Learning to Find Trustworthy Scientific Information

Executive Summary: A Report on K-12 Science Education for the 21st Century

Two key objectives identified on Page 1 of *A Framework for K-12 Science Education* – a 2012 document that has heavily influenced science education standards in most states – were that students are able to continue to learn science outside school and become careful consumers of scientific and technological information related to their everyday lives. **To achieve these objectives, MLN believes it is essential that students learn how to find trustworthy scientific information about topics they did not study in school.**

People may search for trustworthy information about emerging diseases and health threats; climate change; claims made about nutrition or weight loss; and many other science-related subjects. However, the internet, where anyone can post information, makes inaccurate information easily available. Research shows students are not usually good at evaluating information found online.

Overarching goal: An important goal for K-12 science education, therefore, is to teach students how to find *trustworthy* scientific information. This need not take a great deal of class time. By clearly addressing this goal, K-12 science education would help mitigate the growing threat of harmful scientific misinformation.

Supporting goals: Few people have the skills to obtain and evaluate evidence for a complex scientific claim by themselves, such as that common vaccines are safe and effective. Instead, students can learn how to evaluate *sources* of information to better understand whether a source is qualified and trustworthy. Students also need to learn more about the scientific enterprise, such as the nature and importance of a scientific consensus. Students should learn about digital media sources, for example the role of algorithms on social media platforms. And students need more information about motivated reasoning, peer pressure and other factors affecting how people think. Methods to help achieve these goals include students' use of a standard set of questions about sources and guiding students to evaluate examples of misinformation.

Responsibility for making these goals a much higher priority rests with multiple stakeholders. Teachers, administrators, school boards, curriculum developers, policymakers at all levels, parents, students, and all media literacy advocates can contribute to making the goal of learning to find trustworthy scientific information a higher priority in science classes.