My work as President of Tidemark Institute is to focus on STEM education in terms of strengthening professional learning models for teachers, working with school administrators in building their understanding of new shifts in these subjects and what these shifts mean for teachers and classrooms. I also work with teachers and other educational researchers in Maine and throughout the United States on new subject frameworks like the Next Generation Science Standards (NGSS) and technologies to help strengthening students’ learning and teachers’ pedagogy. I come to this testimony in support of Maine’s adoption of NGSS with an understanding of what a guiding force this document is for students, teachers, administrators, parents, school board members and business owners, corporate leaders and state scientists and engineers.

Providing Maine students, K-12, with high quality science education is for many a top priority. Workforce readiness today includes facility with numbers or data as well as facility with science ideas. The state’s workforce needs K-12, community college and 4-year colleges graduates ready to put these skills to use, fill jobs that will help Maine’s economy. In today’s world, being well educated in both subject areas is a workforce issue.

The Next Generation Science Standards (NGSS) is based on rigorous research on how children learn. It provides a framework of core disciplinary ideas, identified by teams of highly respected scientists and educators working together, across the physical sciences, biological sciences, space and earth sciences as well as chemistry. In addition, NGSS identifies important scientific practices such as reasoning from evidence, building explanatory models that reflect students’ reasoning about phenomena and communicating one’s ability to explain a natural phenomenon such as sound – What is it? How is it created? How does it travel across a room? Why do I hear sound under water?

As of this writing 19 states have formally adopted NGSS and many more states use NGSS as the basis for their state science standards. Teachers throughout the United States are participating in professional learning programs that are structured to immerse K-12 teachers in the content and pedagogical strategies to support K-12 learners of science. In Maine the state science standards were reviewed and revised over ten years ago, in 2007. Districts are moving on. More than 75% of districts across Maine have adopted NGSS locally either through official school board approval or in practice in classrooms with approval from administrators. Local funding has been invested in helping teachers become involved in professional learning programs to help them incorporate the content as well as the science and engineering practices into their science teaching. All of this activity is taking place while the State standards remain static, as they were in 2007.

Teachers, administrators, school board members, parents and students are embracing NGSS as an up to date framework on science teaching and learning, one that provides K-12 students with guided opportunities to figure out science ideas piece by piece, progressively over time. To engage in the kind of learning that we know endures.

I recommend that the State of Maine adopt the Next Generation Science Standards as a high quality, framework to guide the learning and teaching of K-12 science education for Maine students and their teachers.

Jean Moon, PhD