

Student Expectations

Both Texas and Louisiana used the *National Science Education Standards* and Project 2061's *Benchmarks for Science Literacy* and *Science for All Americans* to develop comprehensive plans for K-12 science education. Due to these common origins, student expectations are very similar. Both states specify process skills separately from content, yet they clearly intend for both areas to be addressed simultaneously in the classroom throughout the school year. They also advise that science concepts be introduced and mastered in an interdisciplinary format.

While the Texas Educational Knowledge and Skills (TEKS) address science content in a relatively integrated fashion, the Louisiana Grade Level Expectations (GLEs) cluster expectations for each strand: Physical Science (PS), Life Science (LS), Earth and Space Science (ESS), and Science and the Environment (SE). Both states identify inquiry or process skills, and emphasize that these be developed as the means for acquiring greater depth in content knowledge. For example, in the Louisiana Earth and Space Science (ESS) strand, students design their own experiment to explore evaporation.

One distinction in Louisiana's second-grade standards is in the area of Science and the Environment, where there are several expectations related to what Texas would refer to as Human Impact. The TEKS do not cover this topic in such detail until Grade 7. Both states address the appropriate use of instruments for collecting and recording data, but only Louisiana specifies the use of the U.S. system of measurement in addition

to the metric system, which is the standard in Texas.

Educators should particularly note that whereas unifying themes are explicitly identified and addressed separately in the TEKS, Louisiana interweaves these concepts throughout their GLEs and Benchmarks.

Assessment

Science assessment methodologies in Texas and Louisiana differ in many ways. Louisiana students are tested using the Integrated Louisiana Educational Assessment Program (iLEAP) at Grade 3. Texas students take the Texas Assessment of Knowledge and Skills (TAKS) at Grade 5. The Louisiana test specifically targets the third-grade GLEs, while the Texas test is a comprehensive sampling of identified student expectations from Grades 2 through 5.

Though the Texas and Louisiana science standards are similar overall, few of the TEKS student expectations and corresponding TAKS objectives match perfectly with the Louisiana GLEs. For example, TEKS (2.8.A) expects students "to identify characteristics of living organisms." Louisiana's LS GLE 34 focuses on inheritance in expecting students "to describe inherited characteristics of living things." A careful review of the Grade 2 side-by-side analysis will provide more information about such variations.

Coding in the Side-by-Side Analysis

Due to the degree of specificity of the Louisiana standards, some of the Texas Student Expectations (SE's) are matched to more than one Louisiana GLE.

For example:

<p>TEKS 2.9 B The student is expected to compare and give examples of the ways living organisms depend on each other and on their environment.</p>	<p>LS GLE 35. Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other (LS-E-C1)</p> <p>LS GLE 27. Match the appropriate food source and habitat for a variety of animals (e.g., cows/grass/field, fish/tadpoles/water) (LS-E-A1)</p> <p>LS GLE 31. Identify and discuss the arrangement of the food pyramid (LS-E-A6)</p> <p>SE GLE 45. Locate and identify plants and animals within an ecosystem (SE-E-A2)</p> <p>SE GLE 46. Illustrate and describe a simple food chain located within an ecosystem (SE-E-A2)</p>
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Inquiry strand. These expectations are generally analogous to the Texas Process Standards. Note that the prefixes appearing before the GLE refer to the strand:

- SI = Science As Inquiry
- PS = Physical Science
- LS = Life Science
- ESS = Earth and Space Science
- SE = Science in the Environment

Regarding the codes and content in the middle column on the document:

- Notations regarding TAKS objectives are included in the analysis column.
- Notations are made when concepts are addressed in another grade level in Louisiana.
- *Implied* refers to components of concepts that are understood and addressed in the context of the statement.
- *Similar* means the concept is worded differently.
- *Not specifically addressed* refers to concepts that may be covered, but not necessarily addressed in all classrooms by all teachers.

The number in parentheses following each GLE statement is a reference to the Louisiana Benchmark statement. For example, SI-E-A5 refers to the Science as Inquiry Standard, Elementary School A5 Substandard A, benchmark 5 – using data, including number and graphs, to explain observations and experiments. Benchmark statements are similar to the Texas Knowledge and Skill statements. More information about the Louisiana Benchmarks is available from the Louisiana State Department of Education: <http://www.doe.state.la.us/lde/uploads/2911.pdf>.

There are 51 science GLEs for Grade 2. The first 13, with the prefix SI, constitute the Science as