

New Science Standards – One Pager

3 Dimensions Summary:

Science and Engineering Practices: <ol style="list-style-type: none"> Asking questions and defining problems Developing and using models Planning and carrying out investigations Analyzing and interpreting data Using mathematics and computational thinking Constructing explanations and designing solutions Engaging in argument from evidence Obtaining, evaluating and communicating information 		Crosscutting Concepts: <ol style="list-style-type: none"> Patterns Cause and Effect: mechanism and explanation Scale, proportion, and quantity Systems and system models Energy and matter: flows, cycles and conservation Structure and function Stability and Change 	
Disciplinary Core Ideas			
<u>Physical Sciences:</u> PS1: Matter and its interactions PS2: Motion and stability: Forces and interactions PS3: Energy PS4: Waves and their applications in technologies for information transfer	<u>Life Sciences:</u> LS1: From molecules to organisms: Structures and processes LS2: Ecosystems: interaction, energy and dynamics LS3: Heredity: inheritance and variation of traits LS4: Biological Evolution: unity and diversity	<u>Earth and Space Sciences:</u> ESS1: Earth’s place in the universe ESS2: Earth’s system ESS3: Earth and human activity	<u>Engineering, Technology, and the Application of science</u> ETS1: Engineering design ETS2: Links among engineering, technology, science and society

4 Strands (each with pairs of practices):

- Exploring phenomena or engineering problems
- Looking at data and empirical evidence to understand phenomena or solve problems
- Developing possible explanations of phenomena or designing solutions to problems
- Communicating reasons, arguments and ideas to others

Standards: statements of broad learning goals that apply k-12 (anchor standards)

- One or two per practice
- The first standard relates to the science aspect of the practice
- The second standard relates to the engineering aspect of the practice

Benchmarks: grade level expectations

- Statements showing the integration of the three dimensions

Code: grade.strand.practice.standards.benchmark

- For example 5.4.3.2.1 – grade 5, strand 4, practice 3, standard 2, benchmark 1
- Grade 9 means grade band 9-12

Parenthetical Reference: (P: _, CC:_, CI: _)

- P-Practice
- CC-Crosscutting concept
- CI – Core Idea
- For example (P:1, CC:2, CI:PS1) is Practice – asking questions, crosscutting concept- cause and effect, Core Idea – Matter and its interactions

Engineering indicator: *=a benchmark related to engineering