

Sustainability Teachers' Academy Lesson Plan

Teaching Sustainability Science with Flash Fiction

Topics Covered

Sustainability
Scenario Planning

Grades

6-8

Duration

55 Minutes

Sustainability Competencies

Values Thinking
Normative Thinking
Future Thinking
Systems Thinking
Collaborative Thinking

Online Resources

[EPA Climate Change](#)

Key Questions

Based on current trends, what will the world be like in 2050?
Are we likely to experience a desirable, sustainable future?
What changes in behavior, possible actions, or public policies are needed achieve sustainability?

Overview

This activity first introduces students to scientific data regarding current trends in environment, society, and/or economics. Students then extrapolate these trends into the future, through the development of short stories set in 2050. These stories should convey more than just an extension of the data, but also communicate the students' values, desires, and concerns for the possible future the data and their experiences suggest.

Objectives

Students will be able to:

- Interpret scientific data, and extrapolate current trends to explore possible future scenarios
- Identify and articulate their values, desires, and concerns for the future
- Explore and exchange ideas about the future with other students

Materials

Per working group

- Flash Fiction Story Preamble

Technology

- Computer, projector, and screen
- Flash Fiction Current State Slides

Teacher Preparation

This lesson should be used with one of the accompanying packets of supporting materials. Each packet addresses a different theme in sustainability science (climate change, energy resources, transportation systems, water resources, technology, environmental degradation, food systems, and urban development), and should be reviewed and selected by the instructor in advance.

Organize student groups (2-3 students), distribute materials, and prepare Flash Fiction Current State Slides.

Background Information

Flash Fiction are short stories of only a few hundred words in length. Despite their extreme brevity, these snapshot stories often convey a profound storyline.

Recommended Procedures

1. Engagement: This activity will focus students on the topic

Project the Flash Fiction Current State Slides. Introduce flash fiction (slide 2). Allow students to share their ideas about what would make a compelling work of Flash Fiction.

Encourage students to think about the importance of

- Setting—Where is the story happening?
- Character—Who is the story about?
- Plot—What is happening?
- Backstory—What happened before to create and inform this situation?
- Detail—Which specific things should the audience notice?

2. Exploration: A student-led activity with guidance

Project slides 3-7. Each slide presents a single figure representing scientific data related to the respective topic. Allow students some time to think about and discuss the data presented on each slide. Alternatively, print out the individual slides and assign one to each student working group with the respective story preamble.

Provide each group with a different Flash Fiction Story Preamble related to the respective topic. Each Preamble will present a short backstory on which the students will elaborate.

Instruct student groups to read their assigned Preamble, and develop a short fictional story about the characters and events it describes.

Allow students 20 to 25 minutes to complete their Flash Fiction story.

3. Explanation: Students discuss their understanding of the concept

Once students have finished working, ask for volunteers to share their stories and discuss what their work of Flash Fiction conveys about their vision of the world in 2050.

4. Elaboration: Students apply the idea in a new context

Open the discussion to the class, and allow students to compare and contrast the stories they have shared. What are common themes? What are major differences? What do these similarities and differences convey about their values, desires, and concerns for the future?

5. Evaluation: Students assess their knowledge, skills, abilities

Students should be evaluated based on participation in this activity.

Teaching Sustainability Science with Flash Fiction

Next Generation Science Standards

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking questions (for science) and defining problems (for engineering)	ESS3.A Natural resources	Cause and effect: Mechanism and explanation
Analyzing and interpreting data	ESS3.C Human impacts on Earth systems	
Obtaining, evaluating, and communicating information	ESS3.D Global climate change	

Common Core English Language Arts

Reading: Informational Text	Writing	Speaking & Listening	Language
RI.6.2, RI.6.7, RI.7.2, RI.7.7, RI.8.2, RI.8.7	W.6.1, W.6.2, W.6.3, W.7.1, W.7.2, W.7.3, W.8.1, W.8.2, W.8.3	SL.6.1, SL.6.4, SL.7.1, SL.7.4, SL.8.1, SL.8.4	L.6.3, L.7.3, L.8.3

Common Core Mathematics

6 through 8	9 and 10
N/A	N/A

Other Common Core

Science	History/Social Studies
CCSS.ELA-LITERACY.RST.6-8.4, CCSS.ELA-LITERACY.RST.6-8.7	CCSS.ELA-LITERACY.RH.6-8.4, CCSS.ELA-LITERACY.RH.6-8.7