

Name: _____

Class: _____

Task: In DT, we look into many different materials, their uses and which is the best for certain jobs. Read the information below about types of packaging and answer the questions.

What is Packaging Waste?

Packaging is any material used to protect, ship, or market a product on its journey from birth to buyer. Packaging waste, then, is any of that excess material that gets discarded, likely to end up in landfills to pollute our land, water, and air.

Plastic pollution is one of the biggest environmental issues we face today. Plastic containers, plastic bags, single-use plastic bottles, and plastic from electronic waste fill the world's landfills each day. According to the Environmental Protection Agency (EPA), the total generation of municipal solid waste (MSW) in 2018 alone was 292.4 million tons. That's about 4.9 pounds of food waste, plastic containers, electronics, and product packaging per person per day.¹

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What is Packaging Waste Made Of?

Packaging can be made of a variety of materials. But amongst the most common you'll likely find:

| | | | | | |
|---------|-------|-------|-------|----------|------|
| Plastic | Paper | Glass | Steel | Aluminum | Wood |
|---------|-------|-------|-------|----------|------|

Even when packaging waste is recyclable, the high cost of recycling often deters businesses and municipalities from doing so.

Examples of Packaging Waste

Look around your home, workplace, or local businesses and it won't be hard to spot packaging waste. Despite our best efforts, packaging waste has become all too normal in our home and commercial lives as the economy relies on surplus materials to sustain commercial systems.

Some examples of packaging waste you might find in your everyday life include:

- Plastic food wrappers, like granola bar and candy bar wrappers
 - Dry food packaging and containers, like cereal boxes and snack containers
 - Takeout containers, like paper bags, food tins, and condiment cups
 - Shipping materials, like styrofoam, plastic wrap, and bubble wrap
 - Plastic waste from household product containers, like dish soap and laundry detergent bottles
- And that's just to name a few.



Food production makes up a massive amount of packaging waste due to the single-use plastic packaging usually required to maintain sanitation standards. Ecommerce—especially in recent pandemic years—generates boatloads of shipping material that often cannot be salvaged or recycled. Bubble wrap may seem fun, but the turtles would likely disagree.

Separated waste of plastic bottles and cans

What Causes Packaging Waste?

Packaging waste goes far beyond the final on-shelf product we see in our homes and grocery stores.

Let's refer back to that granola bar example.

Its final wrapper is just the chocolate-coated tip of the iceberg. That one bar came from a branded box, which was delivered to the store in a bigger box, which was shipped from a factory in even more packaging materials.

Packaging Waste in the Product Life Cycle

There are many different paths products take to arrive in our hands. Here are some general examples of stages a product might undergo before consumption, and how it contributes to excessive packaging waste:

Product development – When a product is created, it endures multiple stages of prototyping, packaging design, and material-sourcing logistics, often with multiple producers and manufacturers. Each time a prototype or its supporting materials are sent, shared, and shipped requires potentially wasteful packaging.

Manufacturing – A single product will typically require more than one manufacturer to produce and ship necessary materials. Certain products may have special packaging and shipping requirements, like refrigerated food or overseas shipments, which can increase plastic waste generation from plastics and styrofoam packaging.

Packaging – Like manufacturing, the nature of the product is carefully considered in this stage—and packaged accordingly. Food and beverage products must sustain a certain shelf life to be viable for grocery store inventory. Unfortunately, unsustainable materials like plastic are often used to extend shelf lives.

Branding – Brands are forced to battle against one another on shelves, so their packaging becomes a key differentiation tool. This can lead to product over-packaging. If you've ever bought a tube of mascara, think about how much material was used to seal the tube, and how much more was used to market it.

Out-the-door transport – Let's not forget about the packaging material required for walking out of the grocery store with your curated cart. Plastic grocery bags and produce bags are still widely used in America—100 billion per year, in fact. Plastic bags are difficult to recycle, so most of them end up in the landfill or ocean.

Cost as a Factor

Biodegradable materials can cost anywhere from 2 to 10 times more than non-biodegradable alternatives. This includes materials like paper and other compostable and biodegradable packaging.

Plastic is typically a cheaper packaging alternative compared to more sustainable options. Depending on the packaging type, plastic can be 3.8 times or less expensive than other materials. This forces businesses to make the tough decision between sustaining the earth, or sustaining their business.

The Environmental Impact of Packaging Waste

So, where does all of this waste end up? Of the 82 million tons of packaging waste thrown away in 2018, 53.9% was recycled content. Another 9% was combusted, or burned to decrease waste volume, while the remaining 37%—over 30,000 tons was sent to the landfill.

Waste that attempts to decompose in landfills emits harmful greenhouse gasses like methane, carbon dioxide, and nitrogen, which contribute to climate change.



How to Reduce Packaging Waste

Packaging waste may feel like a landfill-sized issue to tackle, but there are plenty of steps we can take to reduce packaging waste together:

Buy from zero-waste stores or a package-free shop. Zero-waste stores are popping up all around the country to sell products without any packaging. Just grab some totes and jars and shop away!

Shop at farmers' markets. Not only will you find less post-consumer waste, you'll also get higher-quality products sourced locally and more sustainably.

Cut down on online shopping. Less online shopping means less packaging waste. Opt for in-store or second-hand shopping instead.

Carry reusable bags with you everywhere. Throw some in your car, in your backpack, and over your shoulder, so that you never need to rely on plastic bags.

Instead of ordering that Chinese food for delivery, pick it up instead. Bring a reusable food container and a reusable bag made of recycled plastic with you and ask the restaurant to pack your items in those instead. Restaurants will usually oblige, since they save a few bucks on packaging in the deal, too.

Create a reusable toolkit and place it in your car or backpack. Include post-consumer recycled content like a reusable cup, bottle, utensils, straws, and food storage containers.

Purchase products with sustainable packaging such as paper. Always check for the recyclable, compostable or biodegradable symbols.

1. **What is packaging waste?**
2. **Why is plastic pollution a significant environmental issue?**
3. **How much municipal solid waste (MSW) was generated in the U.S. in 2018 according to the EPA?**
4. **What materials are commonly used for packaging?**
5. **What are some examples of packaging waste found in everyday life?**
6. **What role does food production play in packaging waste?**
7. **What stages in a product's life cycle contribute to packaging waste?**
8. **Why do businesses often avoid switching to eco-friendly packaging materials?**
9. **What environmental impacts result from packaging waste in landfills?**
10. **What are some ways individuals can reduce packaging waste?**



YEAR 7 RS Home Learning

The World Wide Church is made up of Christians from all over the world who work together to help others and make the world a better place. The church follows the teachings of Jesus, which encourage kindness, helping those in need, and promoting peace and fairness. The work of the World Wide Church includes mission work, disaster relief, supporting education, fighting for justice, and offering spiritual support.



Mission Work

One of the main ways the World Wide Church helps is through **mission work**. Missionaries are people who travel to different countries to share Christian teachings and assist people in need. They often go to areas where there is poverty, poor health, or a lack of education. Missionaries bring food, clean water, medical help, and educational materials to these communities. They also help build things like schools and health clinics, and teach practical skills like farming or healthcare to improve daily life.

Disaster Relief and Humanitarian Aid

Another important part of the World Wide Church's work is **disaster relief**. When natural disasters like earthquakes, hurricanes, or floods happen, church groups quickly provide **humanitarian aid**. This can include sending food, water, blankets, and medicine to people who have lost their homes or loved ones. Organizations like World Vision and the Red Cross, which started as church groups, provide help in times of crisis. After the immediate emergency, the church continues to assist by rebuilding homes, schools, and helping communities recover.

Education

The World Wide Church also supports **education** for children, especially in poor areas where kids may not have access to school. Many churches build and run schools, offering free or low-cost education to children who otherwise might not be able to attend. They provide uniforms, books, and school supplies. Education helps children learn skills that can lead to better jobs and better futures for themselves and their communities.

Promoting Justice and Peace

The World Wide Church works to promote **justice and peace**. Church leaders speak out against unfair treatment and work to make sure everyone is treated equally. They help fight poverty and stand up for the rights of children and other vulnerable people. By promoting peace, the World Wide Church helps create communities where people live together in harmony and respect.

Spiritual Support

Lastly, the World Wide Church offers **spiritual support**. Christians around the world pray for those who are struggling. Churches provide counseling and create communities where people feel supported and encouraged.

In all these ways, the World Wide Church helps millions of people by showing kindness, love, and compassion, making the world a better place.

Home Learning - Read and use the information about the WWC to answer the questions below. You will be tested on these in the next lesson.

Write in full sentences:

1. What is the main goal of the World Wide Church?

2. What is **mission work** in the context of the World Wide Church?

3. What do missionaries teach to improve daily life in communities?

4. How does the World Wide Church respond to **disasters** like earthquakes or hurricanes?

5. Can you name some organizations that provide disaster relief and where they started from?

6. Why does the World Wide Church support **education**?

7. What does the World Wide Church do to support education for children?

8. What does the World Wide Church do to promote **justice and peace**?

9. How does the World Wide Church create peaceful communities?

10. What kind of **spiritual support** does the World Wide Church offer?