Nature of Science - 7th Grade

Indicator 1: Understand the nature and origin of scientific knowledge.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. N.1.1.		✓ Describe societal response to major scientific findings or theories. (cloning, stem cell research, biotechnology) ✓ Investigate important contributions to the advancement of science from people of differing cultures, genders, and ethnicity. ◊ Examples: Louis Pasteur-disease, Rachel Carson-ecology, Linnaeus-classification, Redi-biology, Darwin-evolution, Jane Goodall-zoology	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. N.2.1. Students are able to conduct scientific investigations using given procedures.	Application	• Use appropriate supportive technologies. • Determine the limits of accuracy inherent in a particular measuring device or procedure • Control variables to test hypothesis by repeated trials • Identify sources of experimental error. • Interpret to make predictions and/or justify conclusions. • Use research methods to investigate practical and/or personal scientific problems and questions. • Demonstrate appropriate use of apparatus and technologies for investigations. • Use proper safety procedures in all investigations. • Wear appropriate attire. ✓ Describe and demonstrate various safety factors associated with different types of scientific activity. ✓ Analyze the benefits and potential of scientific investigations ✦ Accuracy of measuring systems	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test 8. Science Fair 9. Science Olympiad	Computer, textbook, labs, video, library materials, speakers

Life Science - 7th Grade

Indicator 1: Understand the fundamental structures, functions, classifications and mechanisms found in living things.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. L.1.1. Students are able to identify basic cell organelles and their functions.	Knowledge	• Observe Cells with a compound microscope. (Cell membrane, cell wall, cytoplasm, vacuoles, nucleus, chloroplast, chromosomes, lysosome, ER, mitochondria, nucleoleus, nuclear membrane, ribosomes) • Describe the function of the cell membrane to include active transport and passive transport. • Describe of cell walls as providing support and shape • Describe cytoplasm • Describe vacuoles • Describe the function of the nucleus. ✓ DNA replication ✓ Protein synthesis (Ribosomes) ✓ Transcription/translation ✓ Endoplasmic Reticulum, ✓ Lysosome, ✓ Chloroplasts role in photosynthesis ✓ Mitochondria roll in respiration	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers
7. L.1.2 Students are able to identify and explain the function of the human systems and the organs within each system	Comprehension	Identify and explain the function of • Skeletal/support • Muscular • Digestive • Respiratory • Circulatory • Reproductive systems ✓ Endocrine ✓ Immune ✓ Nervous ✓ Excretory ✓ Integumentary Systems. ✦ Owl Pellet Disection	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers

7. L.1.3 Students are able to classify organisms by using the currently recognized kingdoms.	Application	Classify Monera, Protista, Plantae, Fungi, Animalia Introduce: ✓ Identify and compare the basic structure and function of major Taxa ✓ Describe the levels of organization within organisms.	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers
7. L.1.4. Students are able to describe and identify the structure of vascular and non-vascular plants.	Comprehension	Compare and contrast the roots, stems leaves and flowers of vascular and nonvascular plants	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. L.2.1. Students are able to distinguish between processes involved in sexual and asexual reproduction.	Comprehension	Model the process of cell division.	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers

Indicator 3: Analyze how organisms are linked to one another and the environment.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. L.3.1. Students are able to predict the effects of biotic and abiotic factors on a species' survival.	Application	Examples: adaptations, genetic defects, population disturbances, over-reproduction, animal behavior, flooding, global warming, oil spills, human activity. ✓ Describe processes by which mater and energy flow through an ecosystem. Examples: photosynthesis, respiration, nitrogen cycle ✓ Use geospatial technologies to investigate natural phenomena. Examples: GPS, GIS, remote sensing	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers

Technology, Environment, and Society - 7th Grade

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. S.1.1. Students are able to describe how science and technology are used to solve problems in different professions and businesses.	Comprehension	GPS, GIS, remote sensing, agriculture and genetics, medical and bio-technology (EKG), food industry and chemistry	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers

Indicator 2: Analyze the relationship/interactions among science, technology, environment, and society.

Standard	Bloom's	Supporting Skills and Examples	Assessments	Resources
7. S.2.1. Students are able, given a scenario, to predict the consequences of human activity on the local, regional, or global environment.	Application	Missouri River dams and water needs ✦ Exotic, invasive, endangered, threatened species of plants and animals of South Dakota.	1. Daily assignments (worksheets, diagrams, content reading) 2. In class review of previous material 3. Labs 4. Computer (research, assessments, virtual labs) 5. Group and individual presentations 6. Quiz 7. Test	Computer, textbook, labs, video, library materials, speakers