

SEVENTH GRADE SCIENCES KANSAS ASSED STANDARDS

The student...

- 7K1.1.1 Identifies questions that can be answered through scientific investigations.
- 7K1.1.2 Designs and conducts scientific investigations safely using appropriate tools, mathematics, technology, and techniques to gather, analyze, and interpret data.
- 7K1.1.3 Identifies the relationship between evidence and logical conclusions.
- 7K1.1.4 Communicates scientific procedures, results and explanations.
- 7K1.3.2 Evaluates the work of others to determine evidence which scientifically supports or contradicts the results, identifying faulty reasoning or conclusions that go beyond evidence and/or are not supported by data.
- 7K2.1.1 Compares and classifies the states of matter; solids, liquids, gases, and plasma.
- 7K2.2.1 Understands the relationship of atoms to elements and elements to compounds.
- 7K2.2.2 Measures and graphs the effects of temperature on matter.
- 7K2.3.2 Describes, measures, and represents data on a graph showing the motion of an object (position, direction of motion, speed).
- 7K2.3.3 Recognizes and describes examples of Newton's Laws of Motion.
- 7K2.3.4 Investigates and explains how simple machines multiply force at the expense of distance.
- 7K2.4.2 Understands that when work is done energy transforms from one form to another, including mechanical, heat, light, sound, electrical, chemical, and nuclear energy, yet is conserved.
- 7K2.4.3 Observes and communicates how light (electromagnetic) energy interacts with matter: transmitted, reflected, refracted, and absorbed.
- 7K2.4.4 Understands that heat energy can be transferred from hot to cold by radiation, convection, and conduction.

- 7K3.1.1 Will understand the cell theory; that all organisms are composed of one or more cells, cells are the basic unit of life, and that cells come from other cells.
- 7K3.1.2 Relates the structure of cells, organs, tissues, organ systems, and whole organisms to their functions.
- 7K3.2.1 Differentiates between asexual and sexual reproduction of organisms.
- 7K3.3.1 Understands the internal and/or environmental conditions affect an organism's behavior and/or response in order to maintain and regulate stable internal conditions to survive in a continually changing environment.
- 7K3.4.1 Recognizes that all populations living together (biotic resources) and the physical factors (abiotic resources) with which they interact compose an ecosystem.
- 7K3.4.3 Traces the energy flow from the sun (source of radiant energy) to producers (via photosynthesis - chemical energy) to consumers and decomposers in food webs.
- 7K3.5.2 Understands that adaptations of organisms (changes in structure, function, or behavior that accumulate over successive generations) contribute to biological diversity.
- 7K3.5.3 Associates extinction of a species with environmental changes and insufficient adaptive characteristics.
- 7K4.1.1 Identifies properties of the solid earth, the oceans and fresh water, and the atmosphere.
- 7K4.1.2 Models Earth's cycles, constructive and destructive processes, and weather systems.
- 7K4.2.1 Understands that earth processes observed today (including movement of lithospheric plates, and changes in atmospheric conditions) are similar to those that occurred in the past; earth history is also influenced by occasional catastrophes, such as the impact of a comet or asteroid.
- 7K4.3.1 Compares and contrasts the characteristics of stars, planets, moons, comets, and asteroids.
- 7K4.4.1 Demonstrates and models object/space/time relationships that explain phenomena such as the day, the month, the year, seasons, phases of the moon, eclipses and tides.

- 7K6.1.1 Identifies individual nutrition, exercise, and a rest needs based on science and uses a scientific approach to thinking critically about personal health, lifestyle choices, risks, and benefits.
- 7K6.2.1 Investigates the effects of human activities on the environment and analyzes decisions based on the knowledge of benefits and risks.
- 7K7.2.1 Recognizes that new knowledge leads to new questions and new discoveries, replicates historic experiments to understand principles of science, and relates contributions of men and women to the fields of science.