

7th Grade Science Standards

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Benchmark#	Description	Assessed	CPALMS Link
SC.7.N.1.1	Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.		Click Here
SC.7.N.1.2	Differentiate replication (by others) from repetition (multiple trials).		Click Here
SC.7.N.1.3	Distinguish between an experiment (which must involve the identification and control of variables) and other forms of scientific investigation and explain that not all scientific knowledge is derived from experimentation.		Click Here
SC.7.N.1.4	Identify test variables (independent variables) and outcome variables (dependent variables) in an experiment.		Click Here
SC.7.N.1.5	Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.		Click Here
SC.7.N.1.6	Explain that empirical evidence is the cumulative body of observations of a natural phenomenon on which scientific explanations are based.		Click Here
SC.7.N.1.7	Explain that scientific knowledge is the result of a great deal of debate and confirmation within the science community.		Click Here
SC.7.N.2.1	Identify an instance from the history of science in which scientific knowledge has changed when new evidence or new interpretations are encountered.		Click Here
SC.7.N.3.1	Recognize and explain the difference between theories and laws and give several examples of scientific theories and the evidence that supports them.		Click Here
SC.7.N.3.2	Identify the benefits and limitations of the use of scientific models.		Click Here
SC.6.L.14.1	Describe and identify patterns in the hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms.		Click Here
SC.6.L.14.2	Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multi-cellular), all cells come from pre-existing cells, and cells are the basic unit of life.		Click Here
SC.6.L.14.3	Recognize and explore how cells of all organisms undergo similar processes to maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.		Click Here
SC.6.L.14.4	Compare and contrast the structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.		Click Here
SC.6.L.14.5	Identify and investigate the general functions of the major systems of the human body (digestive, respiratory, circulatory, reproductive, excretory, immune, nervous, and musculoskeletal) and describe ways these systems interact with each other to maintain homeostasis.		Click Here

SC.6.L.14.6	Compare and contrast types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.		Click Here
SC.6.L.15.1	Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.		Click Here
SC.7.L.15.1	Recognize that fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species.		Click Here
SC.7.L.15.2	Explore the scientific theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms.		Click Here
SC.7.L.15.3	Explore the scientific theory of evolution by relating how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.		Click Here
SC.7.L.16.1	Understand and explain that every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another.		Click Here
SC.7.L.16.2	Determine the probabilities for genotype and phenotype combinations using Punnett Squares and pedigrees.		Click Here
SC.7.L.16.3	Compare and contrast the general processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis.		Click Here
SC.7.L.16.4	Recognize and explore the impact of biotechnology (cloning, genetic engineering, artificial selection) on the individual, society and the environment.		Click Here
SC.7.L.17.1	Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.		Click Here
SC.7.L.17.2	Compare and contrast the relationships among organisms such as mutualism, predation, parasitism, competition, and commensalism.		Click Here
SC.7.L.17.3	Describe and investigate various limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.		Click Here
SC.8.L.18.1	Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.		Click Here
SC.8.L.18.2	Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.		Click Here
SC.8.L.18.3	Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.		Click Here
SC.8.L.18.4	Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.		Click Here