

**Student Growth Objective Form**

Name	School	Grade	Course/Subject	Number of Students	Interval of Instruction
		9-12	Science Performance Expectation		September 2018 to March 2019

**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.

**NEW JERSEY CORE CURRICULUM CONTENT STANDARDS – SCIENCE K-12**

**Rational**

Laboratory Science in the 21<sup>st</sup> Century Laboratory science is a practice not a place. It is important to emphasize that standards-driven lab science courses do not include student manipulation or analysis of data created by a teacher as a replacement or substitute for direct interaction with the natural or designed world. The revised standards and course descriptions emphasize the importance of students independently creating scientific arguments and explanations for observations made during investigations. Science education thereby becomes a sense-making enterprise for students in which they are systematically provided with ongoing opportunities to:

- Interact directly with the natural and designed world using tools, data-collection techniques, models, and theories of science.
- Actively participate in scientific investigations and use cognitive and manipulative skills associated with the formulation of scientific explanations.
- Use evidence, apply logic, and construct arguments for their proposed explanations.

The Science Standards implicitly and explicitly point to a more student-centered approach to instructional design that engages learners in inquiry.

Inquiry, as defined in the revised standards, envisions learners who:

- Are engaged by scientifically-oriented questions.
- Prioritize evidence that addresses scientifically-oriented questions.
- Formulate explanations from that evidence to address those scientifically-oriented questions.
- Evaluate their explanations in light of alternative explanations, particularly those reflecting scientific understanding.
- Communicate and justify their proposed explanations.

Fundamental principles of instructional design assist students in achieving their intended learning goals through lab-science

experiences that:

- Are designed with clear learning outcomes in mind.
- Are sequenced thoughtfully into the flow of classroom science instruction.
- Integrate learning of science content with learning about science practices.
- Incorporate ongoing student reflection and discussion.

In alignment with these, the NGSS identify assessable performance expectations (PEs), or what students should know and be able to do at the end of instruction. They represent the integration of three “dimensions” of science education: scientific and engineering practices, disciplinary core ideas (DCIs), and crosscutting concepts (CCCs). As such, both student learning and assessment around the NGSS should be “three dimensional”.

### Assessment

Authentic Assessments throughout the year will be used to measure students’ growth in 21<sup>st</sup> Century Laboratory Science skills (including those found in Discovery Education and other NGSS-aligned laboratory experiences). The assessments will consist of selected 21<sup>st</sup> Laboratory Science tasks, which reflect higher levels of cognitive complexity and science practices.

#### Starting Points and Preparedness Groupings

Students will be tiered as determined by a data point systems the uses 2 points of data. Each tier group will be assigned a target level.

#### Data Measures used to Establish Baselines

2017-2018 Final Grade; weight (.35)

Science Pre-Assessment; weight (.35)

Unit 1 Lab; weight (.30)

Preparedness Group	Baseline Score
Tier 1	< 0.35
Tier 2	0.35 – 0.55
Tier 3	0.55 – 0.75
Tier 4	>0.75

#### Student Growth Objective

By March 2019, 70% of students in each preparedness group will meet their assigned target command level for full attainment of the objective as shown in the scoring plan.

Preparedness Group (e.g. 1,2,3)	Number of Students in Each Group	Target Level of SGO Combined Assessments
Tier 1		2
Tier 2		3

Tier 3		4
Tier 4		4 or 5 <sup>1</sup>

**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 Command Level	Teacher SGO Score Based on Percent of Students Achieving Target Score			
		Exceptional (4) >80%	Full (3) 70-80%	Partial (2) 50-69%	Insufficient (1) <50%
Tier 1	2				
Tier 2	3				
Tier 3	4				
Tier 4	4 or 5 <sup>1</sup>				

<sup>1</sup> It is expected that students in Tier 4 maintain a level of strong command or grow to distinguished command.

**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
Tier 1					
Tier 2					
Tier 3					
Tier 4					

**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 _____

