

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. In the Louisiana Physical Science (PS) strand, for example, students explore the properties of light, sound, and magnetism.

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 for the first time using the Integrated Louisiana Educational Assessment Program (iLEAP) at Grade 3. Texas students are tested for the first time using 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 match perfectly with the Louisiana GLEs. For example, TEKS (1.6.A) has students "sort organisms and objects according to their parts and characteristics." Louisiana PS GLE 13 similarly has students "sort a group of objects by using multiple characteristics," but this does not necessarily include examining the parts of the object. A careful review of the Grade 1 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:

TEKS (1.7.B) identify and test ways that heat may cause change such as when ice melts	PS GLE 18. Demonstrate how sound is made in a variety of ways (e.g., singing, whispering, striking an object) (PS-E-C1)
	PS GLE 19. Describe and demonstrate the volume of sound (e.g., soft, loud) (PS-E-C1)
	LS GLE 30. Record and share observations of changes in developing plants (LS-E-B1)
	ESS GLE 37. Illustrate how water changes from one form to another (e.g., freezing, melting, evaporating) (ESS-E-A3)
	ESS GLE 38. Compare weather patterns as they relate to seasonal changes in students' immediate environment (ESS-E-A4)

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 Level A5 Substandard A, benchmark 5—using data, including numbers and graphs, to explain observations, and experiment. 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 39 science GLEs for Grade 1. The first 12, with the prefix SI, constitute the Science as 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 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.