



Lesson Plan: Reduce, Grade 2 Mathematics and Social Studies

Activity

Reviewing waste generation in the classroom.

Introduction

We can create a lot of waste based on the decisions we make in our lives every day. In this lesson, students will record and analyze their waste generation for one week to gain an understanding of how much waste they create as a class. Students will then learn about Reduce (the second “R” in the Region’s Waste Management Hierarchy) and apply this concept to transform their classroom into a zero-waste zone for one week and conduct further analysis of the resulting data.

Curriculum Connections

Grade 2

Mathematics, 2020 (revised)

- Strand D: Data

Social Studies, 2018 (revised)

- Strand B: People and Environments: Global Communities

Learning Objectives

1. Define classroom waste
2. Identify compostable, recyclable, and garbage material
3. Analyze waste generation in the classroom
4. Define waste reduction and describe different ways to reduce waste
5. Understand how to draw information from a bar graph

Resources Provided (located in the resource folder)

- Video: Reduce

Activity

Week 1

1. Explain to students that they will record the type and amount of classroom waste that they create as a classroom in one week.
2. Introduce and explain classroom waste.

Classroom waste is the garbage, recyclables, and compostable material that is created in the classroom.

3. As a class, compile a list of examples of common garbage, recyclable, and compostable items found within the classroom.

Examples include:

Garbage - plastic straws, chip bags, granola bar wrappers, plastic bags, candy wrappers, and single-use plastic utensils.

Recyclable materials - juice boxes (without the straws), paper scraps, construction paper, single-serve plastic yogurt containers, and single-use plastic drink bottles.

Compostable materials – food scraps such as banana peels, apple cores, orange peels, and watermelon rinds, paper towels, tissues, and greasy pizza boxes.

4. In an easily accessible area of the class, create a large table to record their waste materials with the following three categories: compostable, recyclables, and garbage. On this table, students will tally the waste they create in the classroom according to the kind of waste it is. Students will record their waste before they place into a garbage or recycling bin in the classroom, as well as waste they create in their lunch bag and take home.
5. To keep track of the waste being generated, it is recommended to do a count with the class at the end of each recess and lunch break.
6. Once the final day of the waste collection period has concluded, as a class analyze the data.
7. Begin by creating a classroom bar graph. Along the x axis, create three labels, titled compostable material, recyclable material, and waste material. Create each bar using the data in the table of values.
8. Using the completed bar graph, have students answer the following questions.
 - a) What kind of waste is created most in the classroom?
 - b) Which kind of waste is created the least in the classroom?
 - c) How many total pieces of waste are included on this graph?
 - d) What is the difference between the number of pieces of garbage versus the number of pieces of recycling?

Week 2

1. Introduce Reduce.

Reduce is about minimizing waste at the source. This means decreasing or eliminating waste by reducing the number of products we produce and purchase. Reducing waste requires planning and making decisions about what we purchase with waste reduction in mind. Examples of waste reduction include drinking municipal tap water instead of bottled water, avoiding the purchase of single-serve products, and meal planning to reduce food waste.

2. As a class, focus in on the data connected to recycling and garbage. Ask students how they could use reduce to decrease or eliminate the waste that was created by the class.

Examples include making snacks at home to avoid single serving packaged items, purchasing items with minimal packaging, and looking for items that can be used repeatedly as opposed to only once.

3. Using the new information students have learned, share with students that they will run this activity a second time. This time the class will attempt to reduce their waste over the span of one week which will be called a waste free week.
4. Prior to starting the waste free week, send a note home with each student to promote the activity and share the intent of the activity with the student's guardians.

Week 3

1. Remind students to use some of the reduce practices they learned to reduce or eliminate their waste.

2. Create a new table of values and have students once again tally their waste generation during the designated waste free week.
3. Following the end of the week, using the table of values have students create a bar graph.
4. Placing both graphs side-by-side, ask students if they notice that less waste was generated or if it remained the same. (e.g. Are the bars on the second bar graph shorter?)
5. Have students once again calculate the answers to the following questions, this time using the graph for waste free week.
 - a) What kind of waste is created most in the classroom?
 - b) Which kind of waste is created the least in the classroom?
 - c) How many total pieces of waste are included in this graph?
 - d) What is the difference between the number of pieces of garbage versus the number of pieces of recycling?
6. Ask students to reflect on their waste free week experience. How easy or difficult was it to transition to a lower-waste lifestyle? Is this something students will continue?
7. Encourage students to continue to try their best to minimize the waste they create. Challenge them to reduce waste in all aspects of their life!

Summary

By becoming more aware of the amount of waste we create, and by thinking about the items we buy and use, we can work towards reducing waste before it is even created. Reducing our waste makes a positive impact on our planet and its future.

Expanded Curriculum Connections

Grade 2, Mathematics, 2020 (revised)

D. Data

D1. Data Literacy

- D1.2 collect data through observations, experiments, and interviews to answer questions of interest that focus on two pieces of information, and organize the data in two-way tally tables
- D1.3 display sets of data, using one-to-one correspondence, in concrete graphs, pictographs, line plots, and bar graphs with proper sources, titles, and labels
- D1.5 analyze different sets of data presented in various ways, including in logic diagrams line plots, and bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions

Grade 2, Social Studies, 2018 (revised)

B: People and Environments: Global Communities

B1. Application: Variations in Global Communities

- B1.3 demonstrate an understanding of the importance of sustainability in people's interrelationship with their natural environment and of some of the consequences of sustainable and/or non-sustainable actions