

## Ways to Promote Equity

- Equalize opportunities to learn
- See science learning as a cultural accomplishment
- Relate youth discourses to scientific discourses
- Build on prior interest & identity
- Leverage students' cultural funds of knowledge
- Make diversity visible
- Value multiple modes of expression

## 3D Science Learning

## 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 &amp; 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

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