

How to Read the Standards and Benchmarks

The benchmarks are designated by a five-digit (5) code. Strands, substrands and standards use relevant portions of that code. In the sample table below, for benchmark 5L.1.2.1.3 (the first code in the Benchmark column, **indicated in bold font**):

- The first symbol is the **grade and content area**: 5L is grade 5, Life Science.
 - Grades: 0 = Kindergarten, 9 = 9-12 benchmarks.
 - Content areas: E = Earth and Space Science, L = Life Science, P = Physical Science, 9C = Chemistry, 9P = Physics
- The second digit is the **strand**: 1 is Exploring phenomena or engineering problems
- The third digit is the **substrand**: 2 is Planning and carrying out investigations
- The fourth digit is the **standard**: 1 is Students will be able to design and. . .
- The fifth digit is the **benchmark**: 3 is Plan and conduct an investigation to obtain. . .

The benchmark statement is in plain text.

* indicates an engineering-related benchmark or standard

** indicates a computer science–related benchmark

The benchmark is followed by a reference to the corresponding ideas in the Framework: P = Practice, CC = Crosscutting Concept, CI = Core Idea. Refer to the list of the dimensions on Pages 1 and 2.

In the sample science standard and benchmark table (P: 3, CC: 5, CI: LS1) (the second code in the Benchmark column {example shows it with ***bold and italicized type font***}).

- P: 3 is Practice 3: Planning and carrying out investigations
- CC: 5 is Crosscutting Concept 5: Energy and matter
- CI: LS1 is Core Idea Life Science 1: From molecules to organisms

Emphasis statements and examples are written in italics.

Grade	Strand	Substrand	Standard	Content Area	Benchmark
5	1 Exploring phenomena or engineering problems	1.2 Planning and carrying out investigations	1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students’ ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Life Science	<i>5L.1.2.1.3</i> Plan and conduct an investigation to obtain evidence that plants get the materials they need for growth chiefly from air and water. <i>(P: 3, CC: 5, CI: LS1)</i> .

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Grade	Strand	Substrand	Standard	Content Area	Benchmark
K	1 Exploring phenomena or engineering problems	1.1 Asking questions and defining problems	1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Earth and Space Science	OE.1.1.1.1 Ask questions to obtain information from weather forecasts to prepare for and respond to severe weather.* (P: 1, CC: 7, CI: ESS3, ETS2)
K	1 Exploring phenomena or engineering problems	1.1 Asking questions and defining problems	1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Earth and Space Science	OE.1.1.1.2 Ask questions about how a person may reduce the amount of natural resources the individual uses.* (P: 1, CC: 2, CI: ESS3)

Grade	Strand	Substrand	Standard	Content Area	Benchmark
K	1 Exploring phenomena or engineering problems	1.2 Planning and carrying out investigations	1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Physical Science	OP.1.2.1.1 Collect and organize observational data to determine the effect of sunlight on Earth's surface. (P: 3, CC: 2, CI: PS3, ETS2)
K	1 Exploring phenomena or engineering problems	1.2 Planning and carrying out investigations	1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Life Science	OL.1.2.1.2 Make observations of plants and animals to compare the diversity of life in different habitats. (P: 3, CC: 1, CI: LS4)

Grade	Strand	Substrand	Standard	Content Area	Benchmark
K	2 Looking at data and empirical evidence to understand phenomena or solve problems	2.1 Analyzing and interpreting data	2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Physical Science	OP.2.1.1.1 Sort objects in terms of natural/human-made, color, size, shape, and texture, then communicate the reasoning for the sorting system. (P: 4, CC: 2, CI: PS1)
K	2 Looking at data and empirical evidence to understand phenomena or solve problems	2.1 Analyzing and interpreting data	2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Earth and Space Science	OE.2.1.1.2 Make daily and seasonal observations of local weather conditions to describe patterns over time.** (P: 4, CC: 1, CI: ESS2)
K	2 Looking at data and empirical evidence to understand phenomena or solve problems	2.1 Analyzing and interpreting data	2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Life Science	OL.2.1.1.3 Record and use observations to describe patterns of what plants and animals (including humans) need to survive.** (P: 4, CC: 1, CI: LS1)