

Replace and Avoid Challenge

 Teacher-led Classroom/Home Activity
Science, Technology, Math

Students keep track of their use of single-use plastics and other materials whose production causes carbon pollution.

Objective:

Students identify and tally products they use that contribute to carbon pollution and identify alternatives.

Students will need:

Replace and Avoid Tracker worksheet (one for each student)

Suggested time:

One class period for discussion, plus homework time over five days to tally the number of polluting products they use daily.

What to do:

1. Review with students the role of carbon dioxide in causing climate change. Explain that besides burning fossil fuels (coal, oil, natural gas) to make electricity and using them in our cars and other vehicles, there are other significant sources of carbon pollution that contribute to climate change. The biggest contributor is plastic. The manufacturing of aluminum cans, styrofoam, and paper products such as paper towels and napkins also releases carbon dioxide into the air.
2. Ask students to volunteer examples of plastics, aluminum cans, and paper products they use and throw away regularly. The most common ones they should come up with are plastic bottles and plastic bags, plastic straws, plastic food containers, soda and juice cans, paper towels, and napkins. Make a list of the items on the board or chart paper.
3. Distribute copies of the Replace and Avoid Tracker worksheet, one to each student. Explain that for the next five days they should count the number of items on the list that they and their family use at home. Review the instructions to make sure everyone understands the task.
4. After students have collected their data, consolidate the results as a class, adding up the total number of items in each category. Ask students to interpret the numbers: Which items were used the most? The least? Why might that be?
5. Finally, have a class discussion about this question: What can we do to reduce the amount of items like these that we use once and then throw away?

Extensions:

- Have students make create posters or public-service announcements encouraging people to reduce waste, giving tips for how to do that.
- Assign research projects to explore issues related to this topic. Possible research questions: Where is trash taken when it leaves our home, and what happens to it? If your town or city recycles, what happens to recyclable items? What kind of harm does plastic, in particular, cause to the environment? Are students in our school aware of and concerned about problems posed by plastics and other waste?
- Have students use math skills to create a graph or chart of their individual and consolidated data—e.g., by expressing numbers for individual items as percentages of the total.

