

3501.0920 GRADE 4 STANDARDS.**Subpart 1. The nature of science and engineering.**

A. The practice of engineering. The student will understand that engineers design, create, and develop structures, processes, and systems that are intended to improve society and may make humans more productive.

B. The practice of engineering. The student will understand that engineering design is the process of identifying problems, developing multiple solutions, selecting the best possible solution, and building the product.

C. Interactions among science, technology, engineering, mathematics, and society. The student will understand that the needs of any society influence the technologies that are developed and how they are used.

Subp. 2. Physical science.

A. Matter. The student will understand that objects have observable properties that can be measured.

B. Matter. The student will understand that solids, liquids, and gases are states of matter that have unique properties.

C. Energy. The student will understand that energy appears in different forms, including heat and electromagnetism.

D. Energy. The student will understand that energy can be transformed within a system or transferred to other systems or the environment.

Subp. 3. Earth and space science.

A. Earth structure and processes. The student will understand that rocks are Earth materials that may vary in composition.

B. Interdependence within the Earth system. The student will understand that water circulates through the Earth's crust, oceans, and atmosphere in what is known as the water cycle.

C. Human interactions with Earth systems. The student will understand that in order to improve their existence, humans interact with and influence Earth systems.

Subp. 4. Life science; human interactions with living systems. The student will understand that microorganisms can get inside one's body and they may keep it from working properly.

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