

Take Out the Trash!

Summary

Students complete the “Take Out the Trash” worksheet to get a better understanding of reusing, recycling, and composting. They weigh the amount of trash they throw out in a lunch period, then see how much they can reduce their waste by recycling, reusing, and composting.

Objectives

1. Students will realize how much waste gets sent to landfills daily.
2. Students will know some simple ways to reduce their waste.

Standards

Science: Strand I, Standard I (Physical Science), BM III, PS 1: Use appropriate units to make precise and varied measurements; PS2: Use mathematical skills to analyze data; PS3: Make predications based on analyses of data, observations, and explanations; PS4: Understand the attributes to be measured in a scientific investigation and describe the units, systems, and processes for making the measurement. Strand II, Standard II (Life Science), BMI, PS2: Understand how food webs depict relationships between different organisms; PS4: Describe how human activity impacts the environment. Strand III (Science and Society), Standard I, BMI, PS1: Describe the contributions of science to understanding local or current issues (e.g., watershed and community decisions regarding water use).

Math: Strand I (numbers and operations), Standard I, BMI, PS2: Understand the values of numbers; BMII, PS 2,3 and 5: addition and subtraction, with fractions, whole, and mixed numbers, and real-world problems; BMIII, PS 1, 3 & 7: Add, subtract, multiply, and divide whole numbers, estimate to verify results, understand the difference between exact and approximate.

Social Studies: Strand II (Geography), Standard II, BMII-C: Human impacts on environments and predict changes; BMII-F: human effects on resources, P1.

Language Arts: Strand I (Reading and listening for comprehension), BMI-D: Reading competency.

Career Readiness: Standard III (Demonstrate technological knowledge), BM I describe ways tools...are used; and BM IV: Design a class...process to solve a problem and explain the benefits; Standard IV (Demonstrate responsible and ethical workplace behaviors), BM II: Demonstrate goal direction, self-discipline, and task commitment in the completion of assignments; BM III: Understand ethical behavior and its importance in ...society; Standard V (Effective leadership and interpersonal), BM I: Explore the positive and negative implications of teamwork; and II: Recognize that individual differences affect school and workplace behavior.

Time

10 minutes for worksheet, 15 minutes for weighing trash after lunch.



Materials

- “Take out the Trash” worksheet
- Pencil
- Scale (classroom balance or household scale)

Background Information

The average American throws out four pounds of trash per day. That trash is then transported to a landfill where it gets covered by dirt. Since New Mexico is very dry much of what gets buried never completely decomposes. Recently a landfill was dug up in Albuquerque to reveal newspapers from the 1920s in readable condition. Much of what gets sent to landfills doesn't have to go there. By reducing, reusing, recycling and composting, we can greatly reduce the amount of trash that we dispose of every day.

Vocabulary

reduce, reuse, recycle, compost (see student sheet for information)

Procedure

1. Pass out one worksheet to each student.
2. Have students take turns reading the information at the top of the page.
3. Make sure all students are comfortable with the terms reduce, reuse, recycle, and compost, and then let students complete the worksheet.
4. After lunch the students should weigh their trash and record the weight. Next have them remove anything they could reduce, reuse, recycle, or compost from their lunch and then weigh it again.
5. Students determine how much less trash they would throw out by subtracting the beginning weight from the ending weight; this is the students' “trash reduction weight.” Have the students share their findings.
6. Finally determine how much trash was reduced collectively as a class by adding all the students' “trash reduction” weights. You can continue by having them multiply that number by seven for a weekly estimate, or by 365 for a yearly estimate.

Suggested Worksheet Answers

Compost: All the non-meat food products, yard waste and newspaper can be composted.
Recycle: The can, glass jar, plastic bottles, juice box and newspaper can be recycled.
Reuse: The umbrella, book, glass jar, plastic bottles, and any other product that the students can discover how to reuse.



Conclusion

Discuss the findings with the class. Explain that small contributions can have a large impact when spread over a long period of time, or when done by a large number of people. Ask the students for creative ways to reduce their waste.

**Extensions**

1. Students try to reduce their waste as much as possible (weighing it each day) over a number of days.
2. If your school doesn't already recycle, students can start a recycling or composting program. For assistance or advice on starting a program check the "Ask the Expert" section of our web site at www.nmnaturalhistory.org.



Take Out The Trash!

Each American throws out an average of four pounds of trash a day. With over 240 million people living in the United States that's more than 960 million pounds of garbage daily. With a few simple steps you can do your part to stay below the national average.

- Step 1** Reduce: Reducing the amount of packaging you buy will reduce the amount of trash you need to throw away. (Example: Buying one large bag of chips instead of many small bags.)
- Step 2** Reuse: Buying products that can be reused instead of products that are disposable can eliminate how much trash goes to a landfill. (Examples: Reusing a glass jar, giving an old shirt to charity, or turning a soda bottle into a bird feeder or terrarium.)
- Step 3** Recycle: Recycling takes used products and turns them back into raw materials that can make new products. (Example: Aluminum cans are melted down to make new aluminum cans.)
- Step 4** Compost: Composting breaks down, or decomposes, non-meat food products and yard waste and turns them into nutrient-rich soil that can be used as fertilizer. (Example: Fruits and vegetables are easily decomposed into new soil.)

Directions

Look inside the trash can and take out five things that can be reused, five things that can be recycled and five things that can be composted.



Reuse

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Recycle

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Compost

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____



¡Saca la basura!

El norteamericano desecha un promedio de 4 libras de basura por día. Con más de 240 millones de habitantes en los Estados Unidos, esto significa que botamos más de 960 millones de libras de basura por día.

Con estos pasos simples, tú puedes poner de tu parte y mantenerte por debajo del promedio nacional.

- Paso 1** Reducir: Al reducir la cantidad de envases que compras, también reduces la cantidad de basura que necesitas desechas. (Por ejemplo: Compra una bolsa grande de papitas en vez de varias bolsitas pequeñas.)
- Paso 2** Reusar: En vez de comprar productos desechables y al comprar productos que pueden ser reusados, puedes eliminar la cantidad de basura que termina en el basurero. (Por ejemplo: Reusa una jarra de vidrio, dona una camisa vieja a un instituto de caridad, o convierte una botella plástica de refresco en un recipiente para alimentar a los pájaritos o en un terrario.)
- Paso 3** Reciclar: El reciclaje utiliza productos usados y los convierte en materia cruda del cual se pueden hacer productos nuevos. (Por ejemplo: Las latas de aluminio se derriten para crear nuevas latas de aluminio.)
- Paso 4** Composta: La composta descompone productos de ciertos alimentos (excepto los de carne) y desechos de la vegetación y los convierte en abono rico en nutrientes el cual se puede utilizar como fertilizante. (Por ejemplo: Las frutas y los vegetales se descomponen fácilmente en abono nuevo.)

Instrucciones

Busca dentro del latón de basura y extrae cinco cosas que puedan ser reusadas, cinco cosas que puedan ser recicladas y cinco cosas que puedan ser usadas como composta.



Reusar

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Reciclar

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Composta

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

