

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

THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY		
Kentucky Core Content for Science Assessment: Grades 5 through 7		
Lesson	Standard	Description
1, 3, 4	SC-M-1.3.1	Energy is a property of many substances and is associated with heat, light, electricity, and sound. Energy is transferred in many ways.
1, 3, 4	SC-M-3.1.3	Cells carry on the many functions needed to sustain life. They grow and divide, thereby producing more cells. This requires that they take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or organism needs.
1, 3	SC-M-3.1.4	Specialized cells perform specialized functions in multicellular organisms. Groups of specialized cells cooperate to form tissues. Different tissues are, in turn, grouped together to form larger functional units called organs. Each type of cell, tissue, and organ has a distinct structure and set of functions that serve the organism.
1, 2, 3, 4	SC-M-3.2.1	All organisms must be able to obtain and use resources, grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment.
3, 4	SC-M-3.2.2	Regulation of an organism’s internal environment involves sensing the internal environment and changing physiological activities to keep conditions within the range required to survive. Maintaining a stable internal environment is essential for an organism’s survival.
3, 4, 5	SC-M-3.2.3	Behavior is one kind of response an organism may make to an internal or environmental stimulus. A behavioral response requires coordination and communication at many levels including cells, organ systems, and organisms. Behavioral response is a set of actions determined in part by heredity and in part from experience.
3, 4	SC-M-3.3.2	Every organism requires a set of instructions for specifying its traits. This information is contained in genes located in the chromosomes of each cell. Heredity is the passage of these instructions from one generation to another.
4	SC-M-3.4.1	Biological change over time accounts for the diversity of species developed through gradual processes over many generations. Biological adaptations include changes in structures, behaviors, or physiology that enhance survival and reproductive success in a particular environment.
1, 2, 3, 4	SC-M-3.5.3	For most ecosystems, the major source of energy is sunlight. Energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis. That energy then passes from organism to organism in food webs.

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1, 2, 3, 4	2.1 Scientific Ways of Thinking and Working	Students will refine and refocus questions that can be answered through scientific investigation combined with scientific information; use appropriate equipment, tools, techniques, technology and mathematics to gather, analyze, and interpret scientific data; use evidence, logic, and scientific knowledge to develop scientific explanations; design and conduct scientific investigations; communicate designs, procedures, observations, and results of scientific investigations; and review and analyze scientific investigations and explanations of other students.
4	2.1 Science and Technology	Students will describe how science helps drive technology and technology helps drive science.
3, 4, 5	2.1 Personal and Social Perspectives	Students will describe the individual’s roles and responsibilities in the following areas: changes in populations, resources and environments, natural hazards, science and technology in society, and personal and societal issues about risks and benefits.
3, 4, 5	2.1 History and Nature of Science	Students will analyze the role science plays in everyday life: past, present, and future

Kentucky Core Content for Reading Assessment: Grades 5 through 7

Lesson	Standard	Description
1, 2, 3	RD-M-2.0.4	Know the meanings of common prefixes and suffixes to comprehend unfamiliar words.
All lessons	RD-M-2.0.8	Make predictions, draw conclusions, and make generalizations about what is read.
All lessons	RD-M-2.0.9	Reflect on and evaluate what is read.
All lessons	RD-M-2.0.10	Connect information from a passage to students’ lives and/or real world issues.
All lessons	RD-M-2.0.14	Summarize information from a passage.
1, 2, 3, 4	RD-M-4.011	Locate and apply information for a specific purpose (e.g., following directions, completing a task).
1, 2, 3, 4	RD-M-4.012	Identify the sequence of activities needed to carry out a procedure.

Kentucky Core Content for Mathematics Assessment: Grades 6 through 8

Lesson	Standard	Description
1, 2, 3, 4	MA-M-1.2.1	Add, subtract, multiply, and divide rational numbers to solve problems.
1, 2, 3, 4	MA-M-1.2.2	Compute large and small quantities and check for reasonable and appropriate computational results.

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2, 3, 4	MA-M-1.2.3	Apply ratios, proportional reasoning, and percents.
3, 4	MA-M-3.3.2	Understand how theoretical and experimental probabilities are related.
All lessons	MA-M-3.2.1	Organize, represent, analyze, and interpret sets of data.
1, 2, 3, 4	MA-M-3.2.2	Construct and interpret displays of data.
1, 2, 3, 4	MA-M-4.2.6	Write and solve equations that represent everyday situations.
All lessons	MA-M-4.3.2	Make generalizations about how the change in one variable affects the change in another variable.

Kentucky Core Content Practical Living/Vocational Studies: Middle Level – Health Subdomain

Lesson	Standard	Description
All lessons	PL-M-1.3.1	Diet, exercise, rest, and other choices (e.g., tobacco, alcohol, and other drug use) affect body systems (e.g., circulatory, respiratory, digestive).
1, 3, 4, 5	PL-M-1.3.4	There are risks associated with unhealthy habits and behaviors that affect the physical health of adolescents.
2, 3	PL-M-1.4.1	Six basic nutrients (minerals, vitamins, fat, carbohydrates, water, protein) are needed for proper growth and development.
2, 3, 4, 5	PL-M-1.4.2	Using dietary guidelines, food guide pyramid, and other nutritional resources (e.g., food tables) helps make daily food choices.
3, 4, 5	PL-M-1.4.3	Exercise and dietary habits (e.g., cultural food choices, vegetarian diets, overindulgence in fatty foods, excessive salt consumption) can affect the way adolescents look, feel, and perform.
3, 4, 5	PL-M-1.5.1	Body changes (e.g., body composition, decreased heart rate, reduced cholesterol level) occur following a regular exercise program.
1, 3, 4, 5	PL-M-1.5.4	Self-assessment of health status (e.g., strength, flexibility, cardiovascular endurance, body composition) contributes to health maintenance.
3, 5	PL-M-1.8.1	The use of appropriate strategies (e.g., assertiveness, refusal skills, decision-making techniques) is a positive way to cope with peer pressure.
1, 3, 4, 5	PL-M-2.2.1	Physical, emotional/mental, and social benefits can be gained from regular participation in leisure/recreational and/or competitive physical activities.