

COLORADO ALIGNMENT FOR NIH SUPPLEMENT THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY

THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY		
Colorado Model Content Standards: Science – Grades 6 – 8		
Lesson	Standard	Descriptor
1, 3, 4	1.1	Ask questions and state hypotheses that lead to different types of scientific investigations (<i>for example: experimentation, collecting specimens, constructing models, researching scientific literature</i>).
1, 2, 3, 4	1.2	Use appropriate tools, technologies, and metric measurements to gather and organize data and report results.
All lessons	1.3	Interpret and evaluate data in order to formulate logical conclusions.
3, 4	1.4	Demonstrate that scientific ideas are used to explain previous observations and to predict future events (<i>for example: plate tectonics and future earthquake activity</i>).
1, 2, 3, 4	1.5	Identify and evaluate alternative explanations and procedures.
1, 2, 3, 4	1.6	Communicate results of their investigations in appropriate ways (<i>for example: written reports, graphic displays, oral presentations</i>).
All lessons	2.8	There are different forms of energy and those forms can be transferred and stored (<i>for example: kinetic, potential</i>) but total energy is conserved.
2, 3, 4	3.2	Human body systems have specific functions and interaction (<i>for example: circulatory and respiratory, muscular and skeletal</i>).
4, 5	3.7	There are noncommunicable conditions and communicable diseases (<i>for example: heart disease and chicken pox</i>).
4, 5	3.10	Chromosomes and genes play a role in heredity (<i>for example, genes control traits, while chromosomes are made up of many genes</i>).
3, 4, 5	3.11	Changes in environmental conditions can affect the survival of individual organisms, populations, and entire species.
4, 5	3.13	Individual organisms with certain traits are more likely than others to survive and have offspring.
1, 3, 4	5.1	A controlled experiment must have comparable results when repeated.
3, 4, 5	5.2	Scientific knowledge changes as new knowledge is acquired and previous ideas are modified (<i>for example: through space exploration</i>).
4, 5	5.3	Contributions to the advancement of science made by people in different cultures and at different times in history.
1, 3, 4	5.4	Models can be used to predict change (<i>for example: computer simulation, video sequence, stream table</i>).
3, 4, 5	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
All lessons	1.1	Demonstrate meanings for integers, rational numbers, percents, exponents, square roots, and pi (π), and use physical materials and technology in problem-solving situations.
All lessons	1.4	Use the relationships among fractions, decimals, and percent, and include the concepts of ratio and proportion, in

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		problem-solving situations.
All lessons	2.1	Represent, describe, and analyze patterns and relationships using tables, graphs, verbal rules, and standard algebraic notation.
All lessons	2.2	Describe patterns using variables, expressions, equations, and inequalities in problem-solving situations.
All lessons	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).
All lessons	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, 4, 5	3.3	Evaluate arguments that are based on statistical claims.
All lessons	3.4	Formulate hypotheses, draw conclusions, and make convincing arguments based on data analysis.
All lessons	4.3	Apply the concepts of ratio, proportion, and similarity in problem-solving situations.
All lessons	5.1	Estimate, use, and describe measures of distance, perimeter, area, volume, capacity, weight, mass, and angle comparison.
All lessons	5.2	Estimate, make, and use direct and indirect measurements to describe and make comparisons.
4, 5	5.3	Read and interpret various scales including those based on number lines, graphs, and maps.
2, 3, 4, 5	5.4	Develop and use formulas and procedures to solve problems involving measurement.
All lessons	5.6	Select and use appropriate units and tools to measure to the degree of accuracy required in a particular problem-solving situation.
All lessons	6.1	Use models to explain how ratios, proportions, and percents can be used to solve real-world problems.
All lessons	6.2	Construct, use, and explain procedures to compute and estimate with whole numbers, fractions, decimals, and integers.
All lessons	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.
1, 3, 4, 5	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 (<i>for example, science geography, history, literature</i>), using the technical vocabulary of the subject accurately.
1, 3, 4, 5	2.G	Recognizing stylistic elements such as voice, tone, and style.
1, 3, 4, 5	3.D	Using simple, compound, complex, and compound/complex sentences in writing and speaking.

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1, 3, 4, 5	3.G	Expanding spelling skills to include more complex words.
1, 3, 4, 5	3.H	Demonstrating use of conventional spelling in their published works.
All lessons	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, 3, 4, 5	5.C	Locating and selecting relevant information.
1, 3, 4, 5	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
All lessons	1.8.1	Analyze the relationship between healthy behaviors and personal health.
3	1.8.2	Describe the interrelationship of emotional, intellectual, physical, and social health in adolescence.
All lessons	1.8.3	Analyze how the environment impacts personal health.
3, 5	1.8.4	Describe how family history can impact personal health.
2, 3, 4, 5	1.8.5	Describe ways to reduce or prevent injuries and other adolescent health problems.
2, 3, 4, 5	1.8.7	Describe the benefits and barriers to practicing healthy behaviors.
2, 3, 4, 5	1.8.8	Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
2, 3, 4, 5	1.8.9	Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.
2, 3, 5	2.8.1	Examine how family influences the health of individuals.
2, 3, 5	2.8.3	Describe how peers influence healthy and unhealthy behaviors.
2, 3, 5	2.8.5	Analyze how messages from the media influence personal and family health.
1, 2, 3, 5	2.8.8	Explain the influence of personal values and beliefs on individual health practices and behaviors.
2, 3, 4, 5	2.8.9	Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
2, 3, 5	2.8.10	Explain how school and public health policies can influence health promotion and disease prevention.
2, 3, 4, 5	3.8.1	Analyze the validity of health information, products, and services.
2, 3, 5	3.8.4	Describe situations that may require professional health services.
2, 3, 4, 5	4.8.1	Apply effective verbal and nonverbal communication skills to enhance health.
2, 3, 5	5.8.1	Identify circumstances that can help or hinder healthy decision-making.
2, 3, 5	5.8.2	Determine when health-related situations require the application of a thoughtful decision-making process.
2, 3, 5	5.8.3	Distinguish when individual or collaborative decision-making is appropriate.

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2, 3, 5	5.8.5	Predict the potential short and long-term impact of each alternative on self and others.
2, 3, 5	5.8.6	Choose healthy alternatives over unhealthy alternatives when making a decision.
1, 2, 3, 5	5.8.7	Analyze the outcomes of a health-related decision.
1, 2, 5	6.8.1	Assess personal health practices.
5	6.8.2	Develop a goal to adopt, maintain, or improve a personal health practice.
5	6.8.3	Apply strategies and skills needed to attain a personal health goal.
2, 3, 5	6.8.4	Describe how personal health goals can vary with changing abilities, priorities, and responsibilities.
1, 2, 3, 5	7.8.1	Explain the importance of assuming responsibility for personal health behaviors.
2, 5	7.8.2	Demonstrate healthy practices and behaviors that will maintain or improve the health of self and others.
2, 5	7.8.3	Demonstrate behaviors to avoid or reduce health risks to self and others.
All lessons	8.8.1	State a health enhancing position on a topic and support it with accurate information.
2, 3, 5	8.8.2	Demonstrate how to influence and support others to make positive health choices.
2, 3, 5	8.8.4	Identify ways that health messages and communication techniques can be altered for different audiences.