Mr. Towne, AP Physics



Culture of Learning

Are all students engaged in the work of the lesson from start to finish?

1. Ineffective	2. Minimally Effective	3. Developing	4. Proficient	5. Skillful
Very few or no students complete instructional tasks, volunteer responses and/or ask appropriate questions.	Some students complete instructional tasks, volunteer responses and/or ask appropriate questions.	Most students complete instructional tasks, volunteer responses and/or ask appropriate questions.	All or almost all students complete instructional tasks, volunteer responses and/or ask appropriate questions.	All descriptors for Level 4 are met, and at least one of the following types of evidence is demonstrated:
Very few or no students follow behavioral expectations and/or directions	Some students follow behavioral expectations and/or directions	Most students follow behavioral expectations and/or directions	All or almost all students follow behavioral expectations and/or directions.	Students assume responsibility for routines and procedures and execute them in an orderly, efficient and self directed manner, requiring no direction or narration from the teacher.
Students do not execute transitions, routines and procedures in an orderly manner.	Students execute transitions, routines and procedures in an orderly and efficient manner only some of the time and/or require substantial direction from the teacher.	Students execute transitions, routines and procedures in an orderly and efficient manner most of the time, though they may require some direction from the teacher.	Students execute transitions, routines and procedures in an orderly and efficient manner with minimal direction or narration from the teacher.	Students demonstrate a sense of ownership of behavioral expectations by holding each other accountable for meeting them.
Students are left without work to do for a significant portion of the class period.	Students are idle while waiting for the teacher or left with nothing to do for one or two minutes at a time.	Students are idle for short periods of time (less than one minute at a time) while waiting for the teacher to provide directions, when finishing assigned work early, or during transitions.	Class has a quick pace and students are engaged in the work of the lesson from start to finish. Students who finish assigned work early engage in meaningful learning without interrupting other students' learning.	

All students consistently engage in group discussion and writing activities.



Mr. Towne, AP Physics

- No students opt out when called on to share their thoughts or summarize their group conversation.
- No students are disengaged from lesson activities and no off-task behavior is noted.
- The pace of the lesson is quick while still allowing time for thoughtful writing and discussion; no idle time is observed.
- Students own group discussion and note-taking procedures.

The rating here is Skillful because this is truly a student-directed lesson – students have clear group roles that they execute without direction, transitions are all neat and orderly with no lag time, and all students are engaged in the work of the lesson consistently from start to finish. In this type of setting/lesson structure, it's hard to imagine how this could have been better.

Culture of L	earning	Rating
--------------	---------	--------

5

Mr. Towne, AP Physics



Essential Content

Are all students working with content aligned to the appropriate standards for their subject and grade?

1. Ineffective	2. Minimally Effective	3. Developing	4. Proficient	5. Skillful
The lesson does not focus on content that advances students toward grade-level standards or expectations and/or IEP goals.	The lesson partially focuses on content that advances students toward grade-level standards or expectations and/or IEP goals.	The lesson focuses on content that advances students toward grade-level standards or expectations and/or IEP goals.	The lesson focuses on content that advances students toward grade- level standards or expectations and/or IEP goals.	All descriptors for Level 4 are met, and the following evidence is demonstrated:
Most of the activities students engage in are not aligned to the stated or implied learning goal(s) or to each other.	Only some activities students engage in are aligned to the stated or implied learning goal(s).	Most activities students engage in are aligned to the stated or implied learning goal(s) are well-sequenced and move students toward mastery of the grade-level standard(s) and/or IEP goal(s).	All activities students engage in are aligned to the stated or implied learning goal(s) and are well- sequenced and build on each other to move students toward mastery of the grade-level standard(s) and/or IEP goals.	Students make connections between what they are learning and other content across disciplines, their historical context (local, state, and national), and/or their current lives.
Instructional materials students use, such as texts, questions, problems, exercises and assessments, are not appropriately demanding for the grade/course and time in the school-year, based on guidance in the standards and/or students' IEP goals (ex. Lexile level and complexity of text).	Some instructional materials students use, such as texts, questions, problems, exercises and assessments, are not appropriately demanding for the grade/course and time in the school-year, based on guidance in the standards and/or students' IEP goals (ex. Lexile level and complexity of text).	Students execute transitions, routines and procedures in an orderly and efficient manner most of the time, though they may require some direction from the teacher.	All instructional materials students use, such as texts, questions, problems, exercises and assessments, are high-quality and appropriately demanding for the grade/course and time in the school-year, based on guidance in the standards and/or students' IEP goals (ex. Lexile level and complexity of text).	Students independently connect lesson content to real-world situations.

Content aligns with the California state content standards for high school physics.

The exploration/demonstration and writing activity directly align to the purpose of having students articulate the relationship between temperature and the kinetic



Mr. Towne, AP Physics

energy of molecules/atoms in a system.

This concept is rigorous and the demonstration is appropriate for highlighting a conceptual understanding of temperature (rather than just learning how to manipulate the formula).

This content builds towards college readiness, particularly for those considering STEM fields.

Mr. Towne, AP Physics



Academic Ownership

Are all students responsible for doing the thinking in this classroom?

1. Ineffective	2. Minimally Effective	3. Developing	4. Proficient	5. Skillful
Students complete very little of the cognitive work during the lesson, such as reading, writing, discussion, analysis, computation, or problem solving; the teacher completes all or almost all of the cognitive work.	Students complete some of the cognitive work during the lesson, such as reading, writing, discussion, analysis, computation, or problem solving, but the teacher or a very small number of students complete most of the cognitive work.	Most students complete an appropriately challenging amount of the cognitive work during the lesson, such as reading, writing, discussion, analysis, computation, or problem solving, given the focus of the lesson the teacher completes some of the cognitive work (i.e.: expands on student responses) that students could own.	All or almost all students complete an appropriately challenging amount of the cognitive work during the lesson, such as reading, writing, discussion, analysis, computation, or problem solving, given the focus of the lesson. The teacher rarely finishes any of the cognitive work that students could own.	All descriptors for Level 4 are met, and at least one of the following types of evidence is demonstrated:
Very few or no students provide meaningful oral or written evidence to support their thinking.	Some students provide meaningful oral or written evidence to support their thinking.	Most students provide meaningful oral or written evidence to support their thinking.	All or almost all students provide meaningful oral or written evidence to support their thinking.	Students synthesize diverse perspectives or points of view during the lesson.
Very few or no students are using knowledge and evidence to form, articulate, and defend their answers and opinions.	Some students are using knowledge and evidence to form, articulate, and defend their answers and opinions	Most students are using knowledge and evidence to form, articulate, and defend their answers and opinions.	All or almost all students are using knowledge and evidence to form, articulate, and defend their answers and opinions.	Students independently show enthusiasm and interest in taking on advanced or more challenging content.
Students respond negatively to their peers' thinking, ideas, or answers.	Students do not respond to their peers' thinking, ideas, or answers, or do not provide feedback.	Students respond to their peers' thinking, ideas or answers, and provide feedback to their classmates.	Students respond to and build on their peers' thinking, ideas or answers.	
No students or very few students try hard to complete challenging academic work or	Some students try hard to complete challenging academic work and answer	Most students try hard to complete academic work and answer questions, even if the	Students routinely provide constructive feedback to their classmates and respond productively when a peer	



Mr. Towne, AP Physics

answer questions.	questions.	work is challenging.	answers a question incorrectly or when they do not agree with the response.	
			All or almost all students consistently try hard to complete academic work and answer questions, even if the work is challenging.	

Evidence Summary:

- All students are asked to share thoughts and summarize findings in small group discussion; representatives of each group are then called on to share with the large group.
- All students write several times throughout the lesson- taking notes, writing out summaries, explaining their understanding, drawing diagrams and models, etc.
- Students make all of the observations about what they see in the demonstration, and the teacher directs conversation to allow them to draw their own conclusions. The teacher provides key vocabulary terms on the board, but students are ultimately responsible for writing a two-sentence summary on what temperature actually is.
- Students respond to one another's thinking frequently during the lesson, but we see missed opportunities for students to debate amongst themselves; when they make a statement or summary, it's always looking to the teacher for affirmation. The teacher often plays middle-man in the discussion.
- Students persist to answer tricky questions, and we see them grapple with tough answers and struggle to articulate thoughts in front of the large group.

Academic Ownership Rating	5

Mr. Towne, AP Physics



Demonstration of Learning

Do all students demonstrate that they are learning?

1. Ineffective	2. Minimally Effective	3. Developing	4. Proficient	5. Skillful
Questions, tasks or assessments do not yield data that allow the teacher to assess students' progress toward learning goals.	Questions, tasks or assessments yield data that only partially allow the teacher to assess students' progress toward learning goals.	Questions, tasks or assessments yield data that allow the teacher to assess students' progress toward learning goals.	Questions, tasks or assessments yield data that allow the teacher to assess students' progress toward learning goals and help pinpoint where understanding breaks down.	All descriptors for Level 4 are met, and at least one of the following types of evidence is demonstrated:
Students have very few or no opportunities to express learning through academic writing and/or explanations using academic language.	Students have few opportunities to express learning through academic writing and/or explanations using academic language.	Students have some opportunities to express learning through academic writing and/or explanations using academic language.	Students have extensive opportunities to express learning through academic writing and/or explanations using academic language.	Students self-assess whether they have achieved the lesson objective and provide feedback to the teacher.
Very few or no students demonstrate how well they understand lesson content and their progress toward learning goals.	Some students demonstrate how well they understand lesson content and their progress toward learning goals through their work and/or responses.	Most students demonstrate how well they understand lesson content and their progress toward learning goals through their work and/or responses.	All students demonstrate how well they understand lesson content and their progress toward learning goals through their work and/or responses.	Students demonstrate that they make connections between what they are learning and how it advances their personal and professional goals.
Student responses, work and interactions demonstrate that most students are not on track to achieve stated or implied learning goals.	Student responses, work and interactions demonstrate that some students are on track to achieve stated or implied learning goals.	Student responses, work and interactions demonstrate that most students are on track to achieve stated or implied learning goals.	Student responses, work and interactions demonstrate that all or almost all students are on track to achieve stated or implied grade- level and/or IEP aligned learning goals.	Students monitor their own progress, identify their own errors and seek additional opportunities for practice.

Evidence Summary:

- Teacher circulates frequently to review work and asks a variety of different group representatives for their thoughts.
- Students have multiple opportunities to express their learning in group discussion and through writing/diagraming using academic vocabulary that is



Mr. Towne, AP Physics

posted on the white board.

- All students demonstrate how well they understand lesson content through writing and diagraming on the graphic organizer.
- In general, student responses in small groups demonstrate that students can articulate a definition of temperature that includes the key factors of kinetic energy and relative movement of molecules/atoms.

Although some students may not yet be able to fully and clearly articulate the relationship between temperature and the internal kinetic energy of a system using the rigorous academic vocabulary the teacher provides, we see that they are on track to do so – students can get there because they have all of the pieces necessary to solidify the concept, but they need a bit more time to connect the dots. DOL doesn't require that students have mastered a concept by the end of a lesson – it asks whether students are "on track" for mastery, and in this case they clearly are.

Demonstration of Learning Rating

5

Mr. Towne, AP Physics



Observation Notes:

•