CHEMICALS, THE ENVIRONMENT, AND YOU

Colorado Model Content Standards: Science – Grades 6 – 8

Lesson	Standard	Descriptor
2, 4, 6	1.1	Ask questions and state hypotheses that lead to different types of scientific investigations *(for example: experimentation, collecting specimens, constructing models, researching scientific literature)*.
2, 3, 4	1.2	Use appropriate tools, technologies, and metric measurements to gather and organize data and report results.
1, 2, 3, 4, 6	1.3	Interpret and evaluate data in order to formulate logical conclusions.
1, 5	1.4	Demonstrate that scientific ideas are used to explain previous observations and to predict future events *(for example: plate tectonics and future earthquake activity)*.
1, 2, 4, 6	1.5	Identify and evaluate alternative explanations and procedures.
2, 3, 4, 6	1.6	Communicate results of their investigations in appropriate ways *(for example: written reports, graphic displays, oral presentations)*.
4	3.2	Human body systems have specific functions and interaction *(for example: circulatory and respiratory, muscular and skeletal)*.
2	3.6	Different types of cells have basic structures, components and functions *(for example: cell membrane, nucleus, cytoplasm, chloroplast, single-celled organisms in pond water, Elodea, onion cell, human cheek cell)*.
1, 4, 5	3.7	There are noncommunicable conditions and communicable diseases *(for example: heart disease and chicken pox)*.
1, 2, 3, 5, 6	3.11	Changes in environmental conditions can affect the survival of individual organisms, populations, and entire species.
2, 3, 4	5.1	A controlled experiment must have comparable results when repeated.
1, 4, 5	5.2	Scientific knowledge changes as new knowledge is acquired and previous ideas are modified *(for example: through space exploration)*.
1, 5	5.3	Contributions to the advancement of science made by people in different cultures and at different times in history.
2, 3	5.4	Models can be used to predict change *(for example: computer simulation, video sequence, stream table)*.
1, 5, 6	5.5	There are interrelationships among science, technology, and human activity that affect the world.

Colorado Model Content Standards: Mathematics – Grades 5 – 8

Lesson	Standard	Benchmark
2, 4	1.1	Demonstrate meanings for integers, rational numbers, percents, exponents, square roots, and pi (π) use physical materials and technology in problem-solving situations.
2, 4	1.4	Use the relationships among fractions, decimals, and percents, include the concepts of ratio and proportion, in problem-solving situations.
2, 3, 4	2.1	Represent, describe, and analyze patterns and relationships using tables, graphs, verbal rules, and standard algebraic

		notation.
3, 4	**2.3**	Analyze functional relationships to explain how a change in one quantity results in a change in another (for example, how the area of a circle changes as the radius increases, or how a person's height changes over time).
2, 3, 4	**3.1**	Read and construct displays of data using appropriate techniques (for example, line graphs, circle graphs, scatter plots, box plots, stem-and-leaf plots) and appropriate technology.
	3.3	Evaluate arguments that are based on statistical claims.
2, 3, 4	**3.4**	Formulate hypotheses, draw conclusions, and make convincing arguments based on data analysis.
2, 4	**4.3**	Apply the concepts of ratio, proportion, and similarity in problem-solving situations.
2, 4	**5.1**	Estimate, use, and describe measures of distance, perimeter, area, volume, capacity, weight, mass, and angle comparison.
2, 4	**5.4**	Develop and use formulas and procedures to solve problems involving measurement.
2, 4	**5.6**	Select and use appropriate units and tools to measure to the degree of accuracy required in a particular problem-solving situation.
2, 4	**6.1**	Use models to explain how ratios, proportions, and percents can be used to solve real-world problems.
2, 4	**6.2**	Construct, use, and explain procedures to compute and estimate with whole numbers, fractions, decimals, and integers.
2, 4	**6.4**	Select and use appropriate algorithms for computing with commonly used fractions and decimals, percents, and integers in problem-solving and determine whether the results are reasonable.
		Colorado Model Content Standards: Reading & Writing – Grades 5 – 8
Lesson	**Standard**	**Descriptor**
All lessons	**1.A**	Using a full range of strategies to comprehend essays, speeches, autobiographies, and first-person historical documents in addition to directions, nonfiction material, technical writing, newspapers, and magazines.
2, 4, 6	**2.A**	Writing stories, letters, and reports with greater detail and supporting material.
All lessons	**2.B**	Choosing vocabulary and figures of speech that communicate clearly.
All lessons	**2.F**	Writing and speaking in the content areas *(for example, science geography, history, literature)*, using the technical vocabulary of the subject accurately.
2, 4, 6	**2.G**	Recognizing stylistic elements such as voice, tone, and style.
All lessons	**3.D**	Using simple, compound, complex, and compound/complex sentences in writing and speaking.
All lessons	**3.G**	Expanding spelling skills to include more complex words.
2, 4, 6	**3.H**	Demonstrating use of conventional spelling in their published works.
4, 5	**4.A**	Recognizing an author's or speaker's point of view and purpose, separating fact from opinion.
All lessons	**4.B**	Using reading, writing, speaking, listening, and viewing skills to solve problems and answer questions.
All lessons	**4.C**	Making predictions, drawing conclusions, and analyzing what they read, hear, and view.

All lessons	4.D	Recognizing, expressing, and defending a point of view orally in an articulate manner and in writing.
1, 4, 6	5.C	Locating and selecting relevant information.
2, 4, 6	5.D	Using available technology to research and produce an end-product that is accurately documented.
National Health Education Standards – Grades 6 – 8: cited from pre-publication document of National Health Education Standards, Pre K-12, American Cancer Society, December 2005 – August 2006		
Lesson	**Standard**	**Performance Indicator**
4, 5, 6	1.8.1	Analyze the relationship between healthy behaviors and personal health.
3, 5, 6	1.8.3	Analyze how the environment impacts personal health.
4	1.8.5	Describe ways to reduce or prevent injuries and other adolescent health problems.
5	1.8.7	Describe the benefits and barriers to practicing healthy behaviors.
4, 5	1.8.8	Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
3, 4, 5	1.8.9	Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.
5	2.8.5	Analyze how messages from the media influence personal and family health.
5	2.8.8	Explain the influence of personal values and beliefs on individual health practices and behaviors.
4, 5, 6	2.8.9	Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
5, 6	2.8.10	Explain how school and public health policies can influence health promotion and disease prevention.
4, 5, 6	3.8.1	Analyze the validity of health information, products, and services.
4, 5, 6	3.8.4	Describe situations that may require professional health services.
4, 5, 6	4.8.1	Apply effective verbal and nonverbal communication skills to enhance health.
4, 5, 6	5.8.1	Identify circumstances that can help or hinder healthy decision-making.
4, 5, 6	5.8.2	Determine when health-related situations require the application of a thoughtful decision-making process.
6	5.8.3	Distinguish when individual or collaborative decision-making is appropriate.
4, 5	5.8.6	Choose healthy alternatives over unhealthy alternatives when making a decision.
4, 5	5.8.7	Analyze the outcomes of a health-related decision.
4, 5	6.8.1	Assess personal health practices.
4, 5	7.8.3	Demonstrate behaviors to avoid or reduce health risks to self and others.
4, 5, 6	8.8.1	State a health enhancing position on a topic and support it with accurate information.
5, 6	8.8.2	Demonstrate how to influence and support others to make positive health choices.
4, 5, 6	8.8.4	Identify ways that health messages and communication techniques can be altered for different audiences.