Student Learning Objectives Form

Teacher Name	Vanessa C.	Date	09/06/2021
School	Bear Middle School	Appraiser Name	Dr. De La Cruz
Grade	7th	Subject Area	Science

Step 1: What is the focus for my SLO?

a. Identify the focus area of the SLO.

The SLO will focus on the designing and completion of an experiment using the scientific method.

b. What is the SLO Skill Statement for this content area/subject?

Students will be able to design and complete experiments and report their findings, providing supporting evidence from their data and using graphic displays to convey their meaning.

c. What led to the decision to focus on this content area/subject and the SLO Skill Statement?

Our science team reviewed several pieces of trend data including information about trends in the Grade 8 Science STAAR assessment. The item analysis alerted us to several items with the lowest percent correct, all the items somehow related to asking students to analyze data. To be thorough, we then looked at a few other pieces of past student work, as well as unit test results. Students' grades on the lab reports were the lowest of all work and tests. I decided that I would focus on not only the experiments but also the reporting of the data, data analysis, and supporting evidence.

d. What TEKS for the content area or subject correspond to these most important skills? You may provide an enumerated list of TEKS, but be prepared to share the verbiage of the TEKS with your appraiser.

7.2 Scientific investigation and reasoning. The student uses scientific practices during laboratory and field investigations. 7.3 Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists
7.2(C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers
7.2(D) construct tables and graphs, using repeated trials and means, to organize data and identify patterns
7.2(E) analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends
7.3(A) analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing so as to encourage critical thinking by the student
7.3(B) use models to represent aspects of the natural world such as human body systems and plant and animal cells
7.3(C) identify advantages and limitations of models such as size, scale, and properties, and materials
7.3(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content

Step 2: What do I think my students will be able to do?

Use your knowledge of prior students' performance and end-of-year expectations for students in previous, vertically aligned courses to describe typical students in the class. A best practice is to start by describing a typical entering skill level, then, the highest entering skill level ("well above typical skill"), and the lowest entering skill level ("well below typical skill") and finally, complete the in-between levels ("above typical skill" and "below typical skill").

Initial Student Skill Profile		
SLO Skill Statement	Students will be able to design and complete experiments and report their findings, providing supporting evidence from their data and using graphic displays to convey their meaning.	
Level	**Descriptors**	**Number of Students in this level**
Well above typical skill	Student is able to follow directions to complete an experiment independently and can answer a series of questions about the outcome of the experiment accurately. Student can support their findings with evidence from the data verbally and in writing, and can draw reasonable conclusions from the outcome, but cannot connect conclusions to graphic displays.	4
Above typical skill	Student is able to follow directions to complete an experiment with assistance from the teacher and answer a series of questions about the outcome of the experiment accurately most of the time. Student can support findings with evidence collected verbally, but not in writing or with graphic displays.	5
Typical skill	Student is able to follow directions to complete an experiment with assistance from the teacher. Student can answer a series of questions about the outcome of the experiment accurately most of the time but cannot independently support their findings with accurate evidence from their data either verbally or with graphic displays.	10
Below typical skill	Student is able to follow directions to complete an experiment with assistance from the teacher and can answer basic questions about the outcome of the experiment when prompted some of the time. Student unable to support experiment outcomes with evidence.	7
Well below typical skill	Student is able to follow directions to complete an experiment with close supervision from the teacher but struggles to answer questions about the outcome of the experiment accurately. Student cannot use evidence to support outcomes of the experiment.	4

a. Who will be included in your SLO?

When choosing your class or classes, gather informal data about your students to determine which class or classes is/are most representative of the cross-section of students that you teach.

- *Elementary classroom teachers: select your entire class.*
- *Elementary departmentalized teachers or secondary teachers: identify the targeted class or classes (class, grade and subject).*

My 3rd period class - 30 students with what I think will be the widest range of skills.

b. What multiple sources of evidence/student work (both current and historical) did you use to map students to the Initial Student Skill Profile?

We did several different assignments related to these skills. Students completed 2 labs at the very beginning of the year. Those labs were assessed on three skills: independence in the task, the accuracy of responses, and their ability to draw conclusions.
We also completed a few experiments together as a class and the students were assigned to independently construct tables and graphs, for each trial, to organize data and identify patterns.
I also used their 6th-grade science end-of-course unit exam as a data point.

c. Match your current students to the descriptions in the Initial Student Skill profile.

i. List the total number of students at each level in the right hand column above, and

ii. Record the level for each individual student on the Student Growth Tracker.

iii. Check here when both tasks are complete: ✓

Step 3: What are my expectations for these students?

a. Use information about how students mapped to the Initial Student Skill Profile to describe the expected skill sets across all five levels, that student will be expected to demonstrate at the end of the year. In other words, what are the specific skills that will describe what high, average, and low performers will be able to do at the end of the course? Complete the Targeted Student Skill Profile below

The profile should describe your expectations for what this particular group of students' performance will look like at the end of the interval. For example, the description at the middle level describes what you expect to be a typical skill level at the end of the interval.

Targeted Student Skill Profile	
SLO Skill Statement	Students will be able to design and complete experiments and report their findings, providing supporting evidence from their data and using graphic displays to convey their meaning.
Level	**Expectations**
Well above typical skill	Student develops and implements novel approaches for investigating a variety of topics using laboratory and technology tools. Student can devise testable hypotheses, determine the meaning of the outcome, and draw conclusions using data tables, graphs, and descriptive statistics to explain the outcome. Lab reports are well-written and offer insight into additional experiments that could bring deeper understanding of the topic.
Above typical skill	Student plans and develops experiments for investigating a variety of topics using laboratory and technology tools. Student can devise testable hypotheses, determine the meaning of the outcome of the experiment and draw reasonable conclusions, supported with evidence and graphic displays. Lab reports are well written.
Typical skill	Student plans and implements experiments using a variety of laboratory and technology tools to investigate key topics discussed. Student can devise testable hypotheses, determine the meaning of the outcome of the experiment and draw reasonable conclusions, supported with evidence and/or graphic displays. Lab report protocols are followed.
Below typical skill	Student plans and implements experiments with minimal guidance from the teacher using a variety of laboratory and technology tools to investigate key topics discussed. Student can devise testable hypotheses, determine the meaning of the outcome of the experiment and draw some reasonable conclusions, but supported with only minimal evidence. Lab report protocols are mostly followed.
Well below typical skill	Student relies on teacher guidance to develop and implement experiments. Student can use laboratory and technology tools to investigate key topics as assigned. Student can determine a hypothesis independently, but requires assistance to determine the meaning of the outcome of the experiment. Student draws reasonable conclusions some of the time but requires assistance to support conclusions with evidence. Student follow lab report protocols, as directed.

b. Use available data on your current students (e.g., attendance, grades in relevant courses, current student work, prior testing data, etc.) along with each student's description on the Initial Student Skill Profile to establish a target for each individual student covered in the SLO. Record these targets on the Student Growth Tracker.

c. What evidence did you use to establish a targeted skill level for each student? Include multiple data sources.

The score (based on the rubric) on the last 3 lab reports.
The end-of-unit exam on data analysis and graphic displays.
Their ISP Level.
In-class presentation of data using graphic displays.
In-class participation.

d. What will you include in the body of evidence (BOE) that will establish students' skill levels at the end of the interval? Describe the measures to be used and how they are aligned with the skills identified in the SLO.

1. (Score from 0-3 each lab day) Participation during labs
2. (Score from 0-3 each lab day) Independence in lab completion
3. (5) All lab reports (ability to devise testable hypotheses, draw conclusions, use graphs to display data/trials)
4. (Score 0-5) Ability to present and explain data shown in graphic displays/tables/etc.

Step 4: How will I guide these students toward growth? (for use in discussion)

Be prepared to discuss answers to the following questions with your appraiser.

a. How will you differentiate instruction for those students who are in the highest performing group as well as those who are in the lowest performing group? How will you guide all students toward reaching their targeted growth goals?

b. What strategies will you use to monitor progress? How will you document your body of evidence for each student?

c. Describe your plan for conferencing with your colleagues about student progress. Who will be members of your team and how often will you meet? How will you share notes, best practices, feedback, etc.?

Optional Notes

A.
Vocabulary supports for difficult scientific terms
Strategic lab groups (varying levels of skills)
Monthly lab regroupings
Rotating roles and responsibilities in lab groups
Accommodations/Modifications (if needed for students with IEPs)
Growth from lab report to lab report
Aggressive monitoring and adjusting
Scores on all BOE (analyzing data)
Hold goal setting conversations with students
Have students' complete individual trackers
Peer Tutoring

B.

Student Learning Objectives Review & Approval

By signing below you acknowledge that you have discussed and agreed upon the Student Learning Objectives Plan, above.

Comments	Decision
	☐ Approved ☐ Revise and Resubmit
Teacher Signature	Date
Appraiser Signature	Date

Revision Comments (if required)	Decision
	☐ Final Approval
Teacher Signature	Date
Appraiser Signature	Date