Student Growth Objective Form

(DISTRICT-DEVELOPED SAMPLE SGO for GRADE 10 - CHEMISTRY)

Name	School	Grade	Course/Subject	Number of Students	Interval of Instruction
		HS	Chemistry		Sept. 2019 – April 2020

Standards, Rationale, and Assessment Method

Name the content standards covered, state the rationale for how these standards are critical for the next level of the subject, other academic disciplines, and/or life/college/career. Name and briefly describe the format of the assessment method.

RATIONALE

The ideas explored and investigated in this SGO build upon concepts investigated in the middle school grades and from the disciplinary core ideas (DCI's), science and engineering practices (SEP's), and crosscutting concepts (CCC's) of other experiences. As such, students will develop an understanding of the major concepts of general Chemistry, which includes states and properties of matter, atomic structure, nomenclature, mole concept and stoichiometry, solutions, acid base chemistry, etc. Students are also expected to demonstrate understanding of several science and engineering practices, including planning and carrying out investigations, developing and using models, analyzing and interpreting data and engaging in argument from evidence among others.

The focus standards detailed below are necessary to facilitate the students' understanding of the foundation and nature of science and to explain Chemistry-related phenomena, as they develop their ability to analyze and interpret data. These standards are important and necessary to facilitate the students' understanding the foundation and nature of science and to explain phenomena, as they develop their ability to analyze and interpret data. Additionally, this SGO includes all the New Jersey Student Learning Science Standards - (NJSLSS) related to creating / setting a foundation for students to become career citizens and lifelong learners.

STANDARDS

HS-PS1-1

Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

HS-PS1-2

Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-4

Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-7

Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.

HS-PS2-6

Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.*

HS-PS3-4
Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).

HS-PS4-5
Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.*

ETS1-3
Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

ETS1-4
Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

ASSESSMENT METHODS:

- District Developed Science Midterm Assessment
- Authentic Teacher Designed Assessments - 10 multiple choice (4 choice), 10 extended constructed response (ECR's) questions
- Students' presentation on research project assigned by teacher (which allows students to design a simple apparatus, take measurement and collect data)
- Students Lab Reports

Starting Points and Preparedness Groupings
Students will be tiered as determined by a data point systems that uses 3 points of data. Each tier group will be assigned a target level.

Data Measures used to Establish Baselines
2018-2019 Final Science Grade; weight (. 35)
Science Pre-Assessment; weight (.35)
Unit 1 Lab: weight (.30)

Preparedness Group	Baseline Score
Below Level (Low)	< 0.55
On Level (Medium)	0.55 – 0.74
High (Above Level)	>0.75

Student Growth Objective
State simply what percentage of students in each preparedness group will meet what target in the space below, e.g. "75% of students in each group will meet the target score." Describe how the targets reflect ambitious and achievable scores for these students. Use the table to provide more detail for each group. Modify the table as needed.

By the end of April 2020, 70 – 75% of students in each preparedness group will achieve the average target portfolio score or above for their preparedness group.

Preparedness Group	Number of Students in Each Group	Target Score on SGO Assessment

(e.g. 1,2,3)		
Above level		≥ 85%
On Level		80%
Below Level		70%

Scoring Plan State the projected scores for each group and what percentage/number of students will meet this target at each attainment level. Modify the table as needed.					
Preparedness Group	Student Target Score	Teacher SGO Score Based on Percent of Students Achieving Target Score			
		Exceptional (4) **>75%**	Full (3) **70 – 75%**	Partial (2) **65-69%**	Insufficient (1) **<65%**
Above Level	85%				
On Level	80%				
Below Level	70%				

Approval of Student Growth Objective
Administrator approves scoring plan and assessment used to measure student learning.

Teacher _____ Signature_____ Date Submitted_____

Evaluator _____ Signature _____ Date Approved _____

Results of Student Growth Objective
Summarize results using weighted average as appropriate. Delete and add columns and rows as needed.

Preparedness Group	Students at Target Score	Teacher SGO Score	Weight (based on students per group)	Weighted Score	**Total Teacher SGO Score**

Notes
Describe any changes made to SGO after initial approval, e.g. because of changes in student population, other unforeseen circumstances, etc.

Review SGO at Annual Conference
Describe successes and challenges, lessons learned from SGO about teaching and student learning, and steps to improve SGOs for next year.

Teacher _____ Signature _____ Date _____

Evaluator _____ Signature _____ Date _____