

## 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.

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

Exit-level science assessment methodologies in Texas and Louisiana are similar. Students are tested at Grade 11—using the Graduation Exit Examination (GEE) in Louisiana, and the Texas Assessment of Knowledge and Skills (TAKS) Exit Levels in Texas. The principle difference between the two exams is that the Louisiana test specifically targets the Biology GLEs, while the Texas test is a comprehensive sampling of identified student expectations from Biology as well as Integrated Physics and Chemistry. And Texas uses a 10<sup>th</sup> grade TAKS to identify students that may need special assistance to pass the Exit TAKS.

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 (Bio.9.C) has students “investigate and identify the effects of enzymes on food molecules.” Louisiana’s Bio GLE 3, “investigate and describe the role of enzymes in the function of a cell” is notably different, though still an adequate match. A careful review of the Biology side-by-side analysis will provide more information about such variations in student expectations.

## Coding in the Side-by-Side Analysis

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

TEKS (Bio.9.D) analyze the flow of matter and energy through different trophic levels and between organisms and the physical environment.	Bio GLE 24. Analyze food webs by predicting the impact of the loss or gain of an organism (LS-H-D2)
	Bio GLE 25. Evaluate the efficiency of the flow of energy and matter through a food chain/pyramid (LS-H-D2)
	Bio GLE 26. Analyze the dynamics of a population with and without limiting factors (LS-H-D3)
	Bio GLE 27. Analyze positive and negative effects of human actions on ecosystems (LS-H-D4) (SE-H-A7)

The number in parentheses following each

GLE statement is a reference to the Louisiana Benchmark statement. For example, SI-H-A7 refers to the Science as Inquiry Standard, High School A7 Substandard A, benchmark 7. 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>.

Louisiana groups Science as Inquiry (SI) expectations at the High School level (Grades 9-12) into one strand. These 16 GLEs are generally analogous to the Texas Process Standards. For Biology, there are an additional 42 content expectations. Note that the prefixes appearing before the GLE refer to the strand:

- SI = Science As Inquiry
- Bio = Biology

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.