

# O-A-S-SCIENCE DISCIPLINARY CORE IDEAS AND COMPONENT CORE IDEAS

The Oklahoma Academic Standards for Science are built around three domains: Physical Science, Life Science and Earth and Space Science. Each domain comprises a set of Disciplinary Core Ideas (**bolded below**) and Component Core Ideas (*italicized below*) that the standards are built around.



## Physical Science

### Core Idea **PS1: Matter and Its Interactions**

*PS1.A: Structure and Properties of Matter*

*PS1.B: Chemical Reactions*

*PS1.C: Nuclear Processes*

### Core Idea **PS2: Motion and Stability: Forces and Interactions**

*PS2.A: Forces and Motion*

*PS2.B: Types of Interactions*

### Core Idea **PS3: Energy**

*PS3.A: Definitions of Energy*

*PS3.B: Conservation of Energy and Energy Transfer*

*PS3.C: Relationships Between Energy and Forces*

*PS3.D: Energy in Chemical Processes and Everyday Life*

### Core Idea **PS4: Waves and Their Applications in Technologies for Information Transfer**

*PS4.A: Wave Properties*

*PS4.B: Electromagnetic Radiation*

*PS4.C: Information Technologies and Instrumentation*



## Life Science

### Core Idea **LS1: From Molecules to Organisms: Structures and Processes**

*LS1.A: Structure and Function*

*LS1.B: Growth and Development of Organisms*

*LS1.C: Organization for Matter and Energy Flow in Organisms*

### Core Idea **LS2: Ecosystems: Interactions, Energy, and Dynamics**

*LS2.A: Interdependent Relationships in Ecosystems*

*LS2.B: Cycles of Matter and Energy Transfer in Ecosystems*

*LS2.C: Ecosystem Dynamics, Functioning, and Resilience*

*LS2.D: Social Interactions and Group Behavior*

### Core Idea **LS3: Heredity: Inheritance and Variation of Traits**

*LS3.A: Inheritance of Traits*

*LS3.B: Variation of Traits*

### Core Idea **LS4: Biological Unity and Diversity**

*LS4.A: Evidence of Common Ancestry and Diversity*

*LS4.B: Natural Selection*

*LS4.C: Adaptation*

*LS4.D: Biodiversity and Humans*



## Earth and Space Science

### Core Idea **ESS1: Earth's Place in the Universe**

*ESS1.A: The Universe and Its Stars*

*ESS1.B: Earth and the Solar System*

*ESS1.C: The History of the Planet Earth*

### Core Idea **ESS2: Earth's Systems**

*ESS2.A: Earth Materials and Systems*

*ESS2.B: Plate Tectonics and Large-Scale System Interactions*

*ESS2.C: The Roles of Water in the Earth's Surface Processes*

*ESS2.D: Weather and Climate*

*ESS2.E: Biogeology*

### Core Idea **ESS3: Earth and Human Activity**

*ESS3.A: Natural Resources*

*ESS3.B: Natural Hazards*

*ESS3.C: Human Impacts on Earth Systems*