Administrator Student Learning Objective Template

Administrator Name: Marley Gregson School Name: Charles Drew Middle School

Academic Year: 2015–16

Please populate each section of the *Administrator Student Learning Objective (SLO) Template* using the guidance provided before each field. Refer to the *Administrator SLO Checklist* while completing this template.

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?

As with other content areas, science standards have changed during the past few years. Ohio is now fully implementing the science standards (http://education.ohio.gov/getattachment/Topics/Ohio-s-New-Learning-Standards/Science/ScienceStandards.pdf.aspx), and our district has placed a focus on ensuring that all students are meeting the standards in our effort to prepare students for college and careers. Only students in Grade 8 take Ohio's State Assessments in science within this building. To prepare students for Ohio's Learning Standards in Science and for the state assessment, Charles Drew Middle School began giving the Pro-Core[1] science assessment to provide teachers with ongoing data about our students' preparedness.

In reviewing prior year state test data for Grade 8, we noticed that our science scores are measurably lower than our scores in reading and mathematics. Table 1 presents data for the 2013–14 school year.

Table 1. Grades 6–8 Percentage Passing End-of-Year Results, All Subjects, 2013–14

Content Area	Current Grade 6 (end of fifth-grade scores shown)	Current Grade 7 (end of sixth-grade scores shown)	Current Grade 8 (end of seventh-grade scores shown)	Prior Year Grade 8
OAA Reading	88.7%	89.1%	91.7%	90.2%
OAA Mathematics	86.6%	88.1%	89.6%	90.2%
OAA Science	73.3%			80.1%

Note. OAA = Ohio Achievement Assessments.

[1] The Ohio Educator Standards Board, the State Board of Education, and the Ohio Department of Education do not recommend or endorse any specific interventions, products, programs, curricula, or student learning objectives. The student learning objective presented here uses targets for student performance that are measured by assessments from the department's list of approved instruments. These assessments meet criteria established by the department that are defined online. This student learning objectives is just one of many examples that educators may use as they develop student growth measures for their students.

Although our students score well in reading and mathematics, their scores on the science Ohio Achievement Assessments (OAA) were traditionally lower than expected, especially when compared with results in the other two content areas. To begin addressing this gap, we began using the Pro-Core preassessments and postassessments. The Pro-Core beginning-of-the-year assessment is called Form A, and because the content at different grade levels varies, our teachers were able to create grade-level-specific assessments based on the proposed scope and sequence for the science content domains and standards. The Pro-Core system allows for the creation of a midyear long-form assessment as well as an end-of-instructional-cycle long-form assessment (Forms B and C, respectively). Again, because these assessments can be directly tied to the domains and standards that are part of our scope and sequence for the year and because the assessments provide data during the year, we were able to focus on what specific domains and standards we had within our scope and sequence and how well the students had mastered the content. Because of this type of customization, the beginning-of-the-year scores on Form A for each year were lower than they might have been if students had taken an assessment that covered all domains and standards. This focused data collection allowed for a more focused approach to figuring out where student learning needed support.

We then looked at the growth ranges for all students by grade level based on the grade-level scope of content.

Pro-Core provides student scores as a percentage of answers correct for each student, each class, each teacher, and each grade level. Because the assessments are customized to cover only specific domains and standards at each grade level, the beginning-of-the-year assessment results are low. Table 2 presents trend data for last year's students, with the preassessment and postassessment scores for each grade for the 2014–15 school year.

Table 2. Trend Data—Grades 6–8 Pro-Core Science Fall Versus Spring Data, 2014–15: Average Percentage of Questions Answered Correctly

	Grade 6	Grade 7	Grade 8
Fall administration (Form A pretest)	32%	35%	37%
Spring administration (Form C posttest)	78%	74%	77%
Difference in score	+46	+39	+40

These data show that students are demonstrating strong growth from the beginning to the end of the year on the selected standards, but their end scores are still lower than expected, especially when compared with results in other content areas (compared with OAA scores in reading and mathematics).

After giving the Form A pretest this year (2014–15), we disaggregated students' performance into five performance groups, indicated in the first column of Table 3. This approach allowed us not only to use targets of raising overall student performance but also to set rigorous targets for the spread of final student scores. Table 3 shows data for the Form A pretest results for this year's students. What we saw was that across the grade levels, the majority of our students were scoring in the *below* or *far below* score ranges (indicated in rows with gray shading).

Table 3. Fall 2015 Pretest Results by Performance Group for Pro-Core Science Test Form A

Performance Group	Grade 6 *N* (%)	Grade 7 *N* (%)	Grade 8 *N* (%)
85% to 100% *(Advanced)*	0 (0%)	0 (0%)	0 (0%)
70% to 84% *(Proficient)*	0 (0%)	0 (0%)	0 (0%)
65% to 69% *(Approaching)*	12 (10%)	13 (11%)	6 (7%)
40% to 64% *(Below)*	45 (54%)	71 (60%)	62 (54%)
0% to 39% *(Far below)*	43 (36%)	34 (29%)	46 (40%)

Although the numbers do appear low, it is important to remember that these data represent content-specific assessments and focus less on science skills and processes. To assess science skills and process as outlined in Ohio's Learning Standards for Science, teachers use a range of teacher-team-created assessments and score other tasks.

In addition, as a district we have begun to target the number of students selecting to take high-level science classes at the high school level. To accomplish this task, students need to leave middle school better prepared for the rigors of Advanced Placement (AP) Physics, AP Chemistry, and other advanced science classes. As a district, we have reviewed the national trend showing increasing numbers of students taking high-level science classes, and we want to make sure that the statistics of our students reflect those trends. Currently, our district has only 60 percent of high school students taking AP Chemistry and only 27 percent of students taking AP Physics. To support this district-wide focus, this SLO focuses on preparing our middle-grade students for advanced science topics. By focusing on science standards and outcomes for all students in the middle grades, we are aligning with this district goal.

Student Population

Which student population will be included in this SLO? When applicable, include subject, grade level, and number of students. Include the rationale for determining the student population by grade level, content area, or targeted needs, as appropriate.

All students in Grades 6–8 will be included in this SLO. No students in these grades will be excluded from the SLO.

Currently, there are the following:

- 120 students in Grade 6
- 118 students in Grade 7
- 115 students in Grade 8

When setting growth targets for this SLO, student demographic data were considered. The data in Table 4 reflect relevant student demographic data.

Table 4. Demographic Data for SLO Student Population

Demographic	**Grade 6** ***N*** **(%)**	**Grade 7** ***N*** **(%)**	**Grade 8** ***N*** **(%)**
Asian or Pacific Islander	8 (6.6%)	5 (4.2%)	6 (5.2%)
Black, non-Hispanic	12 (10%)	6 (5%)	9 (7.8%)
Hispanic	7 (5.8%)	4 (3.3%)	5 (4.3%)
White, non-Hispanic	98 (81%)	103 (87.2%)	95 (82.6%)
Students with disabilities	16 (13.3%)	14 (11.2%)	13 (11.3%)
Economically disadvantaged	25 (20.8%)	21 (17.7%)	25 (21.7%)
Average daily attendance (all students)	98%	98.1%	97%
Total student population	120	118	115

Interval of Instruction

What is the duration of the SLO? Include beginning and end dates.

September 1, 2015, to April 15, 2016

Standards and Content

What content will the SLO cover? To what related standards is the SLO aligned? Include rationale for selecting comprehensive or targeted content and skills.

The standards listed for each grade level are the focus for the SLO. The standards as grouped reflect the scope and sequence that our science department uses in Grades 6–8. A complete list of all science standards appears in *Ohio's Learning Standards: Science Standards* (http://education.ohio.gov/getattachment/Topics/Ohio-s-New-Learning-Standards/Science/ScienceStandards.pdf.aspx).

Table 5. Organization of Ohio Science Standards by Grade-Level Scope

Grade 6	**Sixth grade: Earth and Space Science (ESS):** Topic: Rocks, Minerals, and Soil This topic focuses on the study of rocks, minerals, and soil, which make up the lithosphere. Classifying and identifying different types of rocks, minerals, and soil can decode the past environment in which they formed. Condensed Content Statements: ▪ Minerals have specific, quantifiable properties. ▪ Igneous, metamorphic, and sedimentary rocks have unique characteristics that can be used for identification and/or classification. ▪ Igneous, metamorphic, and sedimentary rocks form in different ways. ▪ Soil is unconsolidated material that contains nutrient matter and weathered rock. ▪ Rocks, minerals, and soils have common and practical uses. **Sixth grade: Life Science (LS):** Topic: Cellular to Multicellular This topic focuses on the study of the basics of modern cell theory. All organisms are composed of cells, which are the fundamental unit of life. Cells carry on the many processes that sustain life. All cells come from preexisting cells. Condensed Content Statements: ▪ Cells are the fundamental unit of life. ▪ All cells come from preexisting cells.

	▪ Cells carry on specific functions that sustain life. ▪ Living systems at all levels of organization demonstrate the complementary nature of structure and function. **Sixth grade: Physical Science (PS):** Topic: Matter and Motion This topic focuses on the study of foundational concepts of the particulate nature of matter, linear motion, and kinetic and potential energy. **Condensed Content Statements:** ▪ All matter is made up of small particles called atoms. ▪ Changes of state are explained by a model of matter composed of atoms and/or molecules that are in motion. ▪ There are two categories of energy: kinetic and potential. ▪ An object's motion can be described by its speed and the direction in which it is moving.	
Grade 7	**Seventh grade: Earth and Space Science (ESS):** Topic: Cycles and Patterns of Earth and the Moon This topic focuses on Earth's hydrologic cycle, patterns that exist in atmospheric and oceanic currents, the relationship between thermal energy and the currents, and the relative positions and movements of the Earth, sun, and moon. **Condensed Content Statements:** ▪ The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere, and atmosphere. ▪ Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns. ▪ The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere, and atmosphere. ▪ The relative patterns of motion and positions of the Earth, moon, and sun cause solar and lunar eclipses, tides, and phases of the moon. **Seventh grade: Life Science (LS):** Topic: Cycles of Matter and Flow of Energy This topic focuses on the impact of matter and energy transfer within the biotic component of ecosystems. **Condensed Content Statements:** ▪ Matter is transferred continuously between one organism to another and between organisms and their physical environments. ▪ In any particular biome, the number, growth, and survival of organisms and populations depend on biotic and abiotic factors. **Seventh grade: Physical Science (PS):** Topic: Conservation of Mass and Energy	

	This topic focuses on the empirical evidence for the arrangements of atoms on the Periodic Table of Elements, conservation of mass and energy, transformation, and transfer of energy. **Condensed Content Statements:** ▪ The properties of matter are determined by the arrangement of atoms. ▪ Energy can be transformed or transferred but is never lost. ▪ Energy can be transferred through a variety of ways.
Grade 8	**Eighth grade: Earth and Space Science (ESS):** Topic: Physical Earth This topic focuses on the physical features of Earth and how they formed. This includes the interior of Earth, the rock record, plate tectonics, and landforms. **Condensed Content Statements:** ▪ The composition and properties of Earth's interior are identified by the behavior of seismic waves. ▪ The Earth's crust consists of major and minor tectonic plates that move relative to each other. ▪ A combination of constructive and destructive geologic processes formed Earth's surface. Evidence of the dynamic changes of Earth's surface through time is found in the geologic record. **Eighth grade: Life Science (LS):** Topic: Species and Reproduction This topic focuses on continuation of the species. **Condensed Content Statements:** ▪ Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species. ▪ Reproduction is necessary for the continuation of every species. The characteristics of an organism are a result of inherited traits received from parent(s) **Eighth grade: Physical Science (PS):** Topic: Forces and Motion This topic focuses on forces and motion within, on, and around the Earth and within the universe. **Condensed Content Statements:** ▪ Forces between objects act when the objects are in direct contact or when they are not touching. ▪ Forces have magnitude and direction. ▪ There are different types of potential energy.

Source: Ohio Department of Education. (2011). *Ohio's new learning standards: Science standards.* Columbus, OH: Author. Retrieved from http://education.ohio.gov/getattachment/Topics/Ohio-s-New-Learning-Standards/Science/ScienceStandards.pdf.aspx

Assessment(s)

What assessment(s) will be used to measure student growth for this SLO? Specify how multiple assessment measures will be combined, as appropriate (e.g., if your student population spans multiple grade levels).

The assessment chosen for this SLO is the Pro-Core science assessment. This assessment is not being administered by our district in a way that requires it to be used as an approved vendor assessment in our evaluation system.

Because the assessment is computerized, data are provided in almost real time (some time is needed to run the reports and to ensure that all students have completed the assessment, but it is minimal). The reports are customizable and can be run for specific standards, for an entire grade level, or for just a subset of students (including by the teacher). The long form of the Pro-Core assessment is given three times during the school year. In fall, the data (from Form A) have been used for setting baseline scores and for growth targets setting. The winter administration (Form B) will be used for a midcourse check-in data review. The spring administration (Form C) will be used for the summative data.

Teachers are encouraged to use the Pro-Core system to create short-form assessments during instruction and to use those as formative assessments at the beginning of, during, and toward the end of units of study to track student progress. The Pro-Core system allows teachers to create aligned assessments and to have those assessments scored using the Pro-Core system. Although these data will not be a part of this SLO, they will be used for teacher-level SLOs for Grades 6 and 7 and as part of the data-team work that the science teachers take part in.

The Pro-Core data are provided as a percentage of correct answers for each of the standards. The standards are aligned to grade-level content standards.

Growth Target(s)

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

Growth targets were set using the disaggregated student data from the Form A results for this year from Table 3.

Table 6 shows the expected growth for students at each performance level (the increases are consistent across grade level). The following growth targets are expected at the end of the instructional interval for all grade levels.

Table 6. Targets for Growth From Baseline Score

Baseline Score	Target
85% to 100% *(Advanced)*	No students scored within this range on the pretest.
70% to 84% *(Proficient)*	No students scored within this range on the pretest.
65% to 69% *(Approaching)*	A minimum increase of 20 points or a score of 85, whichever is greater.
55% to 64% *(Below)*	A minimum increase of 20 points or a score of 80, whichever is greater.
40% to 54% *(Below)*	A minimum increase of 25 points or a score of 75, whichever is greater.
20% to 39% *(Far below)*	A minimum increase of 40 points or a score of 70, whichever is greater.
0% to 19% *(Far below)*	An increase of at least 30 points. For students who show an increase of 30 points by midyear on the Form B assessment, an additional target of 15 points will be added.

Rationale for Growth Target(s)

What is your rationale for setting the above target(s) for student growth within the interval of instruction? Include rationale for any decisions made at the building or district levels related to selection of the student population, content, assessment, and growth targets.

The growth targets represent growth for students at all baseline starting points. In each tier, students are expected to improve their score either to a set mark or by a score increase that represents rigorous growth. The growth targets were set using historical growth based on our review of data from our students from the 2013–14 and 2014–15 Pro-Core Science Form A to Form C results. By reviewing these data, we were able to calculate typical growth for students in each tier of the preassessment. We decided to break up the tiers to ensure that the growth targets reflected realistic growth for students within each tier. We used data from the past year to ensure that our growth targets were grounded in what

we could realistically expect, even when setting targets for a different cohort of students. Although these data represent typical growth for different cohorts of students than those included in this SLO, the growth for the different tiers provides a historical range for what is possible. In past assessments, we saw that our lowest scoring students were able to make significant gains. When viewing the student scores on Form A (pretest), we noticed that there were small groups in each grade range who scored at the lowest tier of the pretest. Based on the new tiers, we set what is a realistic amount of growth for those students at the lowest tier. The growth target of a 30-point increase for students who start with baseline scores between 0 percent and 19 percent represents significant growth. These students will receive regular assessing to ensure that they are on track to meet their growth targets. Because we give the Pro-Core assessment three times during the year, any students in this lowest tier who have already met their growth targets when taking Form B (given at the end of the first semester) will be expected to grow an additional 15 points by the time they take the Form C assessment. This would mean, for example, that a student who on Form A scores a 15 percent but scores a minimum of a 45 percent on the Form B assessment would have a revised growth target of at least a 60 percent on the Form C assessment. By adding this additional growth target, we are attempting to address academic stretch for students who come in with this low level of content knowledge. For students who start at the *below* level, we believe that regardless of grade level, students starting at this level can move up toward or above the *proficient* level. Finally, based on overall score growth from the last two years, we believe that students who score in the *approaching* level can move to the *advanced* level.

To achieve these growth targets, we plan to use a few different strategies. Along with more frequent short-form assessments aligned with unit-specific standards, teachers will pull students who are not showing progress toward growth targets during our intensives time (three 20-minute blocks per week) for reteaching and reassessment. Teachers in the science department also will meet biweekly to compare the results on short-form assessments. The principal will attend each of these meetings and work with teachers to secure additional teaching resources for specific units of study. The principal also will assist with the pulling and monitoring of short-form assessment data.

We also believe that past performance in terms of overall increases in Pro-Core scores can be exceeded, which means that growth within a given grade level will improve from the results we observed in 2013–14.