

Science - 4th Grade (TEKS - Aligned Course Objectives)

<u>Scientific Processes</u>			
OBJ	4	1	The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices
SE	4	1A	Demonstrate safe practices during field and laboratory investigations
SE	4	1B	Make wise choices in the use and conservation of resources and the disposal or recycling of materials
OBJ	4	2	The student uses scientific inquiry methods during field and laboratory investigations
SE	4	2A	Plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology
SE	4	2B	Collect information by observing and measuring
SE	4	2C	Analyze and interpret information to construct reasonable explanations from direct and indirect evidence
SE	4	2D	Communicate valid conclusions
SE	4	2E	Construct simple graphs, tables, maps, and charts to organize, examine, and evaluate information
OBJ	4	3	The student uses critical thinking and scientific problem solving to make informed decisions
SE	4	3A	Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information
SE	4	3B	Draw inferences based on information related to promotional materials for products and services
SE	4	3C	Represent the natural world using models and identify their limitations
SE	4	3D	Evaluate the impact of research on scientific thought, society, and the environment
SE	4	3E	Connect Grade 4 science concepts with the history of science and contributions of scientists
OBJ	4	4	The student knows how to use a variety of tools and methods to conduct science inquiry
SE	4	4A	Collect and analyze information using tools including calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices, balances, and compasses
SE	4	4B	Demonstrate that repeated investigations may increase the reliability of results
<u>Science Concepts</u>			
OBJ	4	5	The student knows that complex systems may not work if some parts are removed
SE	4	5A	Identify and describe the roles of some organisms in living systems such as plants in a schoolyard, and parts in nonliving systems such as a light bulb in a circuit
SE	4	5B	Predict and draw conclusions about what happens when part of a system is removed
OBJ	4	6	The student knows that change can create recognizable patterns
SE	4	6A	Identify patterns of change such as in weather, metamorphosis, and objects in the sky
SE	4	6B	Illustrate that certain characteristics of an object can remain constant even when the object is rotated like a spinning top, translated like a skater moving in a straight line, or reflected on a smooth surface
SE	4	6C	Use reflections to verify that a natural object has symmetry
OBJ	4	7	The student knows that matter has physical properties

SE	4	7A	Observe and record changes in the states of matter caused by the addition or reduction of heat
SE	4	7B	Conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy
OBJ	4	8	The student knows that adaptations may increase the survival of members of a species
SE	4	8A	Identify characteristics that allow members within a species to survive and reproduce
SE	4	8B	Compare adaptive characteristics of various species
SE	4	8C	Identify the kinds of species that lived in the past and compare them to existing species
OBJ	4	9	The student knows that many likenesses between offspring and parents are inherited or learned
SE	4	9A	Distinguish between inherited traits and learned characteristics
SE	4	9B	Identify and provide examples of inherited traits and learned characteristics
OBJ	4	10	The student knows that certain past events affect present and future events
SE	4	10A	Identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow
SE	4	10B	Draw conclusions about "what happened before" using fossils or charts and tables
OBJ	4	11	The student knows that the natural world includes earth materials and objects in the sky
SE	4	11A	Test properties of soils including texture, capacity to retain water, and ability to support life
SE	4	11B	Summarize the effects of the oceans on land
SE	4	11C	Identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle