

Georgia Performance Standards Science Revisions

On July 13, 2006, the Georgia State Board of Education approved the following revisions to the science Georgia Performance Standards.

Additions and edits to elements

Sixth Grade

- S6E5. Students will investigate the scientific view of how the earth's surface is formed.**
b. Investigate the composition of rocks in terms of minerals.

Seventh Grade

- S7L1. Students will investigate the diversity of living organisms and how they can be compared scientifically.**
b. Classify organisms based on physical characteristics using a dichotomous key of the six kingdom system (archaeobacteria, eubacteria, protists, fungi, plants, and animals).
- S7L2. Students will describe the structure and function of cells, tissues, organs, and organ systems.**
e. Explain the purpose of the major organ systems in the human body (i.e., digestion, respiration, reproduction, circulation, excretion, movement, control, and coordination, and for protection from disease).
- S7L5. Students will examine the evolution of living organisms through inherited characteristics that promote survival of organisms and the survival of successive generations of their offspring.**
a. Explain that physical characteristics of organisms have changed over successive generations (e.g. Darwin's finches and peppered moths of Manchester).

BIOLOGY

- SB1. Students will analyze the nature of the relationships between structures and functions in living cells.**
d. Explain the impact of water on life processes (i.e., osmosis, diffusion).
- SB3. Students will derive the relationship between single-celled and multi-celled organisms and the increasing complexity of systems.**
a. Explain the cycling of energy through the processes of photosynthesis and respiration.
b. Compare how structures and function vary between the six kingdoms (archaeobacteria, eubacteria, protists, fungi, plants, and animals).
d. Compare and contrast viruses with living organisms.

PHYSICAL SCIENCE

- SPS1. Students will investigate our current understanding of the atom.**
a. Examine the structure of the atom in terms of
• explain the relationship of the proton number to the element's identity.

CHEMISTRY

- SC2. Students will relate how the Law of Conservation of Matter is used to determine chemical composition in compounds and chemical reactions.**
- f. Explain the role of equilibrium in chemical reactions.
- SC5. Students will understand that the rate at which a chemical reaction occurs can be affected by changing concentration, temperature, or pressure and the addition of a catalyst.**
- c. Explain the role of activation energy and degree of randomness in chemical reactions.

PHYSICS

- SP3. Students will evaluate the forms and transformations of energy.**
- b. Explain the relationship between matter and energy.
- SP4. Students will analyze the properties and applications of waves.**
- e. Determine the location and nature of images formed by the reflection or refraction of light.

Additions to standard

PHYSICS

- SP6. The student will describe the corrections to Newtonian physics given by quantum mechanics and relativity when matter is very small, moving fast compared to the speed of light, or very large.**
- a. Explain matter as a particle and as a wave.
 - b. Describe the Uncertainty Principle.
 - c. Explain the differences in time, space, and mass measurements by two observers when one is in a frame of reference moving at constant velocity parallel to one of the coordinate axes of the other observer's frame of reference if the constant velocity is greater than one tenth the speed of light.
 - d. Describe the gravitational field surrounding a large mass and its effect on a ray of light.