| THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY | | |
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| **Louisiana Grade-Level Expectations: Science – Grades 6 – 8** | | |
| **Lesson** | **GLE** | **Descriptor** |
| **1, 2, 3, 4** | **SI-M-A1** | Generate testable questions about objects, organisms, and events that can be answered through scientific investigation |
| **1, 2, 3, 4** | **SI-M-A1** | Identify problems, factors, and questions that must be considered in a scientific investigation |
| **All lessons** | **SI-M-A1** | Use a variety of sources to answer questions |
| **1, 3, 4** | **SI-M-A2** | Design, predict outcomes, and conduct experiments to answer guiding questions |
| **1, 3, 4** | **SI-M-A2** | Identify independent variables, dependent variables, and variables that should be controlled in designing an experiment |
| **1, 2, 3, 4** | **SI-M-A3** | Select and use appropriate equipment, technology, tools, and metric system units of measurement to make observations |
| **1, 2, 3, 4** | **SI-M-A3** | Record observations using methods that complement investigations (e.g., journals, tables, charts) |
| **1, 2, 3, 4** | **SI-M-A3** | Use consistency and precision in data collection, analysis, and reporting |
| **1, 2, 3, 4** | **SI-M-A3** | Use computers and/or calculators to analyze and interpret quantitative data |
| **1, 2, 3, 4** | **SI-M-A4** | Identify the difference between description and explanation |
| **1, 2, 3, 4** | **SI-M-A4** | Construct, use, and interpret appropriate graphical representations to collect, record, and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols) |
| **1, 2, 3, 4** | **SI-M-A4** | Use data and information gathered to develop an explanation of experimental results |
| **1, 4, 5** | **SI-M-A4** | Identify patterns in data to explain natural events |
| **2, 4** | **SI-M-A5** | Develop models to illustrate or explain conclusions reached through investigation |
| **2, 4** | **SI-M-A5** | Identify and explain the limitations of models used to represent the natural world |
| **All lessons** | **SI-M-A5** | Use evidence to make inferences and predict trends |
| **1, 3, 4, 5** | **SI-M-A6** | Recognize that there may be more than one way to interpret a given set of data, which can result in alternative scientific explanations and predictions |
| **1, 3, 4, 5** | **SI-M-A7** | Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts, spreadsheets, concept maps, oral and written reports, equations) |
| **1** | **SI-M-A7** | Write clear, step-by-step instructions that others can follow to carry out procedures or conduct investigations |
| **All lessons** | **SI-M-A7** | Distinguish between observations and inferences |
| **1, 2, 3, 4** | **SI-M-A7** | Use evidence and observations to explain and communicate the results of investigations |
| **1, 2** | **SI-M-A8** | Use relevant safety procedures and equipment to conduct scientific investigations |
| **1, 3, 4** | **SI-M-B1** | Compare and critique scientific investigations |
| **1, 3, 4** | **SI-M-B1** | Use and describe alternate methods for investigating different types of testable questions |

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| **1, 3, 4** | **SI-M-B1** | Recognize that science uses processes that involve a logical and empirical, but flexible, approach to problem solving |
| **4** | **SI-M-B3** | Explain how technology can expand the senses and contribute to the increase and/or modification of scientific knowledge |
| **1, 3, 4** | **SI-M-B5** | Recognize the importance of communication among scientists about investigations in progress and the work of others |
| **1, 3, 4, 5** | **SI-M-B6** | Explain that, through the use of scientific processes and knowledge, people can solve problems, make decisions, and form new ideas |
| **4** | **SI-M-B7** | Evaluate the impact of research on scientific thought, society, and the environment |
| **2** | **PS-M-A1** | Measure and record the volume and mass of substances in metric system units(6) |
| **2** | **PS-M-C1** | Compare forms of energy (e.g., light, heat, sound, electrical, nuclear, mechanical) (6) |
| **2, 3, 4, 5** | **PS-M-C2** | Explain the law of conservation of energy (6) |
| **3, 4, 5** | **LS-M-A6** | Explain how external factors and genetics can influence the quality and length of human life (e.g., nutrition, smoking, drug use, exercise) (7) |
| **3, 4, 5** | **LS-M-A7** | Identify and describe common communicable and noncommunicable diseases and the methods by which they are transmitted, treated, and prevented (7) |
| **4** | **LS-M-D1** | Differentiate between structural and behavioral adaptations in a variety of organisms (7) |
| **4** | **LS-M-D2** | Explain how environmental factors impact survival of a population (7) |
| **Louisiana Grade-Level Expectations: Mathematics – Grades 6 – 8** | | |
| **Grade 6** | | |
| **Lesson** | **GLE** | **Descriptor** |
| **2, 3, 4** | **N-5-M** | Add and subtract fractions and decimals in real-life situations |
| **2, 3, 4** | **N-8-M** | Use models and pictures to explain concepts or solve problems involving ratio, proportion, and percent with whole numbers |
| **All lessons** | **D-1-M<br>D-2-M<br>A-3-M** | Collect, organize, label, display, and interpret data in frequency tables, stem-and-leaf plots, and scatter plots and discuss patterns in the data verbally and in writing |
| **Grade 7** | | |
| **2, 3** | **N-5-M** | Multiply and divide positive fractions and decimals |
| **2, 3, 4** | **N-5-M<br>N-6-M<br>N-8-M** | Set up and solve simple percent problems using various strategies, including mental math |
| **2, 3, 4** | **N-8-M** | Use proportions involving whole numbers to solve real-life problems |
| **Grade 8** | | |
| **2, 3, 4** | **N-8-M** | Use proportional reasoning to model and solve real-life problems |

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| **2, 3, 4** | **N-8-M<br>N-5-M** | Solve real-life problems involving percentages, including percentages less than 1 or greater than 100 |
| **1, 4** | **A-4-M** | Explain and formulate generalizations about how a change in one variable results in a change in another variable |
| **2** | **M-3-M** | Identify and select appropriate units for measuring volume |
| **2** | **M-4-M<br>G-1-M** | Compare and estimate measurements of volume and capacity within and between the U.S. and metric systems |
| **1, 3, 4** | **D-1-M** | Determine what kind of data display is appropriate for a given situation |
| **1, 4** | **D-1-M** | Match a data set or graph to a described situation, and vice versa |
| **4** | **D-2-M<br>D-4-M** | Select random samples that are representative of the population, including sampling with and without replacement, and explain the effect of sampling on bias |
| **1, 4** | **D-5-M** | Use experimental data presented in tables and graphs to make outcome predictions of independent events |
| **Louisiana Grade-Level Expectations: English Language Arts – Grades 6 – 8** | | |
| **Lesson** | **GLE** | **Descriptor** |
| **All lessons** | **ELA-1-M1** | Identify word meanings using a variety of strategies, including: using context clues (e.g., definition, restatement, example, contrast), using structural analysis (e.g., roots, affixes), determining word origins (etymology), using knowledge of idioms, and explaining word analogies |
| **All lessons** | **ELA-1-M1** | Develop specific vocabulary (e.g., scientific, content-specific, current events) for various purposes |
| **All lessons** | **ELA-1-M3** | Draw conclusions and make inferences in oral and written responses about ideas and information in grade-appropriate texts, including: instructional materials, essays, or dramas (7) |
| **All lessons** | **ELA-1-M4** | Interpret ideas and information in a variety of texts (e.g., scientific reports, technical guidelines, business memos) and make connections to real-life situations and other texts (8) |
| **All lessons** | **ELA-7-M2** | Examine and explain the relationship between life experiences and texts to generate solutions to problems |
| **All lessons** | **ELA-7-M2** | Use technical information and other available resources (e.g., software programs, manuals, Web sites, interviews) to solve problems |
| **All lessons** | **ELA-7-M4** | Analyze grade-appropriate print and nonprint texts using various reasoning skills, including: identifying cause-effect relationships, raising questions, reasoning inductively and deductively, generating a theory or hypothesis, skimming/scanning, and distinguishing facts from opinions and probability |
| **1, 3, 4, 5** | **ELA-2-M1** | Write multiparagraph compositions on student- or teacher-selected topics organized with the following: an established central idea, organizational patterns (e.g., comparison/contrast, order of importance, chronological order) appropriate to the topic, elaboration (e.g., fact, examples, and/or specific details), transitional words and phrases that unify ideas and points, and an overall structure including an introduction, a body/middle, and a concluding paragraph that summarizes important ideas |
| **1, 3, 4, 5** | **ELA-2-M1** | Organize individual paragraphs with topic sentences, relevant elaboration, and concluding sentences |

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| **1, 3, 4, 5** | **ELA-2-M2** | Develop grade-appropriate compositions on student- or teacher-selected topics that include the following: word choices (diction) appropriate to the identified audience and/or purpose, vocabulary selected to clarify meaning, create images, and set a tone, information/ideas selected to engage the interest of the reader, clear voice (individual personality), and variety in sentence structure |
| **1, 3, 4, 5** | **ELA-2-M4** | Develop grade-appropriate paragraphs and multiparagraph compositions using the various modes of writing (e.g., description, narration, exposition, persuasion), emphasizing narration and exposition |
| **1, 3, 4, 5** | **ELA-2-M4** | Use the various modes to write compositions, including: comparison/contrast and essays based on a stated opinion |
| **1, 3, 4, 5** | **ELA-3-M5** | Spell high-frequency, commonly confused, frequently misspelled words and derivatives (e.g., roots and affixes) correctly |
| **All lessons** | **ELA-4-M1** | Adjust diction and enunciation to suit the purpose for speaking |
| **All lessons** | **ELA-4-M1** | Use standard English grammar, diction, syntax, and pronunciation when speaking |
| **All lessons** | **ELA-4-M2** | Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions |
| **All lessons** | **ELA-4-M2** | State oral directions/procedures for tasks |
| **All lessons** | **ELA-4-M6** | Participate in group and panel discussions, including: explaining the effectiveness and dynamics of group process, applying agreed-upon rules for formal and informal discussions, and assuming a variety of roles (e.g., facilitator, recorder, leader, listener) |
| **All lessons** | **ELA-5-M2** | Locate and integrate information from grade-appropriate resources, including: multiple printed texts (e.g., encyclopedias, atlases, library catalogs, specialized dictionaries, almanacs, technical encyclopedias), electronic sources (e.g., Web sites, databases), and other media sources (e.g., audio and video tapes, films, documentaries, television, radio) |
| **All lessons** | **ELA-5-M6** | Interpret information from a variety of graphic organizers, including timelines, charts, schedules, tables, diagrams, and maps in grade-appropriate sources |

## Louisiana Health Education Content Standards: Grades 5 – 8

| Lesson | Benchmark | Descriptor |
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| **3** | **1-M-1** | Describe relationships among physical, mental, emotional and social health |
| **2, 3** | **1-M-2** | Evaluate healthy and unhealthy lifestyles (e.g., preventive health measures, physical fitness, nutrition, obesity, eating disorders, stress, etc.) |
| **3, 4, 5** | **1-M-4** | Analyze high risk behaviors to determine their impact on wellness (e.g., disease transmission, suicidal tendencies, substance use and abuse, etc.) |
| **2, 3** | **2-M-1** | Locate valid health information using various sources (e.g., Internet, videos, print, television, etc.) |
| **5** | **3-M-1** | Identify personal health needs and develop long-term goals for a healthy lifestyle |
| **1, 4** | **4-M-4** | Describe the ways that technology affects health (e.g., video games, computers, high-technological medical equipment, etc.) |
| **All lessons** | **5-M-1** | Demonstrate verbal and non-verbal skills to communicate care, self-control, and respect for all |
| **3, 5** | **5-M-4** | Demonstrate positive decision-making and problem-solving skills |

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| **5** | **5-M-5** | Develop strategies and skills for attaining personal health goals |
| **2, 3, 4, 5** | **6-M-1** | Develop strategies to encourage and influence others in making positive health choices (e.g., healthy food choices, abstaining from alcohol, tobacco, and illegal drug use, etc.) |
| **2, 3, 4, 5** | **6-M-2** | Analyze various communication methods to accurately express health ideas and opinions |
| **3, 4, 5** | **6-M-4** | Demonstrate the ability to work cooperatively when advocating for healthy individuals, families, and schools |