Obtaining Information from Scientific Texts

Disciplinary Literacy

"Any education in science and engineering needs to develop students' ability to read and produce domain-specific text. As such, every science or engineering lesson is in part a language lesson, particularly reading and producing the genres of texts that are intrinsic to science and engineering."

—National Academies Press. (2012). Summary. In *A Framework for K-12 Science Education* (p. 76).

What is Disciplinary Literacy and why do we need it?

"*Disciplinary literacy* refers to the shared ways of reading, writing, thinking, and reasoning within academic fields" (Sedita, 2015). Each discipline has different demands on students' abilities to read and comprehend that require a multitude of literacy-based skills, and these skills are not learned through mere observation. "Thus [...] teachers, who are already part of the disciplinary culture by virtue of their disciplinary preparation, need to help students into the culture by making explicit the discipline-specific literacy practices of their areas" (Sedita, 2015).

Disciplinary literacy, in science, is developed within Science and Engineering Practices (SEPs). For specific information about expectations at each grade level for these practices, refer to the first section in Appendix A: Learning Progressions.

Key Shifts in Disciplinary Literacy for Science

COMPLEXITY

Practice regularly with complex text and its academic language.

EVIDENCE

Ground reading, writing, and speaking in evidence from text, both literary and informational.

KNOWLEDGE

Use texts to build on ideas learned through engagement with the three dimensions.

It's important to give students opportunities to engage with these shifts throughout science instructional experiences. A high quality curriculum will have these built in; however, teachers are responsible for bringing them to life in the classroom. Reading complex text should build on scientific concepts students develop through engagement with the three dimensions.

This student-facing tool is designed to support K-12 students in obtaining information from scientific texts in the context of high quality science curricula. It can be used alongside curriculum-specific tools for obtaining information and adapted to meet the needs of diverse learners.

Note that some portions of the student-facing tool may only be appropriate for middle and high school students and other portions may only be applicable when students are engaging with text about research.