Oregon Trail

Science Philosophy and Essential Teaching Practices

Essential Teaching Practices Include All Three Dimensions

Philosophy Statement

We believe all students are naturally curious and benefit from exploring science through hands-on, student centered learning. A deep understanding of science involves a holistic approach through the exploration of recurring interconnected themes. Our goal is to develop scientific citizens through real life applications of science and engineering concepts.

Essential Teaching Practices

Scientific and Engineering Practices

1. Asking questions and defining problems
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 and designing solutions
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

"How we teach"

Stays the same K-12

Disciplinary Core Ideas

See grade level evidence statements for specific content/core ideas

"What we teach"

Develops over time

Crosscutting Concepts

1. Patterns
2. Cause and Effect
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter
6. Structure and function
7. Stability and Change

"How we teach"

Stays the same K-12

- Foster discovery and inquiry learning
- Develop classroom culture of respect, discussion and debate
- Emphasize students doing science, not just learning about it