

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 focus on increasing students' skills and expanding their knowledge of the world and the natural environment through exploration and discovery. For example, students observe, describe and compare characteristics of plants and animals.

Whereas unifying themes are identified and addressed separately in the Texas Educational Knowledge and Skills (TEKS), Louisiana interweaves these concepts throughout their Grade Level Expectations (GLEs) and Benchmarks.

Assessment

Science assessment methodologies in Texas and Louisiana differ in many ways. But neither state

assess science in Kindergarten. Louisiana students are tested for the first time using the Integrated Louisiana Educational Assessment Program (iLEAP) at Grade 3. Texas students are first tested using the Texas Assessment of Knowledge and Skills (TAKS) at Grade 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 (K.7.B) has students identify that heat causes change, such as ice melting or the Sun warming the air and compare objects according to temperature. This matches closely but not exactly with Louisiana's PS GLE 20, which has students identify objects that give off heat, such as people, animals, and the Sun. A careful review of the Kindergarten side-by-side analysis will provide more information about such variations.

Coding in the Side-by-Side Analysis

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 32 science GLEs for Kindergarten. The first 10, 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 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.