THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY		
California Science Content Standards Earth Science - Grade 6		
Lesson	**Standard**	**Description**
1, 2, 3	**5.a**	Know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs.
1, 2, 3, 4	**6.a**	Know the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.
1, 2, 3, 4	**7.a**	Develop a hypothesis.
1, 2, 3, 4	**7.b**	Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.
1, 3, 4	**7.c**	Construct appropriate graphs from data and develop qualitative statements about the relationships between variables.
1, 2, 3, 4	**7.d**	Communicate the steps and results from an investigation in written reports and oral presentations.
California Science Content Standards Life Science - Grade 7		
Lesson	**Standard**	**Description**
4	**3.a**	Know both genetic variation and environmental factors are causes of evolution and diversity of organisms.
1, 2, 3, 4	**7.a**	Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.
3, 4	**7.b**	Use a variety of print and electronic resources (including the World Wide Web) to collect information and evidence as part of a research project.
1, 2, 3, 4	**7.c**	Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.
1, 2, 3, 4	**7.e**	Communicate the steps and results from an investigation in written reports and oral presentations.
California Science Content Standards Physical Science - Grade 8		
Lesson	**Standard**	**Description**

2, 3	**6.c**	Know that living organisms have many different kinds of molecules, including small ones, such as water and salt, and very large ones, such as carbohydrates, fats, proteins, and DNA.
1, 2, 3, 4	**9.a**	Plan and conduct a scientific investigation to test a hypothesis.
1, 2, 3, 4	**9.b**	Evaluate the accuracy and reproducibility of data.
4	**9.d**	Recognize the slope of the linear graph as the constant in the relationship y=kx and apply this principle in interpreting graphs constructed from data.
1, 3, 4	**9.e**	Construct appropriate graphs from data and develop quantitative statements about the relationships between variables.
4	**9.g**	Distinguish between linear and nonlinear relationships on a graph of data.
California English-Language Arts Content Standards – Grades 6, 7, 8		
Reading		
Lesson	**Standard**	**Description**
1, 2, 3, 4	**2.3**	Connect and clarify main ideas by identifying their relationships to other sources and related topics. (6)
1, 2, 3, 4	**1.3**	Clarify word meanings through the use of definition, example, restatement, or contrast. (7)
1, 2, 3, 4	**1.3**	Use word meanings within the appropriate context and show ability to verify those meanings by definition, restatement, example, comparison, or contrast. (8)
Writing		
Lesson	**Standard**	**Description**
All lessons	**1.1**	Choose the form of writing (e.g., personal letter, letter to the editor, review, poem, report, narrative) that best suits the intended purpose. (6)
All lessons	**2.2.a**	Explain the situation. (6)
All lessons	**2.2.c**	Offer persuasive evidence to validate arguments and conclusions as needed. (6)
1, 2, 3, 4	**2.3.a**	Pose relevant questions with a scope narrow enough to be thoroughly covered. (6)
All lessons	**2.3.b**	Support the main idea or ideas with facts, details, examples, and explanations from multiple authoritative sources (e.g., speakers, periodicals, online information searches). (6)
All lessons	**1.2**	Support all statements and claims with anecdotes, descriptions, facts and statistics, and specific examples. (7)
1, 2, 3, 4	**1.4**	Identify topics; ask and evaluate questions; and develop ideas leading to inquiry, investigation, and research. (7)

1, 2, 3, 4	**2.3.a**	Pose relevant and tightly drawn questions about the topic. (7)
All lessons	**2.3.b**	Convey clear and accurate perspectives on the subject. (7)
All lessons	**2.5.a**	Include the main ideas and most significant details. (7)
All lessons	**2.5.c**	Reflect underlying meaning, not just the superficial details. (7)
All lessons	**1.1**	Create compositions that establish a controlling impression, have a coherent thesis, and end with a clear and well-supported conclusion. (8)
All lessons	**1.3**	Support theses or conclusions with analogies, paraphrases, quotations, opinions from authorities, comparisons, and similar devices. (8)
All lessons	**2.3.b**	Record important ideas, concepts, and direct quotations from significant information sources and paraphrase and summarize all perspectives on the topic, as appropriate. (8)
1, 2, 3, 4	**2.3.d**	Organize and display information on charts, maps, and graphs. (8)
5	**2.4.a**	Write persuasive compositions, including a well-defined thesis (i.e., one that makes a clear and knowledgeable judgment). (8)
All lessons	**2.4.b**	Present detailed evidence, examples, and reasoning to support arguments, differentiating between facts and opinion. (8)
Listening and Speaking		
Lesson	**Standard**	**Description**
1, 2, 3, 4	**1.5**	Emphasize salient points to assist the listener in following the main ideas and concepts. (6)
All lessons	**1.6**	Support opinions with detailed evidence and with visual or media displays that use appropriate technology. (6)
All lessons	**2.2.a**	Pose relevant questions sufficiently limited in scope to be completely and thoroughly answered. (6)
1, 2, 3, 4	**2.2.b**	Develop the topic with facts, details, examples, and explanations from multiple authoritative sources (e.g., speakers, periodicals, online information). (6)
1, 2, 3, 4	**2.5.a**	Theorize on the causes and effects of each problem and establish connections between the defined problem and at least one solution. (6)
All lessons	**2.5.b**	Offer persuasive evidence to validate the definition of the problem and the proposed solutions. (6)
All lessons	**1.1**	Ask probing questions to elicit information, including evidence to support the speaker's claims and conclusions. (7)
1, 2, 3, 4	**1.5**	Arrange supporting details, reasons, descriptions, and examples effectively and persuasively in relation to the audience. (7)
All lessons	**2.3.a**	Pose relevant and concise questions about the topic. (7)

All lessons	**2.3.b**	Convey clear and accurate perspectives on the subject. (7)
All lessons	**2.3.b**	Record important ideas, concepts, and direct quotations from significant information sources and paraphrase and summarize all relevant perspectives on the topic, as appropriate. (8)
1, 2, 3, 4	**2.3.d**	Organize and record information on charts, maps, and graphs. (8)
California Mathematics Content Standards - Grades 6 & 7		
Number Sense		
Lesson	**Standard**	**Description**
1, 2, 3, 4	**2.1**	Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation. (6)
1, 2, 3, 4	**1.1**	Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10) with approximate numbers using scientific notation. (7)
1, 2, 3, 4	**1.2**	Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers. (7)
Algebra and Functions		
1, 2, 3, 4	**1.4**	Solve problems manually by using the correct order of operations or by using a scientific calculator. (6)
1, 2, 3, 4	**2.0**	Analyze and use tables, graphs, and rules to solve problems involving rates and proportions. (6)
1, 2, 3, 4	**2.1**	Convert one unit of measurement to another (e.g., from feet to miles, from centimeters to inches). (6)
1, 2, 3, 4	**1.5**	Represent quantitative relationships graphically and interpret the meaning of a specific part of a graph in the situation represented by the graph. (7)
Statistics, Data Analysis, and Probability		
1, 4	**2.1**	Compare different samples of a population with the data from the entire population and identify a situation in which it makes sense to use a sample. (6)
1, 3, 4	**2.5**	Identify claims based on statistical data and, in simple cases, evaluate the validity of the claims. (6)
1, 4	**1.0**	Collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program. (7)
Mathematical Reasoning		
1, 2, 3	**2.1**	Use estimation to verify the reasonableness of calculated results. (6, 7)
1, 2, 3	**2.2**	Apply strategies and results from simpler problems to more complex problems. (6, 7)

1, 2, 3, 4	**2.4**	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning. (6)
1, 2, 3, 4	**2.5**	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work. (6)
1, 2, 3, 4	**2.7**	Make precise calculations and check the validity of the results from the context of the problem. (6)
1, 2, 3, 4	**3.1**	Evaluate the reasonableness of the solution in the context of the original situation. (6, 7)
1, 2, 3, 4	**1.1**	Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns. (7)
1, 2, 3, 4	**2.5**	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning. (7)
1, 2, 3, 4	**2.6**	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work. (7)
1, 2, 3, 4	**2.8**	Make precise calculations and check the validity of the results from the context of the problem. (7)