

## 2015-2017 Hendersonville Elementary STEM Plan

In addition to our school improvement plan, we are utilizing the NC STEM rubric to assess our STEM initiatives.

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***Goal 1: Hendersonville Elementary School will Integrate a STEM curriculum aligned with state, national, international, and industry standards.***

Measurable Objective	Strategy	Progress Monitoring	Professional Learning	Resources required/ Budgeted
1. Students will participate regularly in project based learning (PBL) with integrated content across STEM subjects.	<ol style="list-style-type: none"> <li>1. Engage students in PBL in weekly activities incorporating STEM or STEAM.</li> <li>2. Provide students access to current technology in a timely manner and in every classroom, media center, and computer lab.</li> <li>3. Provide opportunities for students to engage in activities that incorporate technology beyond the regular school day such as Lego Robotics Club, Engineering for Kids</li> </ol>	<ol style="list-style-type: none"> <li>1. Frequency of PBL</li> <li>2. Frequency of STEM integration</li> <li>3. Student products</li> <li>4. Presentations</li> </ol>	<ol style="list-style-type: none"> <li>1. Provide monthly STEAM support</li> <li>2. Attend North Carolina Council of Teachers of Mathematics (NCCTM) conference</li> <li>3. Weekly Professional Learning Communities (PLC)</li> </ol>	<ul style="list-style-type: none"> <li>• Maker spaces</li> <li>• Supplies</li> <li>• STEM specialist</li> </ul>

Measurable Objective	Strategy	Progress Monitoring	Professional Learning	Resources required/ Budgeted
<p>2. Students and staff will regularly have connections to effective in and out –of-school STEM programs.</p>	<ol style="list-style-type: none"> <li>1. Staff and students will have access to a STEM network.</li> <li>2. Staff will plan out of school activities (field trips, Bonus Learning Time [BLT], etc.) with a STEM focus.</li> </ol>	<p>Frequency of working with and receiving support with our community Network.</p>	<ol style="list-style-type: none"> <li>1. Share research and best practices related to goals.</li> <li>2. PLC</li> <li>3. Staff meetings</li> </ol>	<p><b>STEM Network</b></p> <ul style="list-style-type: none"> <li>• Pardee Hospital</li> <li>• Park Ridge Hospital</li> <li>• Hands- On</li> <li>• Team Ecco –BJ Ramer</li> <li>• Blue Ridge Community College</li> <li>• NC State</li> <li>• Duke Energy</li> <li>• Hendersonville High School</li> <li>• Hendersonville Middle School</li> <li>• Community Professionals</li> </ul>
<p>3. Teachers and students are integrating technology and virtual learning weekly.</p>	<ol style="list-style-type: none"> <li>1. Provide opportunities for students to engage in activities that incorporate technology during and beyond the regular school day such as Lego Robotics Club, Engineering for Kids.</li> <li>2. Communicate to staff, parents, and students who is in our STEM network and how to access those resources.</li> </ol>	<ol style="list-style-type: none"> <li>1. Attendance at technology professional development</li> <li>2. Teacher LFS walk-throughs</li> <li>3. Availability of technology devices in classrooms, media center, and computer lab</li> <li>4. Teacher observations</li> <li>5. Student products</li> </ol>	<ol style="list-style-type: none"> <li>1. Stem specialist</li> <li>2. Webpage</li> <li>3. Meeting notes</li> <li>4. Media specialist</li> <li>5. School-based technology training as needed</li> <li>6. Technology training as available through HCPS Technology Department</li> <li>7. Observing schools that utilize technology</li> <li>8. Provide monthly STEAM support</li> </ol>	<ul style="list-style-type: none"> <li>• Smartboards and related software</li> <li>• iPads and academic related apps</li> <li>• Google</li> <li>• Calculators</li> <li>• Chrome books</li> <li>• School STEM Webpage</li> <li>• Accelerated Reader (AR)</li> <li>• IXL, STAR</li> <li>• Online libraries</li> <li>• Letterland software</li> <li>• Elmos and digital projectors</li> <li>• Laptops and 13. Technology to support instruction and assessment</li> <li>• Epic books</li> </ul>

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<p>4. Teachers are creating weekly authentic assessments that exhibit and celebrate STEM skills.</p>	<ol style="list-style-type: none"> <li>1. Teachers collaborate, plan and create pre- and post assessments/ rubrics to determine and support student learning.</li> <li>2. Teachers celebrate student success regularly.</li> <li>3. The school recognizes quarterly student achievement at quarterly assemblies.</li> <li>4. Teachers display student work, which demonstrates standards mastered.</li> </ol>	<ol style="list-style-type: none"> <li>1. Accelerated Reader</li> <li>2. IXL Math</li> <li>3. Reading 3D</li> <li>4. Rubrics</li> <li>5. Successnet</li> <li>6. Benchmarks</li> <li>7. EOG tests</li> <li>8. Math /Science Fair (region/State)</li> <li>9. Lego Robotic competition</li> </ol>	<ol style="list-style-type: none"> <li>1. PLC's</li> <li>2. Grade level mtgs.</li> <li>3. Vertical planning</li> </ol>	<ul style="list-style-type: none"> <li>• AR</li> <li>• IXL</li> <li>• Reading 3D</li> <li>• Rubrics</li> <li>• Successnet</li> </ul>
<p>5. Staff will participate in professional development to meet their professional development STEM goal.</p>	<ol style="list-style-type: none"> <li>1. PTO will fund professional development opportunities for teachers.</li> <li>2. Staff will observe other teachers on a regular basis.</li> <li>3. EC teachers will lead PD on differentiation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Observations</li> <li>2. Walkthroughs</li> <li>3. Lesson planning</li> <li>4. Pacing guide</li> <li>5. Attendance</li> <li>6. Opportunities to lead</li> </ol>	<ol style="list-style-type: none"> <li>1. NCCTM</li> <li>2. Meredith College</li> <li>3. County wide PD</li> <li>4. WRESA</li> <li>5. Collaborate with teams</li> <li>6. Webinars</li> <li>4. Henderson County Public Schools (HCPS)</li> <li>5. Math workshops</li> <li>6. Governors network</li> </ol>	<ul style="list-style-type: none"> <li>• Time for teacher collaboration</li> <li>• Provide materials</li> <li>• Community involvement</li> <li>• Funds for conferences</li> </ul>

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6. All students will have opportunities for inquiry and creativity.	<ol style="list-style-type: none"> <li>1. Attention will be given to underrepresented students through opportunities after school. Ex. Lego robotic club, Girls on the run, Engineering for Kids, Cubcat Chorus, Bonus Learning Time.</li> <li>2. Week long school wide focus on integrating, Science, Technology, Engineering, Arts, and Math.(Implementing units on Color and Fairy Tales.)</li> <li>3. All students grades 2-5 will participate in the Hour of Code.</li> </ol>	<ol style="list-style-type: none"> <li>1. Student products</li> <li>2. Teacher plans</li> <li>3. Data on students attending after school programs</li> </ol>	<ol style="list-style-type: none"> <li>1. Research and professional development on STEM units</li> <li>2. Research and professional development on how to support and focus on underrepresented students.</li> </ol>	<ul style="list-style-type: none"> <li>• Time for teacher collaboration</li> <li>• Materials</li> <li>• Community involvement</li> <li>• Scholarships</li> <li>• CTE budget for Lego Robotic team</li> </ul>

***Goal 2: Hendersonville Elementary will have on- going community and industry engagement.***

Measurable Objective	Strategy	Progress Monitoring	Professional Learning	Resources required/Budgeted
1. A STEM plan is adopted annually by the STEM team.	<ol style="list-style-type: none"> <li>1. The STEM team will meet to evaluate and revise the school wide STEM plan quarterly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Data from benchmarks</li> <li>2. Student work</li> <li>3. Assessments</li> <li>4. IXL</li> </ol>	<ol style="list-style-type: none"> <li>1. Central office staff training on interpreting data</li> </ol>	<ul style="list-style-type: none"> <li>• Planning time</li> <li>• Data</li> <li>• Principal discretionary funds</li> <li>• Scholarships</li> <li>• Business support</li> </ul>

Measurable Objective	Strategy	Progress Monitoring	Professional Learning	Resources required/Budgeted
	2. The plan is communicated through meetings and posted on webpage.			<ul style="list-style-type: none"> <li>• PTO</li> </ul>
2. Teachers will participate in STEM work-based learning experiences every other year, to increase content or career knowledge	<ol style="list-style-type: none"> <li>1. Students will make connections to STEM related industries through project based learning.</li> <li>2. Students will learn in teams to problem solve and test solutions that incorporate STEM content and /or apply STEM skills.</li> </ol>	<ol style="list-style-type: none"> <li>1. Workshop attendance data</li> <li>2. Knowledge shared at faculty meetings</li> <li>3. Evidence in classroom</li> <li>4. Staff will have STEM work-based learning experiences.</li> </ol>	<ol style="list-style-type: none"> <li>1. Western Region Education Service Alliance (WRESA)</li> <li>2. NCCAT</li> <li>3. Schools</li> <li>4. Businesses</li> </ol>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Funds for subs</li> </ul>
3. Teachers communicate and collaborate with business and community partnerships regularly.	<ol style="list-style-type: none"> <li>1. School meets annually face to face with school leaders addressing STEM issues.</li> <li>2. Monthly communication via webpage, school messenger, twitter, PTO face book etc. is used to inform about STEM activities.</li> <li>3. Stakeholders meet twice a year to maintain STEM program and long term funding.</li> </ol>	<ol style="list-style-type: none"> <li>1. Meeting notes</li> <li>2. Emails</li> <li>3. Tweets</li> </ol>		<ul style="list-style-type: none"> <li>• Webpage</li> <li>• Twitter</li> <li>• Face book –PTO</li> <li>• Letters</li> </ul>

**Goal 3: Hendersonville Elementary will have connections to post secondary education.**

Measurable Objective	Strategy	Progress Monitoring	Professional Learning	Resources required/Budgeted
<ol style="list-style-type: none"> <li>1. Twice a year STEM teachers vertically plan in school and across school levels.</li> <li>2. Counselors meet quarterly and share STEM/ career ideas.</li> <li>3. Students participate in career exploration activities</li> </ol>	<ol style="list-style-type: none"> <li>1. During early release days teachers will plan within grade levels and vertically.</li> <li>2. Principal will set up meeting times to plan with different schools.</li> <li>3. Students will participate in a career fair in January.</li> </ol>	<ol style="list-style-type: none"> <li>1. Meeting notes</li> <li>2. STEM units</li> <li>3. Observations</li> <li>4. Student products/presentations</li> <li>5. Mrs. Elks &amp; Mrs. Greedy grade level plans.</li> </ol>	<ol style="list-style-type: none"> <li>1. PLC</li> <li>2. Quarterly county-wide counselors' meetings</li> </ol>	<ul style="list-style-type: none"> <li>• Time</li> <li>• Professionals</li> </ul>