



## STEM Initiative Outcomes, Measures, and Supports 2010-2011

| OUTCOMES  | MEASURES  | SUPPORTS   |
|---|---|--|
| <p>STEM schools provide the <b>tools and space for exploration and invention</b> and foster a <b>culture of collaborative inquiry</b> among faculty and students.</p> <p>The <b>curriculum emphasizes connections</b> within and between the fields of mathematics and science with <b>heavy and meaningful integration of technology</b>. Courses that introduce and engage students in the engineering <b>design process</b> span the high school course sequence. The arts and humanities further integrate the STEM disciplines, and all courses highlight the <b>role of STEM</b> in the global society and economy.</p> <p>Throughout the school, teachers engage students in learning through <b>active solving of real problems</b>, bolstering student motivation and understanding. Students regularly engage in <b>deep discourse</b>, marked by <b>discipline-based justifications</b>. Beyond content knowledge, these schools value and cultivate <b>creativity</b> and develop the <b>problem solving, communication and collaboration</b> skills that drive innovation.</p> <p>Extracurricular activities, summer programs and internships provide learning experiences that <b>increase students' awareness of and interest in STEM</b>.</p> <p>In addition to standard measures of achievement, indicators of success include student excitement about coming to school, <b>enthusiasm for learning</b> and a <b>passionate interest in the world</b>. Students exhibit <b>confidence and perseverance</b> when faced with a challenge and further demonstrate the ability to gather and analyze relevant information and synthesize knowledge and skills to <b>solve authentic problems</b>.</p> | <ul style="list-style-type: none"> <li>● NCNSP Annual Self-Assessment               <ul style="list-style-type: none"> <li>○ STEM Appendix</li> <li>○ Course of Study</li> </ul> </li> <li>● Annual School Progress Review</li> <li>● STEM Director school visits</li> <li>● Annual Student STEM Survey (<a href="#">Youth Truth</a> with STEM addendum)</li> <li>● Quarterly NCNSP STEM Newsletter submissions</li> </ul> <p>Future:</p> <ul style="list-style-type: none"> <li>● College and Work Readiness Assessment (CWRA) or College-Readiness Performance Assessment System (C-PAS)</li> </ul> | <ul style="list-style-type: none"> <li>● <a href="#">NCNSP IS4</a></li> <li>● Math and science curriculum and instruction               <ul style="list-style-type: none"> <li>○ <a href="#">Core-Plus Mathematics</a> (MSP)                   <ul style="list-style-type: none"> <li>■ Two-week summer workshop</li> <li>■ Two school year follow up meetings</li> <li>■ Site-based coaching</li> <li>■ NCIM support website</li> </ul> </li> <li>○ <a href="#">Modeling Science</a> (MSP)                   <ul style="list-style-type: none"> <li>■ Three-week summer workshops</li> <li>■ Three school year follow up meetings</li> <li>■ Site-based coaching</li> <li>■ Online access to curriculum materials</li> </ul> </li> <li>○ <a href="#">SEPUP Global Issues Biology</a> <ul style="list-style-type: none"> <li>■ Two four-day summer workshops</li> </ul> </li> <li>○ <a href="#">Investigations in Environmental Science</a> <ul style="list-style-type: none"> <li>■ Curriculum materials</li> <li>■ <a href="#">GIS computer software</a></li> <li>■ One-week summer workshop</li> </ul> </li> </ul> </li> <li>● Math and science leadership               <ul style="list-style-type: none"> <li>○ <a href="#">Secondary Lenses on Learning</a></li> </ul> </li> <li>● <a href="#">Annual STEM PBL Conference and Student STEM Symposium</a></li> <li>● <a href="#">Youth Technology Corps</a> <ul style="list-style-type: none"> <li>○ Summer computer camp</li> <li>○ Spring international computer competition</li> </ul> </li> <li>● <a href="#">4-H</a> and <a href="#">FIRST Robotics</a> <ul style="list-style-type: none"> <li>○ Start-up support for after school 4-H club</li> <li>○ Start-up support for rookie FRC team</li> </ul> </li> </ul> |