

Science Lesson Planning Template

Context Issues of the Lesson

Unit or Lesson Title:	My World, My Responsibility
Grade Level	K
Topic/Theme/Nature of the Investigation:	Reducing the impact we have on our local environment
NGSS Performance Expectation(s)	K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.* [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]
NGSS Dimension 1 component	Obtaining, Evaluating, and Communicating Information <u>Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.</u> <ul style="list-style-type: none"> Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3)
NGSS Dimension 2 component	ESS3.C: Human Impacts on Earth Systems <ul style="list-style-type: none"> Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (K-ESS3-3) ETS1.B: Developing Possible Solutions <ul style="list-style-type: none"> Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (secondary to K-ESS3-3)
NGSS Dimension 3 component	Cause and Effect <ul style="list-style-type: none"> Events have causes that generate observable patterns. (K-ESS3-3)
Duration:	One Week

Planning Stages Within the 5-E Inquiry Model

Engage	
<p>PURPOSE:</p> <ul style="list-style-type: none"> to convey the context of the lesson(s)/unit by conveying an important Key Question to engage students in investigations that reveal their thinking to themselves and the teacher to record the initial ideas of students to engage their interest 	
<p>What is the teacher doing? What are the students doing?</p> <ol style="list-style-type: none"> The teacher will open the lesson by posing the question “Why should we throw our trash in trash cans and not on the ground?” The students will come together as a large group on the carpet The students will spend one minute thinking of three reasons we should throw our trash in trash cans and not on the ground. The teacher will track the 1 minute wait time and then will prompt students to raise their hands and when called upon, sharing one reason that has not been shared already. The teacher will record student’s reasons under the question. The students will continue to attempt to think of reasons not already shared as the discussion progresses. 	
Explore	
<p>PURPOSE:</p> <ul style="list-style-type: none"> to test ideas and develop knowledge using explorations, investigations, experiments to modify and record ideas as they change due to activities to develop new questions and testable hypotheses 	
Activities (list)	Driving Question
<p>Students will spend one week in a “trash-can-less” classroom in order to observe the impact the trash build up has on the environment of the classroom. Students will engage in daily large group sessions where the teacher will document their overall thoughts, the amount of trash building up each day, hypotheses on what impact they think the additional trash build up will have on the class as a whole, themselves, and the teacher. On the final day, the discussion will focus on ways we could have had less trash over the course of the week. Student will work in small groups to develop a poster that shows at least three ways they could reduce the amount of trash in our classroom.</p>	<p>Why should we throw our trash in trash cans instead of on the ground?</p> <p>Are there ways that we can reduce the amount of trash we have?</p>
<p>Student Communication Product: (written report, oral presentation, poster, etc.) (consider showing “Models” of student products to help student identify characteristics of quality)</p> <p>Poster created by selecting from a variety of pictures, choosing those that depict behavior that doesn’t produce trash (i.e. working on an ipad, eating out of a re-usable container).</p>	
Explain	
<p>PURPOSE:</p> <ul style="list-style-type: none"> to answer the Key Question through student explanations 	

- to provide students with relevant vocabulary, formal definitions and explanations of concepts

Content Media: (written material, video, teacher lecture, technology)

Once students have communicated the solutions they included in their group posters, the teacher will back up learning with a video on “reduce, reuse, and recycle”
https://www.youtube.com/watch?v=o86_ORGJ-SU

Additional materials need include:

Flip chart to record daily discussion
Smartboard for presenting videos
Computer to play videos from
Posters for each table
Variety of pictures for poster creation

Student Communication Product: (assessment, unit test, written report, oral presentation, poster, etc.)

Posters created by each table and informal assessment of student responses throughout the week.

Elaborate

PURPOSE:

- to extend students' conceptual understanding through application or practice in new settings

Activities:

The teacher will extend the lesson to include the concept of pollution with the video the following You Tube video by Make Me Genius
<https://www.youtube.com/watch?v=5FWvbui6ook>.

Content Media: (written material, video, teacher lecture, technology)

Smartboard for presenting videos
 Computer to play videos from
 Construction paper for adding four types of pollution to word wall

Extending/Application Questions for Whole/Small Group Discourse:

The teacher will place the words “Land Pollution” “Air Pollution” “Water Pollution” and “Noise Pollution” on the Smartboard and students will share behaviors that cause each.

Student Communication Product (assessment): (unit test, written report, oral presentation, poster, etc.)

Assessment of final product from large group discussion on behaviors that cause the four types of pollution.

Evaluate	
PURPOSE: <ul style="list-style-type: none"> Assess student's understanding on ways to reduce the impact of humans on the land, water, air, and/or other living things in the local environment. 	
Skill/Reasoning Learning Objectives	Assessment Instrument
Students will communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Small group posters created by each table Informal assessment of group discussions
Knowledge Learning Objectives	Assessment Instrument
Students will understand the impact throwing classroom trash has on the environment of the classroom. Students will learn the four types of pollution and ways we contribute to each.	Informal assessment of group discussions Small group posters created by each table Assessment of group discussion of ways we contribute to the four types of pollution.