Proposed Agenda

a) Hour 1: Model an NGSS lesson (focus would be models, system, explaining, etc.) Choose a topic that is being covered by multiple grade levels (i.e., weathering, water cycle) and present it as a lesson where the participants would be learning some content, but also instructional strategies around NGSS. They could then take any new content knowledge around that topic back to their classrooms and apply it for the appropriate grade level.

b) Hours 2-3: Share our website as a collective of resources and tools that teachers can access for support as they work, prioritize lessons based on the evidence statements for the standards, revisit the 5Es and cohesive “storylines” to help with planning, and plan what science and engineering practices activities work for each kit.

Justification

STEM education for students starts with teachers understanding the Next Generation Science Standards. According to Chad Dorsey in Perspective: Improving STEM Education with Next Generation Science Standards (The Concord Consortium), “These are exciting times in education. Public awareness of the need for science, technology, engineering and math education is rising, and new STEM initiatives are beginning across the nation. In this issue, we welcome one of the most important events in this new awareness of STEM, the release of the Next Generation Science Standards (NGSS). These new standards highlight important new dimensions for science education and present many opportunities for technology to aid teaching and learning.”

Through our Winter and Spring kit training workshops, teachers will have the opportunity to view the kits for their grade level (new to most elementary teachers due to shifting kit content for the NGSS Transition by our ESD112) and identify the lessons and activities that best align to the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts for that grade level. We will be using Evidence Statements to help us create our unit storylines. Teachers will be able to develop crosscutting concept embedded questions around phenomena for the kit storyline to help with cohesiveness between the lessons chosen. Teachers will also embed an engineering design/redesign activity as part of the unit plan, include activities that allow students to practice using the tools and skills of science, and look for opportunities to integrate math skills when appropriate. The end goal is to work toward adapting current curriculum to reflect the instructional shifts that NGSS (essentially STEM) requires and create learning opportunities for students that bring the three dimensions of NGSS together.

Activities can be used with students and have an impact on STEM experiences, so 2 of the 3 Guiding Questions are addressed. More information needs to be provided on how the offering provides examples or resources about STEM-related career choices to use with students before this would be eligible for STEM clock hours, as all 3 Guiding Questions need to be addressed and have a “yes” response.

This proposal would not receive STEM clock hours, but is very close. It needs to address the third Guiding Question. With that addition, it would meet the Criteria and Guiding Question, thus being a STEM clock hour offering.