Krug Chemistry – Deep Run Daily Planning Guide

Date of Lesson: Q4 Day 3 – Unit 10 Test

Topic /Big Questions: (Question Stems & Question Creation Chart)

- **What factors determine the speed of a chemical reaction?**
- **What factors affect equilibrium?**
- **How does the amount of activation energy affect a chemical reaction?**
- **What are the similarities and differences between exothermic and endothermic reactions?**
- **What factors affect the equilibrium constant?**
- **How do chemists calculate the amount of heat required for a chemical reaction to occur?**
- **How do chemists calculate the amount of randomness in a chemical reaction?**
- **What is the maximum amount of work done by a system during a chemical reaction?**

State SOL	Unpacking the Standards (Video explanation shown at 3:18)
CH. 7	CH.7 The student will investigate and understand that thermodynamics explains the relationship between matter and energy. Key ideas include a) heat energy affects matter and interactions of matter; b) heating curves provide information about a substance; c) reactions are endothermic or exothermic; d) energy changes in reactions occur as bonds are broken and formed; e) collision theory predicts the rate of reactions; f) rates of reactions depend on catalysts and activation energy; and g) enthalpy and entropy determine the extent of a reaction.

Visible Learning (For the three items with asterisks*, think from a student perspective. Use simple language)

***What am I learning today?** Surface Tension, Concentration, Temperature, Pressure, Catalyst, Equilibrium, Kinetics, Activation Energy, Exothermic, Endothermic, Enthalpy, Bond Energy, Hess' Law Entropy, Gibb's Free Energy

***Why is it important?** Thermodynamics is the branch of science that deals with the relationship of heat and other forms of energy. Chemical systems undergo three main processes that use thermal energy: phase changes, heating/cooling, and chemical reactions.

***How will I know I've learned it?** I will understand the factors that affect chemical equilibrium and kinetics. I will calculate enthalpy, entropy, and Gibb's free energy.

Differentiation strategies:

Unit 10 Test Review – online in Schoology

Morning Test Review – open to all students

Short Review – beginning of each class

Unit 10 Test

Accommodations and/or modifications are being met for students with IEP's/504's.
frequent checks for understanding; materials available on Schoology; small group testing and extended time

Daily Plan/Sequence of Instruction:

Teacher will answer last minute questions from the Unit 10 Test Review, which is due by the beginning of class. Teacher will offer a morning session test review for 45 minutes before school. (Open to all students – CP and Honors). Teacher will do a short review session at the beginning of each class (15 minutes). Students will use the rest of class time to complete the test.

Assessments (List all formative/summative assessments used to check for understanding during this lesson. Summative assessments may occur during a different class period.):

Unit 10 Test Review – (summative) due at the beginning of class

Unit 10 Test – (summative) due by the end of class

After assessing today's lesson are you and your students comfortable moving forward with your next objective?

Yes - students have scored 80% or higher on the Unit 10 Test

No, remediation required to proceed – students, who fail the unit test, may visit during One Lunch to do test corrections in order to earn a 65% passing score.

Teacher reflection: Small group testing must be requested at least two days in advance.