**NEW HAMPSHIRE COLLEGE- AND CAREER READY - SCIENCE STANDARDS**

***DRAFT Revision Process***

New Hampshire’sexisting science standards are nine years old and science pedagogy has come a long way since then.  The Governor’s STEM Task Force recommended updating our science standards using the Next Generation Science Standards as a starting point, but modifying them as needed for the New Hampshire process. The NH Department of Education will implement a science standards revision process beginning July 2015 and ending in May of 2016. Information regarding the process as well as updates, drafts and surveys will be posted on the NH DOE website.

The NH Department of Education is recommending the following revision process which will remain a living document to include updates and revisions as necessary moving forward:

| **Timeline** | **Strategy** | **Activity** | **Engagement** | |
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| **STRATEGIC LEADERSHIP TEAM** | | | | |
| July 2015 – June 2016 | The NH DOE will request the assistance of a 10-member *Science Standards Strategic Leadership Team* to provide guidance to the NH DOE in the management of the revision process for the NH Science Standards  The team will meet at least 5 times throughout the year and participate on conference calls as needed. This service will be voluntary. | * Design the guiding principles and protocols for the revision process which will be provided to the Science Expert Panel. * Monitor the revision process to ensure public transparency. * Review capacity and strategy of New Hampshire to adopt new science standards (including associated financial requirements). * Assist with communication efforts about the standards revision. * Engage stakeholders when/where necessary to gather feedback. * Review science data to determine what should be provided to the expert committee to assist in their work. | * LEAD: NH DOE STEM Administrator * 2 Science Teachers *(nominated by the NH Science Teacher Association)* * CIA Director *(nominated by the CIA membership within NHSAA that has a science background)* * Parent *(nominated by the PTA or PIC with a science background)* * Higher Education representative with a science education background *(nominated by the Higher Education Network)* * Governor’s Office Representative * State Representative *(preferably with a background in the field of science designated by the Chair of the House Education Committee)* * State Senator *(preferably with a background in the field of science designated by the Chair of the Senate Education Committee)* * State Board of Education Representative * Business leader within a science-related field *(nominated by the NH Coalition for Business and Education)* | |
| **NOMINATION PROCESS FOR SCIENCE EXPERT COMMITTEE** | | | | |
| July/August | The NHDOE will develop a process, with the support and direction of the Strategic Leadership team, to gather and select interested and qualified individuals to serve on the Science Expert Committee.  Members of the committee will meet the membership outline (listed under “engagement”) and qualifications requested:   * + At least half of all members must be current New Hampshire district or school-based educators   + All members must have a background in the sciences (science teacher, professor, engineer, biologist, etc.)   + Starting in late August, all members must be available and willing to volunteer to attend monthly in-person meetings (8) and participate in up to one conference call per month, if necessary.   + All members must be able to nominate up to five additional people (within their membership area) to assist with a formal review of the standards once drafted.   Additionally, the NH DOE will ensure that:   * grade spans are represented; and * each region of the state is represented. | * Develop nomination form with required qualifications and schedule for the committed timeframe. * Post nomination form to the NH DOE website and send out to partners requesting engagement. * The Strategic Leadership Team will select the expert committee. * The NH DOE will contact those selected to confirm participation. * The NH DOE will send letters to those not selected as ask that they serve on the review committees in the Spring. | | Members will be chosen based on the needs below and with an assurance that the membership will be geographically diverse.   * Current K-2, 3-5, 6-8, 9-12 educators (including teachers specializing in special education and working with English Learners) (12) * Teacher representatives – current school-based educator (NHSTA/NEA/AFT) (6) * Current university/college faculty in the field of science (5) * Current scientist working in New Hampshire (3) * Parents of a public school student (PTA, PIC) (2) * Current school principal (3) * Current district CIA director (3) * School board member (2) * Charter school representative (2) * Business and industry (2) |
| **SCIENCE EXPERT COMMITTEE WORK and REVIEWS OF THE STANDARDS** | | | | |
| Sept. 2015 – May 2016 | Science Expert Committee is responsible for the review, revision/development and drafting of the next NH Science Standards. | The Science Expert Committee will:   * Determine the aspiration that grounds and focuses NH Science Standards and what they should deliver for every student; * Determine what components science standards should contain (review research) * Complete an initial review of existing NH standards to identify concept/knowledge and skill gaps, grade-to-grade alignments and outdated content/concepts. * Complete a thorough review the National Research Council’s *A Framework for K-12 Science Education,* other state standards that have been presented as notably well developed (DC, MA, SC), recent reviews of national and international science standards and NAEP alignment studies (to name a few). * Continuously review public feedback and make adjustments where they believe necessary. * Invite state and national experts in as necessary (and fiscally allowable) to assist in the work. | * Science Expert Panel * NH DOE Staff Support (to prepare requested materials, to take minutes at each meeting) | |
| Nov. 2015 (Draft I) | The Science Expert Committee will develop three drafts of the science standards.  The State Board of Education will be updated monthly on the revision process. | **DRAFT I:** The first draft will include the aspirations that ground the new science standards, the components that will be /are contained and a summary of the research reviewed. Additionally, it will include the framework of the new standards. | **DRAFT I** will be **posted** on the NH DOE website with a **survey to request feedback** for the committee. This will NOT include a full set of standards but rather the vision and framework for the standards that will be included in DRAFT II. | |
| March 2016  (DRAFT II)  Public Feedback and other feedback methods will take place March – April 2016 | **DRAFT II:** The second draft will include revisions to the first draft based on feedback and further study. It will also include a full drafting of the science standards. | **DRAFT II** will be **reviewed and benchmarked** by national organizations such as Achieve and Fordham Foundation, along with NH’s post-secondary educators, NH Business Leaders (in science fields), and NH professional associations. The NH DOE will specifically request that DRAFT II is reviewed by NH educators and will **post the draft standards** on the NH DOE website with a survey to request feedback from the community at large.  Additionally, a **listening tour** will be conducted in 5 regions of the state to hear from educators and the public about the DRAFT standards. A formal **public hearing** on the standards will take place in Concord to allow anyone in the public to provide formal feedback.  Finally, DRAFT II will be provided to a **committee of reviewers** recruited by the Science Expert Committee. Each member of the Science Expert Committee will submit the names and contact information of at least five individuals from their field (K-12, Higher Education, Business, etc.) to review DRAFT II. | |
| May 2016 | **DRAFT III**: The third draft of the revised NH Science Standards takes into consideration the feedback received from the DRAFT II review. DRAFT III is the final draft that will be presented to the State Board of Education. | The resulting **DRAFT III or FINAL DRAFT** will be **presented to the State Board of Education**, along with all of the committee minutes, feedback received, reports and recommendations from the research review, a fiscal analysis. The NH DOE, along with the Strategic Leadership Team and the Science Expert Committee, will request adoption of the revised NH Science Standards. | |
| **SCHOOL ENGAGEMENT and PILOT RESEARCH**  ***(Given that the Governor’s STEM Task Force strongly recommends the adoption of the Next Generation Science Standards (NGSS), the NH DOE will conduct the following research.)*** | | | | |
| September 2015 | The NH DOE will build an initial understanding of NGSS use in NH Schools. | Survey educators to determine what schools are already implementing the standards and ask for input on the Performance Expectations included in the NGSS | * School and district administrators * NH DOE | |
| Oct. 2015-March 2016 | There are schools in New Hampshire that are already engaged in the Next Generation Science Standards. In order to understand their work and its impact, we will use the survey above to identify districts using the standards (hopefully one in each region of the state) to build an understanding of their experiences, fiscal impacts and future plans. | * Focus groups will be conducted with parents, students, teachers and administrators. | * Pilot district parents, students, teachers, administrators and others engaged in the NGSS. * State Board of Education * NH DOE Staff | |
| Ongoing | * The NH DOE will request schools present to the State Board of Education on their work in implementing NGSS. |
| April 2016 | * A brief will be developed to present to the board. |
| **ADOPTION AND IMPLEMENTATION** | | | | |
| June 2016 | Develop an awareness and implementation support plan for the newly adopted NH Science Standards | * The Strategic Leadership team will work with the NH DOE to develop a plan that will articulate communication strategies, technical support and other assistance to school districts. * TBD * This plan will be presented to the State Board of Education. | Strategic Leadership Team  NH DOE  State Board of Education | |
| Sept. 2016 – Dec. 2016 | * Work with Accountability Task Force and Legislative Oversight Committee to discuss next steps for assessment development process (expect three to four years of preparation) . | TBD | Accountability Task Force  Legislative Oversight Committee  NH DOE  State Board of Education  TA from the Center for Assessment | |