Bentonville Schools

2026-2027

Parent Guide to 8th Physical Science Integrated

K-12 Science Education has embraced the shift in learning from knowing to conceptual understanding. The goal in Bentonville Schools is to produce thinkers, problem solvers, and citizens who can analyze the world around them to make the best decisions for themselves and their families. We want students to understand their content more deeply so they can apply their learning to situations that may arise in their lives.

How is my child's science classroom different?

Teachers will emphasize exploration and experimentation rather than lectures and expect students to memorize lists of facts.

In order to move to conceptual understanding, students must engage in practices, as scientists do in their work, to help them investigate their world. Below is a list of Science and Engineering Practices your student will be engaged in this year:

- Asking Questions (Science) and Defining Problems (Engineering)
- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Using Mathematics and Computational Thinking
- Constructing Explanations (Science) and Designing Solutions (Engineering)
- Engaging in Argument from Evidence
- Obtaining, Evaluating, and Communicating Information

Our major topics of study include:

- Waves and Electromagnetic Radiation
- Energy
- Forces and Motion
- Momentum and Impulse
- Environment and Populations
- Periodic Trends and Bonding
- Chemical Reactions
- Conservation of Mass & Energy in Ecosystems

To help students make connections across the major fields and disciplines of science as well as enrich their application of the Science and Engineering Practices and science literacy, students will engage in using Crosscutting Concepts to promote their deeper understanding. Crosscutting Concepts help students to think like scientists. These include:

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Systems and System Models
- Energy and Matter
- Structure and Function
- Stability and Change

*More information on Arkansas Science Standards can be found at the state website: https://bit.ly/DESEScience