

**Side-by-Side Comparison of the Texas Educational Knowledge and Skills (TEKS)
and Louisiana Grade Level Expectations (GLEs)**

SCIENCE: Grade 6

| TEKS | Comments | Louisiana GLE |
|--|--|---|
| (6.1) Science Processes. The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. | | The Abilities Necessary to Do Scientific Inquiry (SI) |
| (6.1.A) demonstrate safe practices during field and laboratory investigations | <i>Similar</i> | SI GLE 23. Use relevant safety procedures and equipment to conduct scientific investigations (SI-M-A8) SI GLE 24. Provide appropriate care and utilize safe practices and ethical treatment when animals are involved in scientific field and laboratory research (SI-M-A8) |
| (6.1.B) make wise choices in the use and conservation of resources and the disposal or recycling of materials. | <i>Implied</i> <i>There is some attention to the spirit of the GLE's these are not full matches</i> | SE GLE 42. Identify energy types from their source to their use and determine if the energy types are renewable, nonrenewable, or inexhaustible (SE-M-A6) SE GLE 43. Explain how the use of different energy resources affects the environment and the economy (SE-M-A6) SE GLE 45. Describe methods for sustaining renewable resources (SE-M-A6) |
| (6.2) Science Processes. The student uses scientific inquiry methods during field and laboratory investigations. | | The Abilities Necessary to Do Scientific Inquiry (SI) Understanding Scientific Inquiry (SI) |
| (6.2.A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology; | <i>Similar</i> | SI GLE 1. Generate testable questions about objects, organisms, and events that can be answered through scientific investigation (SI-M-A1) SI GLE 2. Identify problems, factors, and questions that must be considered in a scientific investigation (SI-M-A1) SI GLE 4. Design, predict outcomes, and conduct experiments to answer guiding questions (SI-M-A2) SI GLE 5. Identify independent variables, dependent variables, and variables that should be controlled in designing an experiment (SI-M-A2) SI GLE 6. Select and use appropriate equipment, technology, tools, and metric system units of measurement to make observations (SI-M-A3) |

| TEKS | Comments | Louisiana GLE |
|---|-----------------|--|
| | | SI GLE 20. Write clear, step-by-step instructions that others can follow to carry out procedures or conduct investigations (SI-M-A7) |
| (6.2.B) collect data by observing and measuring; | <i>Similar</i> | SI GLE 7. Record observations using methods that complement investigations (e.g., journals, tables, charts) (SI-M-A3) SI GLE 8. Use consistency and precision in data collection, analysis, and reporting (SI-M-A3) |
| (6.2.C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence; | <i>Similar</i> | SI GLE 11. 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) (SI-M-A4) SI GLE 12. Use data and information gathered to develop an explanation of experimental results (SI-M-A4) SI GLE 16. Use evidence to make inferences and predict trends (SI-M-A5) SI GLE 21. Distinguish between observations and inferences (SI-M-A7) |
| (6.2.D) communicate valid conclusions | <i>Similar</i> | SI GLE 19. Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts, spreadsheets, concept maps, oral and written reports, equations) (SI-M-A7) SI GLE 22. Use evidence and observations to explain and communicate the results of investigations (SI-M-A7) |
| (6.2.E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data. | <i>Similar</i> | SI GLE 7. Record observations using methods that complement investigations (e.g., journals, tables, charts) (SI-M-A3) SI GLE. Use computers and/or calculators to analyze and interpret quantitative data (SI-M-A3) SI GLE 11. 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) (SI-M-A4) SI GLE 19. Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts, spreadsheets, concept maps, oral and written reports, equations) (SI-M-A7) |

| TEKS | Comments | Louisiana GLE |
|---|---|--|
| (6.3) Science Processes. The student uses critical thinking and scientific problem solving to make informed decisions. | | The Abilities Necessary to Do Scientific Inquiry (SI) Understanding Scientific Inquiry (SI) |
| (6.3.A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information; | <i>Similar</i> | SI GLE 17. 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 (SI-M-A6) SI GLE 18. Identify faulty reasoning and statements that misinterpret or are not supported by the evidence (SI-M-A6) SI GLE 25. Compare and critique scientific investigations (SI-M-B1) SI GLE 35. Explain how skepticism about accepted scientific explanations (i.e., hypotheses and theories) leads to new understanding (SI-M-B5) |
| (6.3.B) draw inferences based on data related to promotional materials for products and services; | <i>Not specifically addressed in LA</i> | |
| (6.3.C) represent the natural world using models and identify their limitations; | <i>Similar</i> | SI GLE 14. Develop models to illustrate or explain conclusions reached through investigation (SI-M-A5) SI GLE 15. Identify and explain the limitations of models used to represent the natural world (SI-M-A5) SI GLE 33. Evaluate models, identify problems in design, and make recommendations for improvement (SI-M-B4) |
| (6.3.D) evaluate the impact of research on scientific thought, society, and the environment | <i>Similar</i> | SI GLE 38. Explain that, through the use of scientific processes and knowledge, people can solve problems, make decisions, and form new ideas (SI-M-B6) SI GLE 39. Identify areas in which technology has changed human lives (e.g., transportation, communication, geographic information systems, DNA fingerprinting) (SI-M-B7) SI GLE 40. Evaluate the impact of research on scientific thought, society, and the environment (SI-M-B7) |
| (6.3.E) connect Grade 6 science concepts with the history of science and contributions of scientists. | <i>Implied</i> | SI GLE 40. Evaluate the impact of research on scientific thought, society, and the environment (SI-M-B7) |
| (6.4) The student knows how to use a variety of tools and methods to conduct science inquiry. | | The Abilities Necessary to Do Scientific Inquiry (SI) Understanding Scientific Inquiry (SI) |
| (6.4.A) Science Processes. collect, analyze, and record | <i>Implied</i> | SI GLE 6. Select and use appropriate equipment, technology, tools, and |

| TEKS | Comments | Louisiana GLE |
|---|---|--|
| information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, test tubes, safety goggles, spring scales, magnets, balances, microscopes, telescopes, thermometers, calculators, field equipment, compasses, computers, and computer probes | | metric system units of measurement to make observations (SI-M-A3) SI GLE 9. Use computers and/or calculators to analyze and interpret quantitative data (SI-M-A3) |
| (6.4.B) identify patterns in collected information using percent, average, range, and frequency. | <i>Similar</i> | SI GLE 31. Recognize that there is an acceptable range of variation in collected data (SI-M-B3) SI GLE 32. Explain the use of statistical methods to confirm the significance of data (e.g., mean, median, mode, range) (SI-M-B3) |
| | <i>Science Inquiry - Not Specifically Addressed in TEKS</i> | SI GLE 3. Use a variety of sources to answer questions (SI-M-A1) 10. Identify the difference between description and explanation (SI-M-A4) SI GLE 13. Identify patterns in data to explain natural events (SI-M-A4) SI GLE 26. Use and describe alternate methods for investigating different types of testable questions (SI-M-B1) SI GLE 27. Recognize that science uses processes that involve a logical and empirical, but flexible, approach to problem solving (SI-M-B1) SI GLE 28. Recognize that investigations generally begin with a review of the work of others (SI-M-B2) SI GLE 29. Explain how technology can expand the senses and contribute to the increase and/or modification of scientific knowledge (SI-M-B3) SI GLE 30. Describe why all questions cannot be answered with present technologies (SI-M-B3) SI GLE 34. Recognize the importance of communication among scientists about investigations in progress and the work of others (SI-M-B5) SI GLE 36. Explain why an experiment must be verified through multiple investigations and yield consistent results before the findings are accepted (SI-M-B5) |
| (6.5) Science Concepts. The student knows that systems | | |

| TEKS | Comments | Louisiana GLE |
|--|---|--|
| may combine with other systems to form a larger system. | | |
| (6.5.A) identify and describe a system that results from the combination of two or more systems such as in the solar system; | <i>Not specifically addressed in LA</i> | |
| (6.5.B) describe how the properties of a system are different from the properties of its parts. | <i>Not specifically addressed in LA</i> | |
| (6.6) Science Concepts. The student knows that there is a relationship between force and motion. | | |
| (6.6.A) identify and describe the changes in position, direction of motion, and speed of an object when acted upon by force; | <i>Similar</i> | <p>PS GLE 20. Draw and label a diagram to represent forces acting on an object (PS-M-B4)</p> <p>PS GLE 21. Determine the magnitude and direction of unbalanced (i.e., net) forces acting on an object (PS-M-B4)</p> <p>PS GLE 22. Demonstrate that an object will remain at rest or move at a constant speed and in a straight line if it is not subjected to an unbalanced force (PS-M-B5) (PS-M-B3)</p> <p>PS GLE 23. Predict the direction of a force applied to an object and how it will change the speed and direction of the object (PS-M-B5)</p> |
| (6.6.B) demonstrate that changes in motion can be measured and graphically represented; | <i>Similar</i> | <p>PS GLE 14. Construct and analyze graphs that represent one-dimensional motion (i.e., motion in a straight line) and predict the future positions and speed of a moving object (PS-M-B1)</p> <p>PS GLE 16. Compare line graphs of acceleration, constant speed, and deceleration (PS-M-B1)</p> <p>PS GLE 20. Draw and label a diagram to represent forces acting on an object (PS-M-B4)</p> |
| (6.6.C) identify forces that shape features of the Earth including uplifting, movement of water, and volcanic activity. | <i>LA focuses on Earth Science in grade 8</i> | |
| (6.7) Science Concepts. The student knows that substances have physical and chemical properties. | | Properties and Changes of Properties in Matter |
| (6.7.A) demonstrate that new substances can be made when two or more substances are chemically combined and compare the properties of the new substances to the original substances; | <i>Similar</i> | <p>PS GLE 5. Compare physical and chemical changes (PS-M-A3)</p> <p>PS GLE 9. Describe the properties of reactants and products of chemical reactions observed in the lab (PS-M-A6)</p> |

| TEKS | Comments | Louisiana GLE |
|---|--|---|
| | | PS GLE 11. Compare the masses of reactants and products of a chemical reaction (PS-M-A7) |
| (6.7.B) classify substances by their physical and chemical properties. | <i>Similar</i> | PS GLE 4. Differentiate between the physical and chemical properties of selected substances (PS-M-A3) |
| (6.8) Science Concepts. The student knows that complex interactions occur between matter and energy. | | Properties and Changes of Properties in Matter Transformations of Energy |
| (6.8.A) define matter and energy; | <i>Not specifically addressed in LA</i> | |
| (6.8.B) explain and illustrate the interactions between matter and energy in the water cycle and in the decay of biomass such as in a compost bin | <i>Implied</i> | PS GLE 8. Determine the temperatures at which water changes physical phases (e.g., freezing point, melting point, boiling point) (PS-M-A5) PS GLE 40. Identify heat energy gains and losses during exothermic and endothermic chemical reactions (PS-M-C7) |
| (6.8.C) describe energy flow in living systems including food chains and food webs. | <i>Addressed in Grade 7 LS GLE 24 in LA</i> | |
| (6.9) Science Concepts. The student knows that obtaining, transforming, and distributing energy affects the environment. | | Transformations of Energy Science and the Environment |
| (6.9.A) identify energy transformations occurring during the production of energy for human use such as electrical energy to heat energy or heat energy to electrical energy; | <i>Implied</i> | PS GLE 30. Trace energy transformations in a simple system (e.g., flashlight) (PS-M-C2) PS GLE 39. Describe how electricity can be produced from other types of energy (e.g., magnetism, solar, mechanical) (PS-M-C6) |
| | <i>Addressed in TX grade 4, 4.6 B</i> | PS GLE 34. Apply the law of reflection and law of refraction to demonstrate everyday phenomena (e.g., how light is reflected from tinted windows, how light is refracted by cameras, telescopes, eyeglasses) (PS-M-C4) |
| (6.9.B) compare methods used for transforming energy in devices such as water heaters, cooling systems, or hydroelectric and wind power plants | <i>Implied TEKS 6.9 B is a good introduction to LA PS GLE 26, 30, 37, 38</i> | |
| | <i>Instruction for 6.9 B would have to be well expanded for the</i> | PS GLE 26. Describe and summarize observations of the transmission, reflection, and absorption of sound, light, and heat energy (PS-M-C1) |

| TEKS | Comments | Louisiana GLE |
|--|--|---|
| | <i>presentation to cover these concepts</i> | <p>PS GLE 30. Trace energy transformations in a simple system (e.g., flashlight) (PS-M-C2)</p> <p>PS GLE 37. Compare how heat is transferred by conduction, convection, and radiation (PS-M-C5)</p> <p>PS GLE 38. Identify conditions under which thermal energy tends to flow from a system of higher energy to a system of lower energy (PS-M-C5)</p> <p>PS GLE 39. Describe how electricity can be produced from other types of energy (e.g., magnetism, solar, mechanical) (PS-M-C6)</p> |
| (6.9.C) research and describe energy types from their source to their use and determine if the type is renewable, non-renewable, or inexhaustible. | <i>Similar</i> | <p>SE GLE 42. Identify energy types from their source to their use and determine if the energy types are renewable, nonrenewable, or inexhaustible (SE-M-A6)</p> |
| | <i>LA Physical Science concepts not Specifically Addressed in TEKS</i> | <p>PS GLE 1. Measure and record the volume and mass of substances in metric system units (PS-M-A1)</p> <p>PS GLE 2. Calculate the density of large and small quantities of a variety of substances (e.g., aluminum foil, water, copper, clay, rock) (PS-M-A1)</p> <p>PS GLE 3. Construct models that replicate atomic structure for selected common elements from the periodic table (PS-M-A2)</p> <p>PS GLE 6. Draw or model the movement of atoms in solid, liquid, and gaseous states (PS-M-A4)</p> <p>PS GLE 7. Simulate how atoms and molecules have kinetic energy exhibited by constant motion (PS-M-A4)</p> <p>PS GLE 10. Identify the average atomic masses of given elements using the periodic table (PS-M-A7)</p> <p>PS GLE 12. Determine the effect of particle size of the same reactants on the rate of chemical reactions during a lab activity (e.g., powdered vs. solid forms) (PS-M-A8)</p> <p>PS GLE 13. Use a variety of resources to identify elements and compounds in common substances (PS-M-A9)</p> <p>PS GLE 15. Explain why velocity is expressed in both speed and</p> |

| TEKS | Comments | Louisiana GLE |
|--|----------|---|
| | | <p>direction (PS-M-B1)</p> <p>PS GLE 17. Describe and demonstrate that friction is a force that acts whenever two surfaces or objects move past one another (PS-M-B2)</p> <p>PS GLE 18. Explain how the resistance of materials affects the rate of electrical flow (PS-M-B2)</p> <p>PS GLE 19. Identify forces acting on all objects (PS-M-B3)</p> <p>PS GLE 24. Describe and give examples of how all forms of energy may be classified as potential or kinetic energy (PS-M-C1)</p> <p>PS GLE 25. Compare forms of energy (e.g., light, heat, sound, electrical, nuclear, mechanical) (PS-M-C1)</p> <p>PS GLE 27. Explain the relationship between work input and work output by using simple machines (PS-M-C2)</p> <p>PS GLE 28. Explain the law of conservation of energy (PS-M-C2)</p> <p>PS GLE 29. Compare and/or investigate the relationships among work, power, and efficiency (PS-M-C2)</p> <p>PS GLE 31. Compare types of electromagnetic waves (PS-M-C3)</p> <p>PS GLE 33. Predict the direction in which light will refract when it passes from one transparent material to another (e.g., from air to water, from prism to air) (PS-M-C4)</p> <p>PS GLE 35. Determine through experimentation whether light is reflected, transmitted, and/or absorbed by a given object or material (PS-M-C4)</p> <p>PS GLE 36. Explain the relationship between an object's color and the wavelength of light reflected or transmitted to the viewer's eyes (PS-M-C4)</p> <p>PS GLE 41. Identify risks associated with the production and use of coal, petroleum, hydroelectricity, nuclear energy, and other energy forms (PS-M-C8)</p> |
| (6.10) Science Concepts. The student knows the relationship between structure and function in living | | Structure and Function (LS) Levels of Organization (LS) |

| TEKS | Comments | Louisiana GLE |
|---|--|--|
| systems. | | |
| (6.10.A) differentiate between structure and function; | <i>Addressed in LA Grade 7 LS GLE 2, 4, 9</i> | |
| (6.10.B) determine that all organisms are composed of cells that carry on functions to sustain life; | <i>Addressed in LA Grade 7 LS GLE 2-5</i> | |
| (6.10.C) identify how structure complements function at different levels of organization including organs, organ systems, organisms, and populations. | <i>Addressed in LA in Grade 5 Life Science</i> | |
| (6.11) Science Concepts. The student knows that traits of species can change through generations and that the instructions for traits are contained in the genetic material of the organisms. | | Reproduction and Heredity (LS) |
| (6.11.A) identify some changes in traits that can occur over several generations through natural occurrence and selective breeding | <i>Addressed in LA in Grade 7 Traits and Selective Breeding, Reproduction and Heredity</i> | |
| (6.11.B) identify cells as structures containing genetic material | <i>Addressed in LA in Grade 7 Traits and Selective Breeding, Reproduction and Heredity</i> | |
| (6.11.C) interpret the role of genes in inheritance. | <i>Addressed in LA in Grade 7 Traits and Selective Breeding, Reproduction and Heredity</i> | |
| (6.12) Science Concepts. The student knows that the responses of organisms are caused by internal or external stimuli. | | Systems and Behavior of Organisms (LS) |
| (6.12.A) identify responses in organisms to internal stimuli such as hunger or thirst; | <i>Addressed in LA in High School Biology in Systems & Behavior of Organisms</i> | |
| (6.12.B) identify responses in organisms to external stimuli such as the presence or absence of heat or light | <i>Addressed in LA in High School</i> | |

| TEKS | Comments | Louisiana GLE |
|--|--|---|
| | <i>Biology in Systems & Behavior of Organisms</i> | |
| (6.12.C) identify components of an ecosystem to which organisms may respond. | <i>Addressed in LA in High School Biology in Systems & Behavior of Organisms</i> | |
| | <i>Environmental concepts introduced in TX at grade 7</i> | <p>SE GLE 43. Explain how the use of different energy resources affects the environment and the economy (SE-M-A6)</p> <p>SE GLE 44. Explain how an inexhaustible resource can be harnessed for energy production (SE-M-A6)</p> <p>SE GLE 45. Describe methods for sustaining renewable resources (SE-M-A6)</p> <p>SE GLE 46. Identify ways people can reuse, recycle, and reduce the use of resources to improve and protect the quality of life (SE-M-A6)</p> <p>SE GLE 47. Illustrate how various technologies influence resource use in an ecosystem (e.g., forestry management, soil conservation, fishery improvement) (SE-M-A8)</p> |
| (6.13) Science Concepts. The student knows components of our solar system. | | Objects in the Sky (ESS) |
| (6.13.A) identify characteristics of objects in our solar system including the Sun, planets, meteorites, comets, asteroids, and moons; | <i>Addressed in LA in Grade 5 in Objects in the Sky, ESS GLE 42-44</i> | |
| (6.13.B) describe types of equipment and transportation needed for space travel. | <i>Not specifically addressed in LA</i> | |
| (6.14) Science Concepts. The student knows the structures and functions of Earth systems. | | Structure of the Earth (ESS) |
| (6.14.A) summarize the rock cycle; | <i>Addressed in LA in Grade 8, ESS Structure of the Earth</i> | |
| (6.14.B) identify relationships between groundwater and surface water in a watershed | <i>Addressed in LA in Grade 5, ESS GLE 26</i> | |
| (6.14.C) describe components of the atmosphere, including oxygen, nitrogen, and water vapor, and identify | <i>Addressed in LA in Grade 5, ESS GLE 35</i> | |

| TEKS | Comments | Louisiana GLE |
|---|---------------------------------------|---------------|
| the role of atmospheric movement in weather change. | <i>and grade 8 ESS GLE 26, 27</i> | |