

Science and Engineering Practices Progression

Science utilizes observation and experimentation along with existing scientific knowledge, mathematics, and engineering technologies to answer questions about the natural world. Engineering employs existing scientific knowledge, mathematics, and technology to create, design, and develop new devices, objects, or technology to meet the needs of society. By utilizing both scientific and engineering practices in the science classroom, students develop a deeper understanding and competence with techniques at the heart of each discipline.

The categories of scientific and engineering practices appear across all grade levels and content areas. Those categories are: asking questions and defining problems; planning and carrying out investigations; interpreting, analyzing, and evaluating data; constructing and critiquing conclusions and explanations; developing and using models; and obtaining, evaluating, and communicating information. These science and engineering practices are embedded in instruction to support the development and application of science content. The expectations within each of these categories build as students progress in their academic work. Once an expectation has been introduced at a grade level, they are expected to continue with this expectation through future grade levels. This continued exposure to each expectation and the vertical progression of the categories will provide students with the practices they will need to be scientifically literate graduates.

A specific scientific and engineering practice may include a word or phrase that is *italicized* or **bolded**. The grade level where that word or phrase occurs is also *italicized* or **bolded** in the chart.

