Topic: Matter – Acids and Bases	
Included Standards: SC.912.P.8.8 SC.912.P.8.11	
Grade: Chemistry	
Score 4.0	**In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** ○ Research curling hair with a permanent wave and relate it to acids and bases.
Score 3.0	**The student will understand acids and bases and be able to determine pH and relate the impact on the environment.** **Performs complex skills:** ○ Compare and contrast the properties and models/theories of acids and bases. ○ Classify a solution as acidic, basic, or neutral from its pH. ○ Based on experimental data, determine if a solution is acidic, basic, or neutral. **The student exhibits no major errors or omissions regarding the score 3.0 content.**
Score 2.0	**The student:** **Recognizes or recalls specific terminology:** acid, base, salt, pH, neutral, indicators, ionization, hydronium, ion-product constant for water (Kw), equilibrium, pH scale, Arrhenius model/theory, Bronsted-Lowry model/theory, Lewis Acid, Lewis Base, amphoteric, pOH, conjugate acid, conjugate base, conjugate acid-base pairs, litmus, Lewis Model, neutralization reaction **Recognizes or recall non-specific terminology:** molarity, hydroxide, binary acids, oxyacids, aqueous solution **Recognize or recall specific affixes:** bi, amp, aqu, oxy **Performs basic skills:** ○ State the Arrhenius and Bronsted-Lowry Model/Theory ○ Describe acids and bases. ○ Using a Bronsted-Lowry equation, identify the acid, base and their conjugates. ○ Recognize a neutralization reaction and identify the salt formed. ○ Explain the meaning of pH or pOH. ○ Describe the relationship between pH, pOH, and Kw. ○ Using the log key on a calculator, solve for pH or pOH, given the concentration. ○ Using division, solve for pH or pOH, given pOH or pH and Kw. ○ Describe the beneficial and harmful effects of acid rain, ground water contamination, nutrients in soil, and antibacterial/fungal properties. **No major errors or omissions regarding the score 2.0 content.**
Score 1.0	With help, I know some of 2.0 and 3.0.
Score 0.0	Even with help, I am unable to understand.

Topic: Matter – Solutions and Mixtures	
Included Standards: SC.912.P.8.2 SC.912.P.8.6 SC.912.P.8.9	
Grade: Chemistry (Q4 Unit 10)	
Score 4.0	**In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.** ○ Research sinkholes and describe the factors that contribute to the formation of sinkholes and identify ways that sinkhole development might be prevented.
Score 3.0	**The student will be able to relate the characteristics of solutions to their components.** **Performs complex skills:** ○ Distinguish types of solutes as electrolytes or nonelectrolytes. ○ Generalize how intermolecular forces, such as hydrogen bonding, affect dissolving. ○ Solve for molarity of unknown solutions using experimental data. **The student exhibits no major errors or omissions regarding the score 3.0 content.**
Score 2.0	**The student:** **Recognizes or recalls specific terminology:** Mixture, miscible, immiscible, suspension, colloid, alloy, solute, solvent, saturated, unsaturated, supersaturated, electrolyte, nonelectrolyte, molarity, solutions, homogeneous, heterogeneous, Brownian movement, concentration, titration **Recognizes or recall non-specific terminology:** Polar, nonpolar, matter, dissolve, moles, attractive, forces, hydrogen bonding, van der Waals forces, phase, experiment **Recognize or recall specific affixes:** im, di, non, un, homo, heter, super, inter **Performs basic skills:** ○ Identify types of mixtures ○ Determine if mixtures are homogeneous or heterogeneous. ○ Describe Brownian movement. ○ Identify the components of a solution. ○ Identify a solution as saturated, unsaturated or supersaturated. ○ Recognize appropriate units for molarity. ○ Use division to determine molarity. **No major errors or omissions regarding the score 2.0 content.**
Score 1.0	With help, I know some of 2.0 and 3.0.
Score 0.0	Even with help, I am unable to understand.