**Student Learning Objective (SLO) Classroom Teacher Template**

# School Year 2015-16

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| **Teacher Name:** | **School: Middle School** | **Complex:** |
| **Grade: 8** | **Content Area: Science** | **Course Name:** | **Period:** |

**Student Population:**

Total Number of Students: 25 Males 15 Females 10 SPED Inclusion 2 SPED Pullout ELL 10 GT Other Groups

Additional Information:

Interval of instruction necessary to address goal: X yearlong semester other (for quarter, track or trimester courses only)

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| **SLO Components** | **For a complete description of SLO components and guiding questions, use the “SLO Technical Guidance and Planning Document.”** |
| **Learning Goal***What are the most important knowledge/skills I want my students to know and be able to do?* | **Learning Goal Statement:** Students will communicate the process and results through informative/explanatory writing that will include the hypothesis, the experimental design/procedures and findings, with a focus on the link between the evidence and the conclusion by applying the science inquiry process to conduct and design controlled scientific investigations, on multiple topics from Earth and Space Science benchmarks. **Aligned Standards/Benchmarks:** **CCSS-Literacy-History/Social Studies, Science, and Technical Subjects Writing Standards (Gr 6-8) WHST 2 (a-f)**: Write *informative*/*explanatory* texts, including the narration of historical events, scientific procedures/experiments or technical processes.**Topic: Scientific Inquiry****SC.8.1.1**: Determine the link(s) between evidence and the conclusion(s) of an investigation. **SC.8.1.2**: Communicate the significant components of the experimental design and results of a scientific investigation.**Topic: Waves****SC.8.6.1**: Explain the relationship between the color of light and wavelength within the electromagnetic spectrum **SC.8.6.3**: Identify the characteristics and properties of mechanical and electromagnetic waves *Note: These benchmarks will be used to investigate a variety of science topic benchmarks (e.g., waves, organisms, genetics and matter).* **Rationale:** The Scientific inquiry process is a major learning of this course as it is taught throughout the year using different content topics. The inquiry process is applicable beyond science content and 8th grade. It is also a school-wide and departmental focus because over the past 3 years, grade 8 Science HSA test scores for our students have been lowest in the area of Scientific Inquiry.**Depth of Knowledge level (circle one):** 1 2 **3** 4 |
| **Assessments***How will I know if my students have met the learning goal?* | **Assessment Plan:**Throughout the year, student will produce 3-5 lab reports and presentations per quarter that will be analyzed for the understanding of the components of the **Scientific Inquiry** process and assessed using the SBAC **Informative-Explanatory Writing** Rubric \*\* (grades 6-11): (http://www.clackesd.k12.or.us/cie/ccss/rubric/NEWInformativeExplanatoryWritingRubricGra de6-11.pdf \*\*If link does not work, cut and paste link directly into a browserStudents will safely conduct 1-2 different lab investigations per semester and write a lab report (using a template, or prompts, in the first semester and no template in the second semester) that will be assessed using this Inquiry Rubric\* (Gr 6-8): (http://www.education.ne.gov/science/Documents/InquiryRubric.pdf) \*If link does not work, cut and paste link directly into a browser Students will also be informally assessed on discrete components of the scientific inquiry process like hypothesis writing, data organization and analysis, evidence-based conclusion writing etc. using common formative assessments developed by the 8th-grade science data team. Students’ understanding will also be assessed on different components of the scientific inquiry process and writing through ongoing observations and conversations with students that will be done daily. **Other informal data** will include daily bell work, weekly exit passes, daily discussions, and mini-quizzes once every 2-3 days. HCPS III rubrics will be used to assess students for science content benchmark. The *student proficiency for this SLO be determined on proficiency on inquiry and writing assessment:*  Students exceeding proficiency must demonstrate the highest level of achievement with both inquiry and writing assessments. Students at a proficient level must demonstrate proficiency or higher on most of the inquiry and writing assessments. Students developing proficiency will demonstrate at least half proficient or higher scores for both inquiry and writing assessments. Well-below leveled students will have less than half of the inquiry and writing assessments at a proficient or higher score. *Note: Criteria D and E in Science Inquiry Rubric are extended into the SBAC Writing Rubric for addressing ‘Communicating’ aspects of Science standards (have some overlap).*  |
| **Expected Targets***What are my learning expectations for each student?* | **This section will be recorded on the Expected Target Record Sheet.** |
| **Instructional Strategies***What strategies will I use to help all students meet the target?* | **Instructional strategies for various readiness level and content:**Key Instructional Strategies (for ALL students): * Student self-assessment using the Science Inquiry criteria/rubrics  about what is expected of them will be used to involve students in the Science Inquiry process.
* Science Inquiry and Writing Informative Text Learning targets will be deconstructed and made clear to students at the beginning and end of each lesson.
* The use of strong and weak work samples of key components of scientific investigations like hypothesis, data organization, analysis and conclusion etc will be used to set expectations.
* Modeling will be used to shown real-world examples and laboratory-based  instruction to develop skills and processes of science such as: generating scientific  questions, formulating a working hypothesis, and designing a controlled investigation
* Descriptive feedback will be provided when assessing student lab  reports
* Direct instruction and modeling of the scientific investigation process will initially be used to demonstrate technical skills
* Scaffolding through I Do- We Do- You Do will be used to gradually release expectations and learning

Differentiation for students who are Below or Above Proficiency: * Use non-linguistic representations of Science Inquiry Rubric (ELL in particular)
* Flex grouping to provide differentiation to address varying levels of student needs
* Provide students with individual and small group targeted/scaffolded instruction to  specifically address needs in skills and processes as well as content
* Use of graphic organizers and thinking maps to help students organize and generalize  information (ELL in particular)
* For “Beginning” levels of students, I will use direct instruction with small groups to  address specific needs/components. Scaffolding using partially-completed examples, sentence stems, and templates will be used (ELL in particular). Students will be given the opportunity to show what they have learned with alternative assessments such as videos, cartoons, dance, and songs (or other methods discussed and agreed upon by student and teacher).
* Any students reaching “Exemplary” along the way on the Inquiry rubric will be asked to apply their learning to an issue (to be determined by students) in the community that can be investigated using the Scientific Inquiry process.
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*To assess the SLO, use the “Rubric for Rating the Quality of Student Learning Objective.”*

# As of 6/29/15