

STEM Education Action Plan for West Hills S.T.E.M. Academy

Goal for Action Plan:

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Background Information:

- On each day of the STEM Education Leadership Institute, you will participate in presentations aligned to this Action Plan. These sessions are designed to either enhance your thinking or push you into new thinking.
- Use the questions in the box to frame your comments. You do not need to leave the questions there, just use them as thinking points.

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Shared Vision	<p>Mission Statement: West Hills S.T.E.M. Academy inspires a community of 21st Century, lifelong learners who are equipped to <i>explain, explore, engage, elaborate, and evaluate</i> in a global community.</p> <p>Learners today... Leaders tomorrow.</p>	<ul style="list-style-type: none"> • Revisit the “uniform” definition of STEM has it is used throughout the entire school. • Evaluate the amount of STEM being implemented in each grade level. <ul style="list-style-type: none"> ○ Example: “Where’s the SSTEM?” chart paper activity. • Host an assembly to share the vision with students. • Create a student-created wall display that demonstrates their understanding of the vision. 	<ul style="list-style-type: none"> • Revisit the tri-fold brochure. • Update the website to match current practices. • Once a month, highlight a STEM activity in a classroom using print or other forms of media. <ul style="list-style-type: none"> ○ Focus on the connection to the curriculum (STEM). • Visit the school board. 	<ul style="list-style-type: none"> • Implementation of STEM would occur at all grade levels. • Collecting evidence of students completing the 5 E’s – explain, explore, engage, elaborate, and evaluate. • Provide students with opportunities to engage with the global community. <ul style="list-style-type: none"> ○ Example: Service learning • Integrate leadership education across grade levels. • Revisit the vision as a whole staff at the end of each school year to celebrate and reflect the vision.

				<ul style="list-style-type: none"> Revisit the vision at the beginning of the new school year. <ul style="list-style-type: none"> Example: Teachers will bring one area of the vision they will purposefully work towards improving upon.
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Strategies (WHAT)	Timeline (WHEN)	Resources (HOW)	Responsibilities (WHO)	Monitor and Evaluate: How will we adjust our plan? How will we know we've been successful?
<ul style="list-style-type: none"> Revisit the "uniform" definition of STEM as it is used throughout the entire school. 	<ul style="list-style-type: none"> Beginning of the school year 	<ul style="list-style-type: none"> CSIP/professional development day in August 	<ul style="list-style-type: none"> All staff Hosted by LASER S.T.E.M. Institute attendees 	<ul style="list-style-type: none"> Give the vision strategy survey from "The Heart of Change Field Guide." Celebrations of growth towards upholding the vision.
<ul style="list-style-type: none"> Evaluate the amount of STEM being implemented in each grade level. 	<ul style="list-style-type: none"> Beginning of the school year 	<ul style="list-style-type: none"> "Where's the STEM?" chart paper activity. 	<ul style="list-style-type: none"> All staff Hosted by LASER S.T.E.M. Institute attendees 	<ul style="list-style-type: none"> Celebration of growth towards increasing the amount of STEM in each grade level.
<ul style="list-style-type: none"> Host an assembly to share the vision with students. 	<ul style="list-style-type: none"> Beginning of the school year 	<ul style="list-style-type: none"> Staff ASB 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> Students will complete an activity exploring the vision and demonstrating their understanding.
<ul style="list-style-type: none"> Improve communication to public about our vision. 	<ul style="list-style-type: none"> Before the beginning of the 2013-2014 school year. 	<ul style="list-style-type: none"> Revisit the tri-fold brochure. Update the website to match current practices. 	<ul style="list-style-type: none"> Completed by LASER S.T.E.M. Institute attendees Kent 	<ul style="list-style-type: none"> Updates will be complete. Monitor number of visitors to website.
<ul style="list-style-type: none"> Once a month, highlight a STEM activity in a classroom 	<ul style="list-style-type: none"> Beginning of the school year 	<ul style="list-style-type: none"> Focus on the connection to the curriculum (STEM). 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> All grade levels will participate before the end of the school year.

using print or other forms of media.				
<ul style="list-style-type: none"> Collecting evidence of students completing the 5 E's – explain, explore, engage, elaborate, and evaluate. 	<ul style="list-style-type: none"> Evidence should be gathered by December 2013. 	<ul style="list-style-type: none"> Through the use of interactive notebooks Students will be able to define the mission statement in their own words and make personal connections to the mission. 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> All grade levels use a notebook and have evidence of students using the 5 E's.
<ul style="list-style-type: none"> Provide students with opportunities to engage with the local/global community. 	<ul style="list-style-type: none"> Beginning of the year and throughout the entire 2013-2014 school year. 	<ul style="list-style-type: none"> Service learning Field excursions Career excursions Partnerships Guest speakers Career focus integrated into units 	<ul style="list-style-type: none"> All STEM grades are responsible for field/career excursions All staff should implement at least one resource to accomplish this goal. 	<ul style="list-style-type: none"> All teachers have at least one documented experience with a local/global community. Community supporting planning grid. Student reflection of experiences.
ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Managing Change	<ul style="list-style-type: none"> Our school has gone through a lot of change and most people are open and receptive to future change. Within the district, there is a lack of understanding surrounding our change. <ul style="list-style-type: none"> It is not 100% understood what we are doing and why we are doing it. Parents and community members are highly supportive of the change in our school. 	<ul style="list-style-type: none"> Identify barriers that hinder the work. <ul style="list-style-type: none"> Example: Definition of STEM.; how required is the implementation of stem; 	<ul style="list-style-type: none"> Remove all of the barriers that hinder work. <ul style="list-style-type: none"> Example: Converse more about STEM. in PLCs and CSIP. 	<ul style="list-style-type: none"> Foster more partnerships.

Strategies (WHAT)	Timeline (WHEN)	Resources (HOW)	Responsibilities (WHO)	Monitor and Evaluate: How will we adjust our plan? How will we know we've been successful?
<ul style="list-style-type: none"> 15 minutes at each CSIP meeting will be dedicated to a S.T.E.M. integration showcase presented by a different grade level. 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> PLC time CSIP time 	<ul style="list-style-type: none"> Science PLC will provide directions for presentation. Teachers will share their integrations at the CSIP meetings. 	<ul style="list-style-type: none"> People will share integration activities. Evaluate the staffs' opinions of the integration presentations using a survey at the end of the year.
<ul style="list-style-type: none"> Design more local field trips to build more local partnerships 	<ul style="list-style-type: none"> Throughout the 2013-2014 school year 	<ul style="list-style-type: none"> West Sound S.T.E.M. Network Green S.T.E.M. Network Karen and Lisa 	<ul style="list-style-type: none"> All grade levels 	<ul style="list-style-type: none"> Reduce transportation costs by remaining local. Students can identify local STEM career options.
<ul style="list-style-type: none"> Learning walks 	<ul style="list-style-type: none"> As needed By request 	<ul style="list-style-type: none"> With a coach, team, etc. 	<ul style="list-style-type: none"> Anyone who would like to participate 	<ul style="list-style-type: none"> Teachers implement strategies learned while visiting other classrooms.
<ul style="list-style-type: none"> Increase presence in the community 	<ul style="list-style-type: none"> When available 	<ul style="list-style-type: none"> West Sound S.T.E.M. Network Green S.T.E.M. Network Karen and Lisa 	<ul style="list-style-type: none"> All staff members 	<ul style="list-style-type: none"> Increased number of community partnerships

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
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Effective STEM Education Practices	<ul style="list-style-type: none"> We have started a strong transition to the Common Core Standards. We are starting to familiarize ourselves with the Next Generation Science standards. We have started implementing Habits of Mind and soft skills. Different teachers currently implement different S.T.E.M. practices and to different degrees. 	<ul style="list-style-type: none"> Determine the perception of our shared S.T.E.M. vision. Continue the Habits of Mind emphasis. Collecting and analyzing data relating to S.T.E.M. implementation and student achievement. <ul style="list-style-type: none"> In at least one subject per team. Figure out how/to what extent all teachers are using standards and learning targets. 	<ul style="list-style-type: none"> Develop assessments for Habits of Mind. All teachers can accurately communicate the meaning/uses of standards and learning targets. 	<ul style="list-style-type: none"> Collecting and analyzing data relating to S.T.E.M. implementation and student achievement. <ul style="list-style-type: none"> In all subjects and grade levels. Full implementation of Habits of Mind. All teachers are correctly using standards and learning targets.
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Strategies (WHAT)	Timeline (WHEN)	Resources (HOW)	Responsibilities (WHO)	Monitor and Evaluate: How will we adjust our plan? How will we know we've been successful?
<ul style="list-style-type: none"> Develop assessments for Habits of Mind 	<ul style="list-style-type: none"> Have assessments created for the managing impulsivity, persisting, listening with empathy by December 2013. 	<ul style="list-style-type: none"> Habits of Mind text Habits of Mind rubrics and checklists 	<ul style="list-style-type: none"> PBS 	<ul style="list-style-type: none"> Student self-assessment PBS will monitor progress and make adjustments as needed
<ul style="list-style-type: none"> Collecting and analyzing data relating to S.T.E.M. implementation and student achievement. 	<ul style="list-style-type: none"> In at least one subject per team by October 1, 2013. In all subjects and grade levels by the 2016-2017 school year. 	<ul style="list-style-type: none"> Professional development relating to data analysis and display. 	<ul style="list-style-type: none"> Amy and Lisa 	<ul style="list-style-type: none"> Data will be visible in one subject per grade level by October 1, 2013.

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Conditions that Promote STEM Success in Schools	<ul style="list-style-type: none"> Adequate instructional time for science. Administration has significant professional development in S.T.E.M. leadership. 	<ul style="list-style-type: none"> Determine barriers to the use of EIE and FOSS kits. Determine how much time is being dedicated to Science and Engineering in all grades. FOSS jumpstart with all new teachers. Assign standards to each grade level and check curriculum alignment. 	<ul style="list-style-type: none"> Make sure all teachers have adequate time for science instruction (analyze schedules). Provide time for problem solving meetings related to overcoming barriers. 	<ul style="list-style-type: none"> All teachers will implement EIE and FOSS kits. EIE and FOSS kits are being implemented to their fullest extent to meet the standards of the grade.

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<ul style="list-style-type: none"> Determine barriers to the use of EIE and FOSS. Determine how much time is being dedicated to Science and Engineering in all grades. 	<ul style="list-style-type: none"> First month of school 	<ul style="list-style-type: none"> ESD 	<ul style="list-style-type: none"> Science PLC New teachers 	<ul style="list-style-type: none"> FOSS and EIE kits are being used to their full extent to meet the standards of the grade.

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Meaningful Integration of Standards	<ul style="list-style-type: none"> We have a clearly defined plan for STEM integration between social studies, science, and engineering concepts in grades 6-8. Grades 3-5 has created a clear connection between the standards and each FOSS kit and EIE kit. 	<ul style="list-style-type: none"> PD surrounding effectively using Achieve 3000. Teachers will use appropriate tools when implementing engineering design projects. 	<ul style="list-style-type: none"> Fully implement science notebooks in grades 3-8. Will use Achieve 3000 for nonfiction reading. Utilize the technology course/classroom to extend STEM learning from the classroom. 	<ul style="list-style-type: none"> All grade levels will have one day to reassess and make changes to plans to ensure STEM standards are adequately integrated. Clear articulation of the progression of the integration of STEM. All design and science projects will include an ELA component

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<ul style="list-style-type: none"> Will use Achieve 3000 for nonfiction reading. 	<ul style="list-style-type: none"> Immediately 	<ul style="list-style-type: none"> Achieve 3000 Lab times Ipods 	<ul style="list-style-type: none"> STEM grade levels 	<ul style="list-style-type: none"> Achieve 3000 data analysis
<ul style="list-style-type: none"> Fully implement science notebooks in grades 3-8. 	<ul style="list-style-type: none"> Immediately 	<ul style="list-style-type: none"> Science in Writing 	<ul style="list-style-type: none"> Science PLC Grades 3-8 Karen Lippy 	<ul style="list-style-type: none"> Grades 3-8 are implementing science notebooks (using and grading based on grade level Science in Writing component focus)
<ul style="list-style-type: none"> All grade levels will have one day to reassess and make changes to plans to ensure STEM standards are adequately integrated. 	<ul style="list-style-type: none"> By the end of the 2013-2014 school year. 	<ul style="list-style-type: none"> Instructional coach Time Sub pay 	<ul style="list-style-type: none"> All teachers 	<ul style="list-style-type: none"> All teachers have participated Documented plan of integration Teachers will reflect on reassessment process
<ul style="list-style-type: none"> PD surrounding 	<ul style="list-style-type: none"> By December 2013. 	<ul style="list-style-type: none"> CSIP 	<ul style="list-style-type: none"> Andrew Nelson 	<ul style="list-style-type: none"> Achieve 3000 data

effectively using Achieve 3000.		<ul style="list-style-type: none"> Teaming time 		analysis
<ul style="list-style-type: none"> Teachers will use appropriate tools when implementing engineering design projects. 	<ul style="list-style-type: none"> Immediately 	<ul style="list-style-type: none"> Directory of resources Openness to sharing resources 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> Improvements in the SBA and MBA data
<ul style="list-style-type: none"> Clear articulation of the progression of the integration of STEM. 	<ul style="list-style-type: none"> By the 2018-2019 school year 	<ul style="list-style-type: none"> Time for co-planning Continued professional development 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> Documented plan that articulates the progression of the integration of STEM throughout the school
<ul style="list-style-type: none"> All design and science projects will include an ELA component 	<ul style="list-style-type: none"> By the 2018-2019 school year 	<ul style="list-style-type: none"> Writing in Science Common Core Continued professional development 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> MSP reading, writing, and science scores will improve

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Our STEM Education Model	<ul style="list-style-type: none"> We have an open inclusive model in the 3rd phase of implementation Monitoring assessments Includes grades 3-8 	<ul style="list-style-type: none"> Add grades 3 and 8 	<ul style="list-style-type: none"> Continue to assess and adjust practices within our model 	<ul style="list-style-type: none"> Partner with Naval Avenue Early Learning Center Solidify pipeline with Bremerton High School

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<ul style="list-style-type: none"> Add grades 3 and 8 	<ul style="list-style-type: none"> Immediately 	<ul style="list-style-type: none"> 5 planning days prior to start of school year 	<ul style="list-style-type: none"> 3rd and 8th grade teachers 	<ul style="list-style-type: none"> STEM will be implemented in grades 3

				and 8
<ul style="list-style-type: none"> Continue to assess and adjust practices within our model 	<ul style="list-style-type: none"> Continually 	<ul style="list-style-type: none"> Learning walks Reflection tools Revisit vision Analyze data 	<ul style="list-style-type: none"> All staff Instructional coach 	<ul style="list-style-type: none"> The model continues to evolve and change to meet the needs of our students
<ul style="list-style-type: none"> Partner with Naval Avenue Early Learning Center 	<ul style="list-style-type: none"> By the 2018-2019 school year 	<ul style="list-style-type: none"> 3rd grade teachers at Naval and 3rd/4th grade teachers at West Hills 	<ul style="list-style-type: none"> Instructional coach Administration Teachers Counselor 	<ul style="list-style-type: none"> Naval will support STEM practices within their instruction
<ul style="list-style-type: none"> Solidify pipeline with Bremerton High School 	<ul style="list-style-type: none"> By the 2018-2019 school year 	<ul style="list-style-type: none"> High school counselor 	<ul style="list-style-type: none"> Instructional coach Administration Teachers Counselor 	<ul style="list-style-type: none"> West Hills and BHS will support STEM practices within their instruction Incoming 9th graders will be successful in high school

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Advocacy	<ul style="list-style-type: none"> Web site Flyer Email list for partnerships All calls Family nights (monthly) Logo Principal is a member of a STEM community organizations Staff participates in community events advocating for school 	<ul style="list-style-type: none"> School board meeting presentation by STEM LASER institute participants 	<ul style="list-style-type: none"> Continue to invite local press and leaders to events Increase presence at the state science fair at BHS 	<ul style="list-style-type: none"> Continue to celebrate successes and promote STEM education in our community Service learning projects for students

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<ul style="list-style-type: none"> School board meeting presentation by STEM LASER institute participants 	<ul style="list-style-type: none"> September 2013 	<ul style="list-style-type: none"> Action plan and experiences at institute 	<ul style="list-style-type: none"> STEM LASER Institute participants 	<ul style="list-style-type: none"> Clear communication of our action plan to the school board
<ul style="list-style-type: none"> Continue to invite local press and leaders to events 	<ul style="list-style-type: none"> Continual 	<ul style="list-style-type: none"> Networking 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> Increased presence in local media Increased presence of community members at school events
<ul style="list-style-type: none"> Increase presence at the state science fair at BHS 	<ul style="list-style-type: none"> April 2014 	<ul style="list-style-type: none"> Science PLC STEM fair 	<ul style="list-style-type: none"> 3-8 staff 	<ul style="list-style-type: none"> Increased number of participants at the state science fair (greater than 6)
<ul style="list-style-type: none"> Continue to celebrate successes and promote STEM education in our community 	<ul style="list-style-type: none"> Continual 	<ul style="list-style-type: none"> Leadership Kitsap Local media School board Higher education institutes 	<ul style="list-style-type: none"> All staff 	<ul style="list-style-type: none"> Increased recognition of West Hills in local media <ul style="list-style-type: none"> o 5+ times Increased presence of community members at school events

ELEMENT	Where we are now...	Short-term goals...	Mid-term goals...	Long-term goals...
Partnerships	<ul style="list-style-type: none"> • Puget Sound Naval Shipyard • Kitsap Lumber • Lowes • Sean Neal – Boy Scouts • Olympic College • Leadership Kitsap • PTA • West Sound STEM Network • Green STEM • STEM LASER • Boeing • Kitsap County Public Works • Bremerton Schools Foundation • Kitsap Conservation • Kiwanis • Boys & Girls Club • YMCA • Watchdogs • West Sound Tech • Trident Training Facility • Bremerton Sheriff • Pacific Planetarium • WSU 4H • Washington Youth Academy • West Side Improvement Club • Morgan Stanley Smith Barney 	<ul style="list-style-type: none"> • Maintain current partnerships 	<ul style="list-style-type: none"> • Rice Fergus Miller • MESA • MOHAI • Kitsap Sun • Bremerton Patriot • Western • Starbucks 	<ul style="list-style-type: none"> • Fred Hutchinson Cancer Research • Waste Management • Kitsap Humane Society • Amgen • Kitsap Historical Society • Naval Undersea Museum • Nature Bridge • Barnes and Noble • IHOP • Denny's

	<ul style="list-style-type: none"> • Kitsap Pumas • Project Learning Team • McDonalds 			
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<ul style="list-style-type: none"> • Maintain and develop new partnerships 	<ul style="list-style-type: none"> • Continually 	<ul style="list-style-type: none"> • Time • Networking 	<ul style="list-style-type: none"> • All staff 	<ul style="list-style-type: none"> • Increased number of partnerships • Presence in the community • World domination