



Reminder: Performance assessments should be adapted to your individual classroom and contextualized based on your students' cultural identities, interests, skills, and pre-learning.

Grades 6-12

The Life Cycles of Plastics

Context & Prerequisite Skills

Students should have research skills and a basic understanding of chemical compounds and half-life.

Essential Questions

What authentic and open-ended questions are students exploring in this assessment?

Where does plastic come from? Where does it go?

How do plastics affect the environment from production to disposal?

How do I communicate effectively?

Learning Goals

When students complete the process to create the output, what skills and knowledge will they be demonstrating? Remember - application and transfer of high-leverage skills are a hallmark of performance assessments.**

Speaking and listening

Science concepts

Model making

Critical thinking

Creativity

Communication

Reflection

**While students will be demonstrating these skills in completing the task, it is not necessary to formally assess all of them.

Performance Assessment Quality Criteria

- Align to high-leverage learning goals (competencies, learning targets, standards, transferable skills, etc)
- Be open-ended and relevant to the real world
- Require application and transfer using higher-order thinking
- Be fair and culturally responsive
- Outline clear criteria for success in a rubric
- Result in original products, performances, or solutions

Task Summary

What is the authentic and relevant scenario that you are asking students to engage in to complete this task?

There have been a plethora of news stories lately that share the negative consequences of plastics on our environment. There have also been many local policy proposals to limit the use and sale of plastics in your community. Some in the community want to eliminate drinking straws and plastic bag use, while others have made more drastic suggestions like charging expensive disposal fees for large plastic items like old plastic children's toys and broken plastic lawn furniture. Some don't believe plastic is a problem at all. The library has jumped into the debate and is hosting an event called, *The Story of Plastic*. They have asked community members to tell a story of the life cycle of a plastic from its origin to its final resting place. Stories will be delivered orally and can take on any form including poetry or dramatic reading. Each storyteller will also create a model to help them tell the story. This can be a 3D model or in the form of a picture book or slideshow or other visual. A Q&A session with the audience will follow each story. They will be shared at a public event on _____. Your task is to research the life cycle of plastic and create a plausible story. Please follow the quality criteria for the process and product below.

Quality Process

What is the flexible quality process learners will engage in to produce the output?

1. Choose a plastic product to follow.
2. Research how that product is produced and the impacts to the environment from its production. Make sure to evaluate your sources for bias.
3. Research how your plastic breaks down and is broken down.
4. Create a story of a plausible life cycle of your plastic. This is a great time to start visuals that support your story.
5. Practice telling your story with a peer.
6. Get feedback and make adjustments.
7. Present your story on _____.
8. Read over any feedback from audience members.
9. Reflect on your work and the experience.

Quality Product

What original product or solution will students produce as a result of this assessment?

- ◇ Story is plausible and accurately depicts the life cycle of a plastic including information about elements, compounds, and half-life.
- ◇ Story is told in a logical order and is created for a general audience, not expert scientists.
- ◇ Story is engaging.
- ◇ Presentation is clear and professional.
- ◇ Model is accurate, effective, and support storyteller.
- ◇ Reflection is insightful and responds to teacher and peer feedback.

Resources & Materials

What do all students need to have access to in order to complete the task?

Internet access

Bias Review Process

Teacher selected videos, articles, and podcasts about the process of plastics

