

Student Learning Objective (SLO) Submission Form –

Teacher Name: ____ Content Area and Course(s): ___science _____ Grade Level(s): ___4_____ Academic Year

Please use the guidance provided in our JTES Handbook to develop components of the SLO and populate each component in the space below.

Baseline and Trend Data

What information is being used to inform the creation of the SLO and establish the amount of growth that should take place?

This baseline data is based on results from a district-created, cumulative pre-assessment, covering the district’s yearly 4th grade science curriculum, which is aligned to Ohio’s New Learning Standards. The pre-assessment consists of 43 multiple-choice questions to show students’ background knowledge of concepts covered in the 4th grade science. Pre-test scores ranged from 21% to 60% accuracy. Mastery level for an individual standard is 60%.

The pretest results for my 28 students were as follows:

Quintiles Numbers of Students

0-20	1
21-40	21 (3 students on an IEP)
41-60	6 (2 students identified gifted, 1 student with hearing aids, 1 student on a 504 plan)
61-80	0
81-100	0

Overall across the grade level students showed strengths in the areas of Grade 3 inter connections within systems. They showed weaknesses in physical, life and earth and space sciences.

Student Population

Which students will be included in this SLO? Include course, grade level, and number of students.

The SLO covers all 28 of my 4th grade students. 4 students who had previously been retained. 1 student who had spent time on ECOT. 3 students are identified as special needs students (IEP) and 1 student is on a 504 plan for a visual impairment. One student wears hearing aids which requires preferential seating and an emphasis on eye contact. All instructional and assessment accommodations and modifications contained in student's Individual Education Plans will be provided. 2 of my students are identified as gifted in the area of reading. My classroom has 17 students (61%) on free and reduced lunch. Students who have missed 45 or more days of instruction have been excluded from the SLO final rating; however, the pre and post assessment data has been collected and analyzed.

Interval of Instruction

What is the duration of the course that the SLO will cover? Include beginning and end dates.

This class is a yearlong course taught in a one period class, or 40 minutes, attended 3 times a week by students. This SLO covers an interval of instruction beginning August 28, 2013 and ending on March , 2014. The interval of instruction takes into account the May 1 deadline established by the OTES timeline.

Standards and Content

What content will the SLO target? To what related standards is the SLO aligned?

This non-targeted SLO focuses on the entire yearlong course content as established within the guidelines of Common Core Standards for grade 4 Science. The grade band theme is Interconnections within Systems.

This theme focuses on helping students recognize the components of various systems and then investigate dynamic and sustainable relationships within systems using scientific inquiry.

These principles are related to the properties or interactions within and between systems. Scientific Inquiry and Application is always a focus for 4th grade science. Specifically, this course will focus on:

- *Observe and ask questions about the natural environment;*
- *Plan and conduct simple investigations;*
- *Employ simple equipment and tools to gather data and extend the senses;*
- *Use appropriate mathematics with data to construct reasonable explanations;*
- *Communicate about observations, investigations and explanations; and*
- *Review and ask questions about the observations and explanations of others.*

The focused strand connection is:

Heat and electrical energy are forms of energy that can be transferred from one location to another. Matter has properties that allow the transfer of heat and electrical energy. Heating and cooling affect the weathering of Earth's surface and Earth's past environments. The processes that shape Earth's surface and the fossil evidence found can help decode Earth's history.

This SLO aligns to the Ohio Core Curriculum 2013-2014 in Science:

Earth's surface has specific characteristics and landforms that can be identified. About 70 percent of the Earth's surface is covered with water and most of that is the ocean. Only a small portion of the Earth's water is freshwater, which is found in rivers, lakes and ground water. Earth's surface can change due to erosion and deposition of soil, rock or sediment. Catastrophic events such as flooding, volcanoes and earthquakes can create landforms.

The surface of Earth changes due to weathering. Rocks change shape, size and/or form due to water or ice movement, freeze and thaw, wind, plant growth, gases in the air, pollution and catastrophic events such as earthquakes, mass wasting, flooding and volcanic activity. Note: The ice movement (above) refers to large bodies of ice, such as glaciers that can break large rocks into small ones.

The surface of Earth changes due to erosion and deposition. Water, wind and ice physically remove and carry (erosion) rock, soil and sediment and deposit the material in a new location. Gravitational force affects movements of water, rock and soil.

The total amount of matter is conserved when it undergoes a change. When an object is broken into smaller pieces, when a solid is dissolved in a liquid or when matter changes state (solid, liquid, gas), the total amount of matter remains constant. Note 1: At this grade, the discussion of conservation of matter should be limited to a macroscopic, observable level. Note 2: States of matter are found in PS grade 3. Heating and cooling is one way to change the state of matter.

Energy can be transformed from one form to another or can be transferred from one location to another.

Energy transfers from hot objects to cold objects as heat, resulting in a temperature change. Electric circuits require a complete loop of conducting materials through which an electrical energy can be transferred. Electrical energy in circuits can be transformed to other forms of energy, including light, heat, sound and motion. Electricity and magnetism are closely related.

Assessment(s)

What assessment(s) will be used to measure student growth for this SLO?

Students will take a post assessment given in March using a district approved 40 multiple choice questions.

I will assess students using a district approved cumulative post assessment, which covers the content of Ohio's Common Core Standards for grade 4 Science.. Science instructors collaboratively developed and authored the post assessment, which will mirror the content tested in the pre-assessment. Accommodations for students on an IEP or 504 will include: 3 students will receive extended time for the assessments, 3 will be tested in small groups, and 3 students will have the exam read aloud to them.

For students who are assigned a post assessment capstone project, post assessment data will be collected as a portfolio assessment out of 4/5 points. Their project will account for 30% of their growth target, and the post assessment will account for 70% of their growth target. Students must score a 4 on their capstone project to meet their growth target. Students who were not assigned the capstone project, their post assessment data will be comprised entirely of their end-of-course exam score.

Pre and post assessment data will be compared to measure student growth.

Growth Target(s)

Considering all available data and content requirements, what growth target(s) can students be expected to reach

Students will increase their knowledge of 4th grade Science principles and will be measured by comparing the results of the pre-assessment and the post-assessment and possible capstone project. I have set tiered growth targets for my students. All students will be expected to achieve at least a target score of 60, which is the passing score for my district. Students with a documented improvement plan who scored in the lowest quintile (0-20%) will show a 10% improvement. Students' score on the pre assessment determine their growth target for the post-assessment.

Students in the 0-20 quintile and the 21-40 quintile will score a minimum of 60% on the post assessment. Students in the 41-60 quintile will score a minimum of 75% on the post assessment. Students in the 61-80 quintile will score a minimum of 90% on the post assessment.

Quintile	Target Score
0-20	60%
21-40	60%
41-60	75%
61-80	90%
81-100	90% + 4/5 on capstone project

Rationale for Growth Target(s)

What is your rationale for setting the above target(s) for student growth within the interval of instruction?

I set tiered targets to help ensure that all students will be able to demonstrate developmentally appropriate growth. Because the 4th grade science concepts serve as prerequisites for future science courses, it is essential that students grasp the basic concepts set forth in common core standards for 4th grade science. More instructional time will be devoted to physical, earth and space and life science due to the low pre-assessment scores observed. This and past cohorts struggle with energy and physical changes and these topic requires more time. As observed through the pre-assessment analysis and trend data, they specifically struggle with the electricity, physical and chemical changes, energy. Physical Science and Earth and Space Science are also topics that are essential in order for students to gain the necessary base knowledge for success in future science courses.

Students with a documented improvement plan who scored in the lowest quintile (0-20%) will show a 10% improvement.

Students who scored lower on the pre-assessment will be expected to demonstrate more growth in order to meet grade-level expectations. In addition, to assure enough stretch for my highest performing students, I will include the results of their capstone project in their growth target. They will be required to score a 4/5 or higher on their capstone project in addition to scoring a 90% on the post-assessment.

The growth targets are representative of district and building goals.