



Cogno Board Games' Alignment with the National Academy of Science and The National Research Council's National Science Education Standards: Science Content

The National Science Education Standards were produced by the National Research Council in 1995 and published in 1996. The Standards were the result of four years of work by twenty-two scientific and science education societies and over 18,000 individual contributors. The National Research Council (NRC) functions under the auspices of the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), and the Institute of Medicine (IOM).

Highlighting Key

Indicates a significant amount of material addresses the standard

Indicates a moderate amount of material is present to develop student understanding of the standard

Unifying Concepts & Processes

- Systems, order, & organization
- Evidence, models, & explanation
- Change, constancy, & measurement
- Evolution & equilibrium
- Form & function

Science as Inquiry Standards K-12

- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

Physical Science Standards

K-4

- Properties of objects and materials
- Position and motion of objects
- Light, heat, electricity, and magnetism

5-8

- Properties and changes of properties in matter
- Motions and forces
- Transfer of energy

9-12

- structure of atoms
- structure and properties of matter
- motions and forces

Life Science Standards

K-4

- Characteristics of organisms
- Life cycles of organisms
- Organisms and environments

5-8

- Structure and function in living systems
- Regulation and behavior
- Populations and ecosystems
- Diversity and adaptations of organisms

9-12

- Molecular basis of heredity
- Biological evolution
- Interdependence of organisms
- Matter, energy, and organization in living systems

Earth and Space Science Standards

K-4

- Properties of earth materials
- Objects in the sky
- Changes in earth and sky

5-8

- Structure of the earth system
- Earth's history
- Earth in the solar system

9-12

- Earth in the earth system
- Origins and evolution of the earth system
- Origin and evolution of the universe

Science and Technology Standards

K-4

Abilities to distinguish between natural objects and objects made by humans

K-12

Abilities of technological design

Understanding about science and technology

Science in Personal and Social Perspectives

K-4

- Changes in environments
- Science and technology in local challenges

5-8

- Risks and benefits
- Science and technology in society

9-12

- Science and technology in local, national, and global challenges

History and Nature of Science Standards

K-12

- Science as human endeavor

5-8

- Nature of Science
- History of Science

9-12

- Science as human endeavor
- Nature of scientific knowledge
- Historical perspectives