State of Texas Assessments of Academic Readiness (STAAR™)
Performance Level Descriptors
Chemistry

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Scientific process skills are not assessed in isolation but are incorporated into questions that assess the chemistry content. These process skills focus on safe, environmentally appropriate, and ethical laboratory and field investigations; using scientific methods to answer questions; and using critical thinking, scientific reasoning, and problem solving to make informed decisions.
Students achieving Level III: Advanced Academic Performance can • Evaluate periodic trends using electron configurations • Predict molecular structure when given only the chemical formula • Calculate theoretical yield when given only reactants • Analyze various reactions that occur in aqueous solutions
Students achieving Level II: Satisfactory Academic Performance can • Recognize and explain periodic trends using properties of elements • Relate atomic structure to properties of elements • Interpret radioactive decay processes and compare nuclear reactions • Describe chemical reactions qualitatively and quantitatively • Apply the gas laws qualitatively and quantitatively to a variety of situations • Analyze energy changes associated with chemical reactions • Describe aqueous solutions and distinguish between various reactions that occur in the solutions
Students achieving Level I: Unsatisfactory Academic Performance can • Use the periodic table to identify chemical families and determine charges on monatomic ions • Identify alpha, beta, and gamma radiation • Determine coefficients to balance chemical equations • Recognize relationships among volume, pressure, and temperature of gases