding the collaboration as our faculty and students engage with Delta teachers and students to develop and implement best practices in the teaching and learning of STEM disciplines."

- Vicky Carwein, Washington State University Tri-Cities Chancellor



"I'm interested in the medical field, and I want to gain a lot of experience by being at Delta. I want to do internships in 12th grade, so I can make contacts in the medical and science professions."

- Janhvi Rana

Janhvi's project on the history and impact of anesthesia made it to the state level for National History Day. She says the project was challenging but taught her valuable research skills.

2010



A wheelchair technology company, TiLite of Kennewick, visits Delta students to demonstrate how altering materials and design can vastly change the performance function of a product. This is a great way for students to see engineering and physics in the real world.

DIGNITARIES VISIT TO LEARN MORE

Known for her efforts to make education a national priority, United States Senator Patty Murray visits Delta to see firsthand the experiences of students and teachers.

Congressman Doc Hastings demonstrates his interest and support by visiting with Delta students and touring the campus. State Representative Larry Haler and Senator Jerome Delvin also pay a visit to the STEM school.

Founding partner, Columbia Basin College, brings visiting education professionals from China and professors from Mexico's Universidad de Nayarit to Delta.

As one of several speaking engagements, Principal Holmberg speaks to retired teachers and Delta Kappa Gamma, a professional association for teachers. The groups are interested in the STEM-focused school and new ideas and methods transferrable to other schools.

Principal Holmberg meets with the Association of Washington School Principals to encourage support of STEM instruction, research-based science instruction, and to develop a collaborative culture of shared responsibility for student learning.

Meier Architecture Engineering (*a full-service architectural and engineering consulting firm in Kennewick*) meets with students to demonstrate how the use of state-of-the-art tools and techniques



can improve architectural and engineering quality, accuracy, and eventually costs. The company was also involved in several aspects of the building improvement projects for the Delta campus.

The second Intersession gives Delta students the opportunity to attend interactive workshops on a variety of STEM topics. These workshops are designed and led by PNNL staff and WSU faculty. Spring intersession also includes trips to Central Washington University, the Chimposium, and to Battelle Auditorium to watch the documentary Food, Inc. Student-led conferences and Multicultural Day round out spring Intersession events. These activities give students a chance to expand their horizons by challenging their existing beliefs and paradigms.

In Spring of 2010 a lottery is held to select the students who will make up this year's freshman class. 120 students are chosen from around 250 applicants.

To finish out the year, Delta High School hosts an Ice Cream Social. This is the students' opportunity to showcase their newly formed student groups, including Student Senate, Fashion Design, Technology Club, Tangent School Newsletter, and Reader's Café. This is also the first chance for the new freshman to meet the soon-to-be sophomores.



"The atmosphere here is like one big family. We look out for each other and are respectful of each other and our differences and learning capabilities. We lift each other up...we're all friends here."

- Krystal Reitan





Delta High School is committed to helping the Tri-Cities community and the nation stay competitive in a global economy. The hope is that graduates will have deeper knowledge, a stronger passion for learning, and be contributing citizens, resulting in much higher rates of acceptance to post-secondary education or training programs in scientific and technical fields.

The students, families, faculty and community members that make up the Delta High School family have only just embarked on this exciting journey,

but the results of their dedication and decisions will be felt by our local and global communities for years to come.

Delta High School is supported by the Washington State STEM Education Foundation · Kennewick, Richland and Pasco School Districts · Columbia Basin College · Washington State University Tri-Cities · Battelle · Pacific Northwest National Laboratory · and the Tri-Cities community.

"We can't solve problems by using the same kind of thinking we used when we created them."

- Albert Einstein





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