Science and Engineering Practices (SEP)
1. Asking questions (sci.) & defining problems (eng.)
2. Developing & using models
3. Planning & carrying out investigations
4. Analyzing & interpreting data
5. Using mathematics & computational thinking
6. Constructing explanations (sci.) & designing solutions (eng.)
7. Engaging in argument from evidence
8. Obtaining, evaluating, & communicating info

Disciplinary Core Ideas (DCI)

Life Sciences
LS1: From molecules to organisms: structures & processes
LS2: Ecosystems: interactions, energy, & dynamics
LS3: Heredity: inheritance and variation of traits
LS4: Biological evolution: unity & diversity

Earth and Space Science
ESS1: Earth’s place in the universe
ESS2: Earth’s systems
ESS3: Earth & human activity

Physical Science
PS1: Matter & its interactions
PS2: Motion & stability: forces & interactions
PS3: Energy
PS4: Waves & their applications in technology for information transfer

Engineering, Tech & the Application of Science
ETS1: Engineering design
ETS2: Links among eng., tech, science, & society

Crosscutting Concepts (CCC)
1. Patterns
2. Cause & effect
3. Scale, proportion, & quantity
4. Systems & system models
5. Energy & matter
6. Structure and function
7. Stability & change

Key Definitions
AB: Assessment Boundary
CCSS: Common Core State Standards
CS: Clarification Statement
PE: Performance Expectation
STEMTeachingTools.org

Practical tools for science educators