Science Standards for Alaska: Connections to other subjects

Evidence-based reasoning is the foundation of good scientific practice. The Science Standards for Alaska (SSA) incorporate reasoning skills used in language arts and mathematics to help students improve mastery and understanding in all three disciplines. Connections to specific Alaska English Language Arts and Math standards are listed for each performance expectation, giving teachers a blueprint for building comprehensive cross-disciplinary lessons.

The intersections between science, math, and language arts teach students to analyze data, model concepts, and strategically use tools through productive talk and shared activity. These practice-based standards help teachers foster a classroom culture where students think and reason together, connecting around the subject matter and core ideas.

# Standards for Math

Science is a quantitative discipline, where students must think abstractly. Weaving foundational quantitative tools like arithmetic, algebra, and statistics throughout the science curriculum helps students understand the concepts in context and better prepares them for college and careers.

The SSAs incorporate Alaska standards in Mathematics by focusing on how math practices line up with what you need to know to perform work in each scientific discipline. The crossovers listed for each performance expectation are taken from these Alaska mathematical practices.

# Standards for Literacy

Just like the language arts, science requires the ability to construct a sound argument and communicate it effectively. Reading and writing make up a large part of what scientists and engineers do, and literacy is essential to good scientific practice.

The SSAs combine literacy and language activities like validating evidence, constructing sound reasoning, discussing theories, and critiquing hypotheses to strengthen science instruction and shift classroom activities from recitation toward reasoning-based discussion.

# Cultural Standards

Connection to place and history is important to understanding science in context. The writers of the SSAs made a point of consulting Alaska’s Cultural Standards and ensuring the standards and examples were relevant to life here.