

## PPAT® Assessment

### Library of Examples – Science

#### Task 2, Step 1, Textbox 2.1.1: Selecting a Single Assessment

Below are two examples of written responses to Textbox 2.1.1 as excerpted from the portfolios of two different candidates. The candidate responses were not corrected or changed from what was submitted. One response was scored at the Met/Exceeded Standards Level and the other response was scored at the Does Not Meet/Partially Met Standards Level. This information is being provided for illustrative purposes only. These excerpts are not templates for you to use to guarantee a successful score. Rather, they are examples that you can use for comparison purposes to see the kinds of evidence that you may need to add to your own work.

**The work you submit as part of your response to each task must be yours and yours alone.** Your written commentaries, the student work and other artifacts you submit, and your video recordings must all feature teaching that you did and work that you supervised.

#### Guiding Prompt for Task 2, Textbox 2.1.1

- Provide an in-depth description of the assessment. Provide a rationale for choosing or designing the assessment based on its alignment with the standards and learning goal(s) that meet the students' needs.
- What data did you use to establish a baseline for student growth related to this lesson's learning goal(s)?
- Describe the rubric or scoring guide you have selected or designed. How does it align to your learning goal(s)? How will you communicate its use to your students?
- What evidence of student learning do you plan to collect from the assessment? How will you collect the data? Provide a rationale for your data-collection process.

#### Example 1: Met/Exceeded Standards Level

- The assessment I designed aligns with NGSS Standard MS-PS3-1: "Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object." The core idea of this standard is: "motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed." My specific learning goal behind the design of this assessment was for students to be able to create and interpret graphs depicting the relationship between kinetic energy (KE), mass, and speed. Students should be able to determine how altering mass or speed changes KE and be able to write a scientific claim that explains the relationship between KE and speed and KE and mass. The assessment itself is a poster project that students will begin in class and finish at home. The assessment requires students to create and analyze two scenarios, one explaining the relationship between speed and KE and one explaining the relationship between mass and KE. Each scenario will require the student to create a graph, an analysis of what the graph

is showing, a sketch of the scenario, and to answer a few questions about trends in the graph. Students will also be required to create a claim that describes the relationship between speed and KE and mass and KE. The claim has to be supported with evidence from student labs, scenarios, classwork, and notes. Students will also provide reasoning to relate why their evidence supports their claim. Students will be graded on their content as well as their effort put into creating the poster, as detailed in the rubric.

- b. The data I used to establish a baseline were the responses I received on an extended exit ticket given a few days before the assessment. Students could receive a grade of 0-4 and were given ten minutes to complete their extended exit ticket at the end of class. On the extended exit ticket, students were asked to construct a claim that showed the relationship between KE and speed or a claim that showed the relationship between mass and KE. Students were also instructed to include a quick graph that showed the relationship visually. Students that included a correct claim and a correct graph were awarded 4 points; students that included a correct claim and an incorrect graph were given a 3; students that included an correct claim that was missing detail and an incorrect graph were given a 2; students that included an incorrect claim and an incorrect graph were given an 1; and students that did not attempt the question or wrote down something unrelated were given a 0. Of the 27 students who took this baseline assessment only three made 100%; 6 of the 27 students scored 3 out of 4; and 10 of the 27 students had 2 out of 4 correct. Seven students had only one of 4 correct on their assessment and 1 student (FS#2) did not get any of the questions correct for a 0%.The extended exit ticket related to my learning goals because students were demonstrating to me whether or not they understood the relationship between mass and KE/speed and KE, whether they are able to write a claim, and whether they are able to construct a graph to show a relationship between two variables. The learning goals I designed are aligned with the NGSS standard MS-PS3-1. Students scored an average of 2/4 on the extended exit ticket, which demonstrated to me that students would need additional review on the relationship between speed/mass and KE and trends of graphs before completing the assessment.
- c. I designed a 16-point rubric to grade my students on their assessment and to help them ensure they were meeting all of the requirements of the assessment. The rubric is broken down into 4 categories: speed scenario, mass scenario, claim/evidence/reasoning, and design/organization/creativity. Students could earn a maximum of 4 points per category, and to earn a 4, students had to include all necessary and relevant information. Points were lost for inaccuracy, lack of content, lack of evidence or reasoning, or disorganization. The rubric aligns to my learning goals because it directly measures whether or not students are able to create and interpret graphs, write claims, and analyze the relationship between KE and mass/speed. If students are able to score a 4 on the rubric category, then they have mastered the learning goal for the assessment, and have thus met the NGSS standard the assessment was designed around. Students were given a paper copy of their rubric on the back of their assessment requirements. In order to receive a grade on the assignment, students were instructed to first grade themselves on the rubric. This helps to ensure that students are objectively reviewing their work, looking over the rubric, meeting all requirements, and taking responsibility for their own learning.
- d. The evidence of student learning I plan to collect from my assessment will be the improvement of student scores and responses, compared to the extended exit ticket (pre-assessment). The learning goals for both the assessment and the pre-assessment (extended exit ticket) were both aligned to the same NGSS standard, so I will be able to

view the student's progress towards meeting the standards. The results of the assessment will allow me to reflect on my methods of teaching the unit and find ways to improve on my delivery, and will also allow me to fix any gaps in my students knowledge base before moving on to the next unit. I will collect the assessment data by administering the poster project during class time. Students will be instructed to work independently, but to ask any questions that they need to. Students will then have a week to work on their projects at home before turning them in. My rationale behind this data-collection process is that having students work independently helps to ensure that I am testing the knowledge of each individual student, rather than risk having one student perform all of the work in a group project. Giving the project in class allows me to address any questions or areas of confusion before the students are set loose on their projects at home. Assigning a week to complete the project gives students enough time to clarify questions, research the content, put effort into a creative poster, and accommodates for any students that may be busy after school for sports/hobbies/misc. and just need more time.

**Refer to the [Task 2 Rubric](#) for Textbox 2.1.1 and ask yourself:**

In the candidate's description of selecting the assessment, where is there evidence of the following?

- The standards, learning goals, and student needs
- The baseline date used
- The rubric or scoring guide and its alignment to the standards and learning goals
- Communication of the rubric to the students
- How the student learning will be collected
- The rationale for the data collection process

Why is the candidate's response detailed and tightly connected?

**Example 2: Did Not Meet/Partially Met Standards Level**

- a. The formative assessment I chose to use for the conclusion of my lesson on thermochemistry was a simple exit slip/check on learning. I gave the students four questions at the end of my lecture on energy that we discussed through the class period. This is important because these are introductory concepts and act as building blocks for the rest of the unit. Making sure all the students are on the same page before moving on is vital. Students must first understand units of energy and what exactly thermochemistry is. Second, students must be able to identify the two different kinds of reactions and how they relate to energy. Lastly, it was important for them to understand that units of energy are not all the same. The exit slip asked these questions in clear concise format that didn't allow for any confusion and allowed me to gauge their understanding. The NGSS standard that aligns with thermochemistry is, "HS-PS3-1 Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known."
- b. The leaning goal for this lesson was to establish an understanding of energy and what happens to particle motion when heat energy is added. At the beginning of this lesson, I gave them a few bell work questions about energy and how it relates to their everyday lives. These questions were meant to help engage them in the lesson while also allowing

me to get an understanding of their level of knowledge on the topic. These questions directly corresponded with the exit slip questions only asked in a slightly different manner.

- c. Once the students were complete with the bell work problems, we went over them as a class to help clear up any misconceptions before starting the lesson. I told the students that I do not take a formal grade on exit slips, rather, it's more of a tool for me to see where everyone is. With that stress off their shoulders, students answered the questions to the best of their ability. Once I collected their exit slips, we then again went over the correct answers on the next slide to reinforce these concepts. This is more of a self-check so the students can see where they're struggling.
- d. I cut blank sheets of paper into four sections and passed them out to the students. These sheets served as their exit slips and is where they answered the questions at the end of lecture. This allowed me to have hard copies and helped consolidate the data. I handed each student an exit slip and the bell work sheet at the door upon entering the room. Letting the class know before we started that there will be a few formative questions at the end helped ensure they paid better attention. I let the students hang on to the bell work sheet for the entire period until they finished the exit slips. I told them to compare the two and think about the important connections they made through the class. Once we finished discussing this, they handed both pieces of learning into their class tray before leaving.

**Refer to the [Task 2 Rubric](#) for Textbox 2.1.1 and ask yourself:**

In the candidate's description of selecting the assessment, where is there evidence of the following?

- The standards, learning goals, and student needs
- The baseline date used
- The rubric or scoring guide and its alignment to the standards and learning goals
- Communication of the rubric to the students
- How the student learning will be collected
- The rationale for the data collection process

Why is the candidate's response partial?

**Suggestions for Using These Examples**

After writing your own rough draft response to the guiding prompts, ask the question, "Which parts of these examples are closest to what I have written?" Then read the 4 levels of the matching rubric (labeled with the textbox number) and decide which best matches your response. Use this information as you revise your own written commentary.

Lastly, using your work and/or these examples as reference, consider what you believe would be appropriate artifacts for this textbox.