

THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY		
Virginia Life Science Standards of Learning		
Lesson	Standard	Description
4	LS.1.a	Plan and conduct investigations in which data are organized into tables showing repeated trials and means.
4	LS.1.b	Plan and conduct investigations in which variables are defined.
2, 4	LS.1.c	Plan and conduct investigations in which metric units (SI—International System of Units) are used.
1, 2, 3, 4	LS.1.d	Plan and conduct investigations in which models are constructed to illustrate and explain phenomena.
4	LS.1.f	Plan and conduct investigations in which dependent variables, independent variables, and constants are identified.
1, 4	LS.1.g	Plan and conduct investigations in which variables are controlled to test hypotheses, and trials are repeated.
4	LS.1.h	Plan and conduct investigations in which continuous line graphs are constructed, interpreted, and used to make predictions.
1, 2, 3, 4	LS.1.i	Plan and conduct investigations in which interpretations from a set of data are evaluated and defended.
1, 2, 3, 4	LS.1.j	Plan and conduct investigations in which an understanding of the nature of science is developed and reinforced.
1, 2, 3	LS.3.b	Investigate and understand that living things show patterns of cellular organization including life functions and processes of cells, tissues, organs, and systems (respiration, removal of wastes, growth, reproduction, digestion, and cellular transport).
1, 2, 3	LS.4.c	Investigate and understand that the basic needs of organisms must be met in order to carry out life processes including factors that influence life processes.
1, 2, 3	LS.7.b	Investigate and understand that organisms within an ecosystem are dependent on one another and on nonliving components of the environment including interactions resulting in a flow of energy and matter throughout the system.
4	LS.14.c	Investigate and understand that organisms change over time including how environmental influences, as well as genetic variation, can lead to diversity of organisms.
Virginia Physical Science Standards of Learning		
4	PS.1.b	Plan and conduct investigations in which length, mass, volume, density, temperature, weight, and force are accurately measured and reported using metric units (SI—International System of Units).
1, 2, 3, 4	PS.1.f	Plan and conduct investigations in which research skills are utilized using a variety of resources.

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1, 4	PS.1.g	Plan and conduct investigations in which independent and dependent variables, constants, controls, and repeated trials are identified.
1, 2, 3, 4	PS.1.k	Plan and conduct investigations in valid conclusions are made after analyzing data.
1, 2, 3, 4	PS.1.l	Plan and conduct investigations in which research methods are used to investigate practical problems and questions.
1, 2, 3, 4	PS.1.m	Plan and conduct investigations in which experimental results are presented in appropriate written form.
2, 3	PS.6.b	Investigate and understand states and forms of energy and how energy is transferred and transformed including mechanical, chemical, and electrical energy.
1, 2, 3	PS.6.c	Investigate and understand states and forms of energy and how energy is transferred and transformed including heat, light, and sound.

Virginia English Standards of Learning – Grades 7 & 8

Lesson	Standard	Description
All lessons	7.4	Read to determine the meanings and pronunciations of unfamiliar words and phrases.
All lessons	7.5.e	Draw conclusions based on explicit and implied information.
All lessons	7.6	Read and demonstrate comprehension of a variety of informational texts.
All lessons	7.7.c	Synthesize information from multiple sources.
All lessons	7.8	Develop narrative, expository, and persuasive writing.
All lessons	8.4.b	Use context, structure, and connotations to determine meaning of words and phrases.
All lessons	8.6.e	Read and follow instructions to complete an assigned task.
All lessons	8.6.f	Summarize and critique text.
All lessons	8.6.g	Evaluate and synthesize information to apply in written and oral presentations.
All lessons	8.6.h	Draw conclusions based on explicit and implied information.
All lessons	8.6.i	Make inferences based on explicit and implied information.
All lessons,	8.7	Write in a variety of forms, including narrative, expository, persuasive, and informational.

Virginia Mathematics Standards of Learning – Grades 7 & 8

Lesson	Standard	Description
1, 2, 3, 4	7.4.a	Solve practical problems using rational numbers (whole numbers, fractions, decimals) and percents.
2, 3	7.6	Use proportions to solve practical problems, which may include scale drawings, that contain rational numbers (whole

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		numbers, fractions, and decimals) and percents.
All lessons	7.17	Collect, analyze, display, and interpret data, using a variety of graphical methods.
All lessons	7.18	Make inferences, conjectures, and predictions based on analysis of a set of data.
1, 2, 3, 4	7.19	Represent, analyze, and generalize a variety of patterns, including arithmetic sequences and geometric sequences, with tables, graphs, rules, and words in order to investigate and describe functional relationships.
1, 2, 3, 4	8.3	Solve practical problems involving rational numbers, percents, ratios, and proportions.
1, 2, 3, 4	8.14.a	Describe and represent relations and functions, using tables, graphs, and rules.
1, 2, 3, 4	8.14.b	Relate and compare tables, graphs, and rules as different forms of representation for relationships.
Virginia Health Standards of Learning – Grades 6, 7, & 8		
Lesson	Standard	Description
4, 5	6.1.c	Apply critical thinking skills and personal management strategies to address issues and concerns related to personal health and well-being including the effects of environmental influences on personal health.
2, 3, 4, 5	6.2.a	Use knowledge of the body’s structure and function to make sound decisions related to personal health including relationships of dietary guidelines to eating habits.
2, 3, 4, 5	6.2.b	Use knowledge of the body’s structure and function to make sound decisions related to personal health including the interconnection of the body systems.
2, 3, 4, 5	6.3.e	Describe the connections between mental and physical development as they relate to adolescence including issues related to body image and weight management.
2, 3, 4, 5	7.2.a	Describe and exhibit the behaviors associated with a physically active and healthy lifestyle including the effects of dietary habits on daily performance.
3, 4, 5	7.2.d	Describe and exhibit the behaviors associated with a physically active and healthy lifestyle including the health benefits of regular physical activity and fitness.
2, 3, 4, 5	7.3	Investigate and analyze the various factors that guide an individual’s decisions about health and well-being.
2, 3, 4, 5	7.5.b	Work cooperatively with others to support and promote healthy schools, families, and communities, including appropriate methods of expressing opinions on health issues
2, 3, 4, 5	8.2.b	Apply health concepts and skills to the management of personal and family health, including the benefits of using resistance, problem-solving, and decision-making skills for resolving health issues.

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3, 5	8.2.d	Apply health concepts and skills to the management of personal and family health, including the benefits of developing and implementing short- and long-term health and fitness goals that are achievable and purposeful.
5	8.5.a	Investigate and evaluate ways in which peers, families, and other community groups can work together to build a safe and healthy community, including methods used to reduce health hazards and risks.