A Model of the Three Dimensions of Science Learning


Disciplinary Core Ideas (DCIs)
CONTENT

- Life Sciences
- Physical Sciences
- Earth and Space Sciences
- Engineering, Technology, and Applications of Science

Integration of content and big ideas

Cross Cutting Concepts (CCCs)
BIG IDEAS

1. Patterns
2. Cause & effect
3. Scale, proportion, and quantity
4. Systems & systems models
5. Energy & matter
6. Structure & function
7. Stability & change

Integration of content, process, and big ideas

Scientific and Engineering Practices (SEPs)
PROCESS

1. Asking questions/Defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematical and computational thinking
6. Constructing explanations/Designing solutions
7. Engaging in arguments from evidence
8. Obtaining, evaluating and communicating information

Reference: