

Grade 8 Science Standards and Benchmarks Confirmed

Standard 1: Understands atmospheric processes and the water cycle

Benchmarks:

- 1.1. Students will understand that patterns of change help meteorologists predict the weather
- 1.2 Students will understand that patterns of change help meteorologists predict the weather
- 1.3: Students will understand that similarities exist between the systems and interactions of global winds and those of deep ocean currents
- 1.4. Students will understand that currents in the atmosphere are caused by differences in density
- 1.5 . Students will understand the concept of pressure as it relates to both oceans and the atmosphere

Standard 4: Students will understand the principles of heredity and related concepts

Benchmarks:

- 4.1. Students will know that the pattern of change that takes place during meiosis is important for sexual reproduction
- 4.2. Students will know that the interaction of genes brings about evolution in a species.
- 4.3. Students will know that the structure of DNA relates to the processes of mitosis and meiosis

Standard 5: Understands the structure and function of cells and organisms as it relates to: DNA/Genes/Chromosomes

Benchmarks:

- 5.1. Students will know that all organisms are composed of cells

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Standard 8: Understands the structure and properties of matter

Benchmarks:

- 8.1 Students will understand that evidence exists that supports the particle model of matter
- 8.2 Students will understand that there exists an explanation for the atomic structure of matter
- 8.3. Students will explore the size of atoms and molecules
- 8.4. Students will understand that there exists a difference in the behavior of the particles that make up solids, liquids and gases
- 8.5. Students will understand that heating and cooling has an effect on the particles of matter
- 8. 6. Students will understand that the changes of state of matter relates to a substance absorbing and releasing heat energy

Standard 9: Understands the sources and properties of energy

Benchmarks:

- 9.1. Students will know the types of energy conversions that take place in a generator
- 9.2. Students will know how a 9-V cell compares to a 1.5-V cell in its ability to do work?
- 9.3 Students will know how sound is related to energy
- 9.4. Students will know how light and heat are related

Standard: 12 - Understands the nature of scientific inquiry

Benchmarks:

- 12.1 Students will design and conduct a scientific investigation.
- 12.2. Students will use appropriate tools to gather, analyze, and interpret scientific data.