HS Chemistry	SCIENCE

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 differentiate between process skills and 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.
Both Texas and Louisiana assess a comprehensive sampling of student expectations from the High School curriculum. Louisiana assesses Biology and Physical Science, while Texas assesses Biology and Integrated Physics and Chemistry (IPC). Texas also administers the TAKS at 10th grade for diagnostic purposes.

Though the Texas and Louisiana science standards are similar overall, few of the TEKS student expectations match perfectly with the Louisiana GLEs. For example, under the TEKS (Chem.4.C), "investigate and identify properties of mixtures and pure substances;" Louisiana's Chem. GLE 14., "Identify unknowns as elements, compounds, or mixtures based on physical properties (e.g., density, melting point, boiling point, solubility) (PS-H-C1)" is notably different, though still an adequate match. A careful review of the Chemistry 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, many of the Texas Student Expectations (SE's) are matched to more than one Louisiana GLE. For example:

(Chem.8.A) identify characteristics of atoms involved in chemical bonding;	Chem GLE 13. Identify the number of bonds an atom can form given the number of valence electrons (PS-H-B3) Chem GLE 22. Predict the kind of bond that will form between two elements based on electronic structure and electronegativity of the elements (e.g., ionic, polar, nonpolar) (PS-H-C5) Chem GLE 23. Model chemical bond formation by using Lewis dot diagrams for ionic, polar, and nonpolar compounds (PS-H-C5)

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 Chemistry, there are an additional 46 content expectations. Note that the prefixes appearing before the GLE refer to the strand:
- SI = Science As Inquiry
- Chem = Chemistry

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 implicit within 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.

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