

Name	School	Grade	Course/Subject	Number of Students	Interval of Instruction
		5	Science Practices		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

Standard: 5.1 Science Practices: Science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.

Strand: A. Understand Scientific Explanations: Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.

Strand: B. Generate Scientific Evidence Through Active Investigations: Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.

Strand: C. Reflect on Scientific Knowledge: Scientific knowledge builds on itself over time.

Strand: D. Participate Productively in Science: The growth of scientific knowledge involves critique and communication, which are social practices that are governed by a core set of values and norms.

In alignment with this standard, as outlined by the Next Generation Science Standards, in the fifth grade performance expectations, students are expected to demonstrate grade-appropriate proficiency in developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, engaging in argument from evidence, and obtaining, evaluating, and communicating information; and to use these practices to demonstrate understanding of the core ideas.

Rational

As expressed in ‘A Framework for K-12 Science’ one of the principal goals of science education has been to cultivate students’ scientific habits of mind, develop their capability to engage in scientific inquiry and to teach them how to reason in a scientific context. Also described in the above motioned document are eight practices that are considered essential for learning science and engineering in grade K-12. Through assessments of student’s scientific notebooks, authentic reflections of student conceptual understanding of these practices can be evaluated:

1. Asking questions (for science) And defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Assessment

Authentic Assessments throughout the year will be used to measure students’ growth. The assessments will consist of selected inquiry- based performance tasks and notebook entry tasks that reflect higher levels of scientific and engineering practices. Notebooks and Inquiry-based performance will be assessed according to the district approved rubrics that measures student’s ability to demonstrate, organize and communicate there conceptual understanding of science.

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Starting Points and Preparedness Groupings

Students will be tiered as determined by a data point systems the uses 4 points of data. Each tier group will be assigned a target level.

Data Measures used to Establish Baselines

- 2017-2018 NJASK Score; weight (. 40)
- 2017-2018 Final Grade; weight (. 30)
- 2017-2018 Post SGO Score; weight (.15)
- Unit 1 Science Pre-Assessment: weight (.15)

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 ¹

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 ¹				

¹ 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 _____