THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY

Florida Science Standards – M/J Life Science – Grades 6 - 8

Lesson	Standard	Description
3, 5	**SC.D.2.3.1**	Understand that quality of life is relevant to personal experience.
1, 2, 3, 4	**SC.F.1.3.1**	Understand that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.
3, 4	**SC.F.1.3.5**	Explain how the life functions of organisms are related to what occurs within the cell.
All lessons	**SC.F.1.3.7**	Know that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.
3, 4	**SC.F.2.3.2**	Know that the variation in each species is due to the exchange and interaction of genetic information as it is passed from parent to offspring.
3, 4	**SC.G.1.3.2**	Know that biological adaptations include changes in structures, behaviors, or physiology that enhance reproductive success in a particular environment.
1, 2, 3, 4	**SC.G.1.3.4**	Know that the interactions of organisms with each other and with the nonliving parts of their environments result in the flow of energy and the cycling of matter throughout the system.
All lessons	**SC.G.1.3.5**	Know that life is maintained by a continuous input of energy from the sun and by the recycling of the atoms that make up the molecules of living organisms.
1, 3, 4	**SC.H.1.3.1**	Know that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.
1, 3, 4	**SC.H.1.3.2**	Know that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.
1, 2, 3, 4	**SC.H.1.3.5**	Know that a change in one or more variables may alter the outcome of an investigation.
4	**SC.H.3.3.1**	Know that science ethics demand that scientists must not knowingly subject coworkers, students, the neighborhood, or the community to health or property risks.
4	**SC.H.3.3.2**	Know that special care must be taken in using animals in scientific research.

Florida Science Standards – M/J Comprehensive Science 1 – Grades 6 - 8

Lesson	Standard	Description
1, 2, 3, 4	**SC.A.2.3.3**	Know that radiation, light, and heat are forms of energy used to cook food, treat diseases, and provide energy.

1, 2, 3	**SC.B.1.3.2**	Know that energy cannot be created or destroyed, but only changed from one form to another.
3	**SC.D.2.3.1**	Understand that quality of life is relevant to personal experience.
1, 2, 3, 4	**SC.F.1.3.1**	Understand that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.
3, 4	**SC.F.1.3.5**	Explain how the life functions of organisms are related to what occurs within the cell.
All lessons	**SC.F.1.3.7**	Know that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.
1, 3, 4	**SC.H.1.3.1**	Know that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.
1, 3, 4	**SC.H.1.3.2**	Know that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.
1, 2, 3, 4	**SC.H.1.3.5**	Know that a change in one or more variables may alter the outcome of an investigation.
Florida Mathematics Standards – M/J Mathematics 1 or 2 – Grades 6 - 8		
Lesson	**Standard**	**Description**
All lessons	**MA.A.1.3.1**	Associate verbal names, written word names, and standard numerals with integers, fractions, and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; absolute value; and ratios.
All lessons	**MA.A.1.3.2**	Understand the relative size of integers, fractions, and decimals; numbers expressed as percents, numbers with exponents, numbers in scientific notation; absolute value; and ratios.
All lessons	**MA.A.1.3.3**	Understand concrete and symbolic representations of rational numbers in real-world situations.
1, 2, 3, 4	**MA.A.3.3.1**	Understand and explain the effects of addition, subtraction, multiplication, and division on whole numbers, fractions, including mixed numbers and decimals, including the inverse relationship of positive and negative numbers.
1, 2, 3, 4	**MA.A.3.3.2**	Select the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.
1, 2, 3, 4	**MA.A.3.3.3**	Add, subtract, multiply, and divide whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.

1, 2, 3, 4	**MA.A.4.3.1**	Use estimation strategies to predict results and to check the reasonableness of results.
2, 3	**MA.B.2.3.1**	Use direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.
2, 3, 4	**MA.B.2.3.2**	Solve problems involving units of measure and convert answers to a larger or smaller unit within either the metric or customary system.
2, 3, 4	**MA.B.4.3.2**	Select and use appropriate instruments, technology, and techniques to measure quantities in order to achieve specified degrees of accuracy in a problem situation.
1, 2, 3, 4	**MA.D.1.3.1**	Describe a wide variety of patterns, relationships, and functions through models, such as manipulatives, tables, graphs, expressions, and equations.
All lessons	**MA.D.1.3.2**	Create and interpret tables, graphs, equations, and verbal descriptions to explain cause-and-effect relationships.
1, 2, 3, 4	**MA.E.1.3.1**	Collect, organize, and display data in a variety of forms, including tables, line graphs, charts, and bar graphs, to determine how different ways of presenting data can lead to different interpretations.
1, 2, 3, 4	**MA.E.3.3.1**	Formulate hypotheses, design experiments, collect and interpret data, and evaluate hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, and mode) and tables, graphs, and charts.
Florida English Language Arts Standards – M/J Language Arts 1, 2, or 3 – Grades 6 - 8		
Lesson	**Standard**	**Description**
All lessons	**LA.A.1.3.2**	Use a variety of strategies to analyze words and text, draw conclusions, use context and word structure clues, and recognize organizational patterns.
All lessons	**LA.A.1.3.3**	Demonstrate consistent and effective use of interpersonal and academic vocabularies in reading, writing, listening, and speaking.
All lessons	**LA.A.1.4.1**	Select and use pre-reading strategies that are appropriate to the text, such as discussion, making predictions, brainstorming, generating questions, and previewing to anticipate content, purpose, and organization of a reading selection.
All lessons	**LA.A.2.3.1**	Determine the main idea or essential message in a text and identify relevant details and facts and patterns of organization.
All lessons	**LA.A.2.3.5**	Locate, organize, and interpret written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.
All lessons	**LA.B.1.3.1**	Organize information before writing according to the type and purpose of writing.

All lessons	**LA.B.1.3.2**	Draft and revise writing that is focused, purposeful, and reflects insight into the writing situation; conveys a sense of completeness and wholeness with adherence to the main idea; has an organizational pattern that provides for a logical progression of ideas; has support that is substantial, specific, relevant, concrete, and/or illustrative; demonstrates a commitment to and an involvement with the subject; has clarity in presentation of ideas; uses creative writing strategies appropriate to the purpose of the paper; demonstrates a command of language (word choice) with freshness of expression; has varied sentence structure and sentences that are complete except when fragments are used purposefully; and has few, if any, convention errors in mechanics, usage, and punctuation.
All lessons	**LA.B.2.3.3**	Select and use appropriate formats for writing, including narrative, persuasive, and expository formats according to the intended audience, purpose, and occasion.
All lessons	**LA.B.2.3.4**	Use electronic technology including databases and software to gather information and communicate new knowledge.
All lessons	**LA.C.1.3.1**	Listen and use information gained for a variety of purposes, such as gaining information from interviews, following directions, and pursuing a personal interest.
All lessons	**LA.C.1.3.4**	Use responsive listening skills, including paraphrasing, summarizing, and asking questions for elaboration and clarification.
All lessons	**LA.C.3.3.2**	Ask questions and make comments and observations that reflect understanding and application of content, processes, and experiences.
All lessons	**LA.C.3.3.3**	Speak for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.
1, 3, 5	**LA.D.2.3.3**	Distinguish between emotional and logical argument.
Florida Health Standards – M/J Health 1, 2, or 3 – Grades 6 - 8		
Lesson	**Standard**	**Description**
1, 3, 4, 5	**HE.A.1.3.1**	Know how body systems work together and influence each other.
All lessons	**HE.A.1.3.2**	Understand the relationship between positive health behaviors and the prevention of injury, illness, disease, and other health problems.
3, 5	**HE.A.1.3.3**	Know how physical, mental, emotional, and social healths interrelate during adolescence.
3, 5	**HE.A.1.3.4**	Understand how peer pressure can influence healthful choices.
	HE.A.1.3.5	Understand the relationship between the environment and personal health.
1, 2, 3, 5	**HE.A.1.3.6**	Know ways in which to reduce the risks related to the health problems of adolescents.

All lessons	**HE.A.1.3.7**	Know the benefits of positive health practice and the appropriate health-care measures necessary to prevent accidents, illnesses, and death.
3, 4, 5	**HE.A.1.3.8**	Know how lifestyle, pathogens (germs), family history, and other risk factors are related to the cause or prevention of disease and other health problems.
3, 4, 5	**HE.A.1.3.9**	Know various methods of health promotion and disease prevention.
All lessons	**HE.A.2.3.1**	Know how to analyze the validity of health information, products, and services.
3	**HE.A.2.3.6**	Identify situations requiring professional health services.
1, 2, 3, 5	**HE.B.1.3.1**	Know the importance of assuming responsibility for personal health behaviors.
All lessons	**HE.B.1.3.2**	Understand the short-term and long-term consequences of safe, risky, and harmful behaviors.
3, 5	**HE.B.1.3.4**	Know strategies for improving and maintaining personal and family health.
3, 5	**HE.B.2.3.1**	Know how messages from media and other sources influence health behavior.
3, 5	**HE.B.3.3.4**	Understand how the behavior of family members and peers affects interpersonal communication.
2, 3, 5	**HE.C.1.3.1**	Know how to apply a decision-making process to health issues and problems individually and collaboratively (e.g., nutritional food choices at home, restaurants, and school).
2, 3, 5	**HE.C.1.3.2**	Understand the role that individual, family, community, and cultural attitudes play when people make health-related decisions (e.g., when making food choices).
All lessons	**HE.C.1.3.3**	Understand the various consequences of health-related decisions.
3, 5	**HE.C.1.3.4**	Know strategies and skills needed to attain a personal health goal.
1, 2, 3, 5	**HE.C.1.3.6**	Know the outcomes of good personal health habits.
3, 5	**HE.C.1.3.7**	Know how expanding abilities, independence, and responsibilities associated with maturation influence personal behavior.
All lessons	**HE.C.2.3.1**	Know methods for conveying accurate health information and ideas to both individuals and groups using a variety of methods (e.g., through dialogue, oral reports, and posters).
2, 3, 5	**HE.C.2.3.2**	Know ways to effectively express feelings and opinions on health issues.
3, 5	**HE.C.2.3.3**	Recognize that there are barriers to the effective communication of feelings and opinions on health issues when advocating for healthy living.
3, 5	**HE.C.2.3.4**	Know how to influence others to make positive choices.
3, 5	**HE.C.2.3.5**	Know ways to work cooperatively with others to advocate for healthy individuals, schools, and families.
3, 5	**HE.C.2.3.6**	Know how to access community agencies that advocate healthy individuals, families, and communities.