

Garbology at the Smithsonian

The Smithsonian Institution employs roughly 6,000 workers. Every year, 28 million visitors visit the Smithsonian's museums and research centers. The staff also cares for nearly 3,000 animals. These numerous humans and animals at the Smithsonian Institution produce a massive amount of garbage! Smithsonian staff are serious about their role in working **sustainably**. They are also serious about garbology, the study of trash. Garbology is a subfield of archaeology. Special workers called *garbologists* examine the waste in trash cans throughout the museums. They look at the waste that is produced and determine whether there are ways to minimize it. The work they do plays an important role in protecting the environment and reducing waste.

The first step in reducing waste is completing a waste audit. During an audit, garbologists look through all the waste that ends up in trash cans. Their goal is to find out how much waste and what kind of waste is being created. So, they study what people are throwing away. Garbologists note which items must go to a **landfill**. They note which items can be **composted**. And they note which items can be recycled.

In 2015, the Smithsonian's Recycling Task Force did a waste audit. That's how they learned they recycled just 43 percent of their waste that year. To build on their work, they made a goal to **divert** 80 percent of their waste from landfills. One example of this is sending food scraps from museum restaurants to be composted instead of putting them in the trash.

To divert more waste, the task force taught people how to properly dispose of their waste. Separate bins for trash, composting, and recycling were used. The task force made sure people were aware that only certain kinds of plastic can be recycled. The Smithsonian Institution also took steps to reduce **single-use plastics**. They replaced many plastic bottles with aluminum and glass bottles, and they replaced plastic bags with paper bags. Water-bottle filling stations were placed around many of the museums to encourage the use of reusable water bottles. Dishwashing rooms were added to cafés so disposable plates and silverware would not be needed.

A later waste audit showed that these simple changes were successful. Additional waste was diverted from landfills, and more waste was recycled or composted. This sustainability helps the planet because processing waste at a landfill requires energy. Recycling and composting can use less energy than making new things from raw materials. Using less energy can reduce **greenhouse gases**, which helps slow climate change. Plus, these changes have financial benefits. In 2015, recycling saved the Smithsonian Institution more than \$90,000. In 2017, the Smithsonian's Recycling Task Force installed a composter to process manure from animals. This saved more than \$24,000 in transportation and processing costs.

When trash goes to a landfill, it will never be used again. But just because something has been thrown away, that doesn't mean it's gone forever. It can take a very long time for trash to decompose. When items are composted or recycled instead of going to a landfill, there are many benefits for the environment.

—Georgia Beth



DEFINE

- **composted**—turned into a mixture of decayed organic matter that can be used to help plants grow
- **divert**—to move something from one purpose to another
- **greenhouse gases**—compounds, such as carbon dioxide and methane, that trap heat in the atmosphere and contribute to the warming of the planet
- **landfill**—a system of trash and garbage disposal in which the waste is buried between layers of earth
- **single-use plastics**—plastic items that are used once and then thrown away
- **sustainably**—using something in a way that won't permanently damage or deplete it

DISCUSS

1. How does diverting waste from landfills benefit the planet?
2. Why does waste sometimes end up in landfills when it doesn't need to?
3. How can we make it easier for people to recycle and compost their waste?
4. What do you think might happen if the world ran out of space for landfills? Explain your thinking.



WRITE

Complete your own waste audit. Think about all the waste you produced today. List the waste you put into the trash, what waste you recycled, and what waste you composted. Then, reflect on what you can do to produce less waste tomorrow. Could any of the things you put in the trash have been recycled or composted?

CREATE

Research how long some common items take to break down in landfills. Make a physical or digital collage that helps people understand how much time needs to pass before the trash is truly broken down.