Three Dimensions of NGSS & CA EP&Cs

California's Environmental Principals & Concepts (EP&C)

Principle I - The continuation and health of individual human lives and of human communities and societies depend on the health of the natural systems that provide essential goods and ecosystem services.
Principle II - The long-term functional and health of terrestrial, freshwater, coastal, and marine ecosystems are influenced by their relationships with human society.
Principle III - Natural systems proceed through cycles that humans depend upon, benefit from, and can alter.
Principle IV - The exchange of matter between natural systems and human societies affects the long-term functioning of both.
Principle V - Decisions affecting resources and natural systems are based on a wide range of considerations and decision-making processes.

NEXT GENERATION SCIENCE STANDARDS

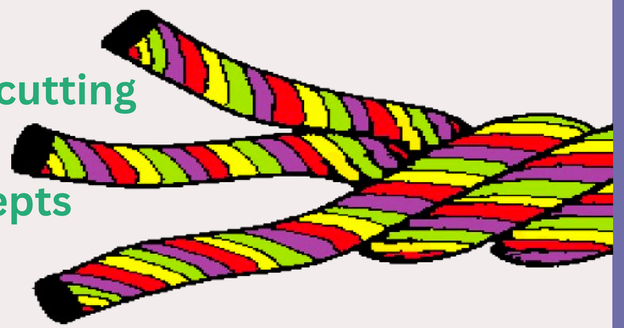
ENVIRONMENTAL PRINCIPLES AND CONCEPTS

San Bernardino County Superintendent of Schools

Science & Engineering Practices

Crosscutting Concepts

Disciplinary Core Ideas



Key

EP&C	ELA/Literacy	Math Practice	ELD

Science & Engineering Practices (SEP)

1. Asking Questions (for science) and Defining Problems (for engineering)
2. Developing and Using Models
3. Planning and Carrying Out Investigations
4. Analyzing and Interpreting Data
5. Using Mathematics and Computational Thinking
6. Constructing Explanations (for science) and Designing Solutions (for engineering)
7. Engaging in Arguments from Evidence
8. Obtaining, Evaluation, and Communicating Information

Disciplinary Core Ideas (DCI)

PHYSICAL SCIENCES
PS1: Matter and Its Interactions
PS2: Motion and Stability: Forces and Interactions
PS3: Energy
PS4: Waves and Their Applications in Technology for Information Transfer

LIFE SCIENCES
LS1: From Molecules to Organisms: Structures and Processes
LS2: Ecosystems: Interactions, Energy, and Dynamics
LS3: Heredity: Inheritance and Variation of Traits
LS4: Biological Evolution: Unity and Diversity

EARTH AND SPACE SCIENCES
ESS1: Earth's Place in the Universe
ESS2: Earth's Systems
ESS3: Earth and Human Activity

ENGINEERING, TECHNOLOGY, AND APPLICATIONS OF SCIENCE
ETS1: Engineering Design
ETS2: Links among Engineering, Technology, Science and Society

Crosscutting Concepts (CCC)

1. Patterns
2. Cause and Effect: Mechanisms and Explanation
3. Scale, Proportion, and Quantity
4. Systems and System Models
5. Energy and Matter: Flows, Cycles, and Conservation
6. Structure and Function
7. Stability and Change

Next Generation Science Standards

CA NGSS:
bit.ly/CAngss

CA Science Framework
bit.ly/CAscienceframework

California Education and the Environment Initiative
https://www.californiaeei.org

National NGSS:
www.nextgenscience.org

https://www.caaspp-elpac.org

CAASPP & ELPAC Power BI Report
bit.ly/3MfJry8

SBCSS Open Data Portal
bit.ly/SBCSS_ODP

Integrating the CA ELD. Standards into K-12 Mathematics and Science Teaching and Learning
https://bit.ly/ELDNGSS

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