

2020 RECYCLING POSTER & VIDEO CONTEST

HELPFUL TIPS FOR STUDENTS, GRADES 5-12

THEN, NOW, & INTO THE FUTURE!

Did you know that Paul Revere had a scrap metal yard? Or that during the great depression, families saved and reused their flour sacks to make new clothes? Recycling has been a part of human history for centuries. Recycling has transformed and been a part of our lives throughout time!

Fast forward to today. Today's recycling industry involves sophisticated machinery to process and sort different types of recycling materials needed for manufacturing. Recycling has evolved and adapted over the last 200 years to keep up with the different materials entering the recycling stream. Last year, the US recovered and processed approximately 138 million tons of scrap metal, paper, plastics, electronics, textiles, glass and rubber, saving a lot of energy, reducing greenhouse house emissions, and saving natural resources.

Yet, we still face significant challenges and there is still room for improvement. **What will recycling look like in the future?**

Your challenge: *Create a video OR a poster that imagines what recycling will look like in 50, 75, or even 100 years from now by designing a solution to a current problem in recycling today.*

Grades K-4

See your teacher or instructional leader for guidance!

Grades 5-12

Student solutions should:

- **Identify** a specific problem or a related set of problems in recycling.
- **Describe** how the technology, the process, or the recycling material has evolved over time. Do your research!
- **Imagine** and design a new solution and show how it integrates lessons learned from the past, whether failures or successes.

Getting Started

When designing a solution to an open-ended problem like this, sometimes following step-by-step procedures can limit your creativity. But to help you get started, here's a sample approach you might take:

1. **Define the Problem:** conduct some initial research to learn about current challenges in the recycling industry. You might start by researching a specific material (see list below) and learning more about it, or you might start by research something more general like: "challenges in recycling today" (see some examples of current problems below. Remember - recycling works!

List of possible materials and commodities to research:

Electronics	Plastics	Ferrous metals
Glass	Rubber	Textiles
Paper	Nonferrous metals	

Examples of some current challenges in recycling today:

These are just a few ideas! See if you can find others!

Paper - things like heavy ink, grease from food, staples, and paperclips can make it difficult to recycle paper. If the paper is too contaminated, it might end up in a landfill, or ruining a batch of recycled paper!

Glass - Glass can be recycled over and over again and never lose its strength! However, broken glass can contaminate the recycling stream. The chards of glass can create a mess make it difficult to recover other materials from the pile cleanly!

Electronics - Many electronics are short-lived and so end up being thrown away all too soon. Electronics also contain toxins like lead , mercury, and cadmium, making it hard to recycle.

Education and/or proper labelling - There are a lot of recyclable materials out there but every state, every town might label these items a little differently or not at all! It's hard to know what and how to recycle things - and so it all either ends up in the bin, contaminating items that are perfectly good to recycle, or it all ends up in a landfill!

Plastics get into our waterways rather than into the recycling stream.

General efficiency - Remember! The point of recycling to to salvage as much of the original material as possible, and be able to re-use it and turn it into something new! How can we maximize the yield to support a robust industry and economy while helping the planet?

2. **Dig into the problem:** Once you've identified an area that interests you, see if you can find more information about it. If you run into some dead ends, and there isn't too much information out there, you might need to pick a different topic. See what you can find!
3. **Collect Information:** Here are some questions you might try to find the answers to:

- Why does this challenge or problem exist?
 - What is the history of recycling this particular material or process?
 - How/when did humans start to recycle this material or use this process? How did the material used to be recycled?
 - What's worked in the past?
 - What hasn't worked in the past?
 - What ideas or lessons can we learn from the past?
4. **Ideate** - or come up with some ideas for new designs or solutions - what will recycling this material look like, or how will this process change in 50, 75, or 100 years from now? Be creative - some of the best, most successful ideas can sometimes come from "strange" places!
5. **Put it all together:** Now it's time to put it all together! Decide how you will communicate or display your research and your vision of what recycling will look like in the future. Will you create a video? Or poster? Be sure to review [specific rules and guidelines on submitting your video or poster](#).

Getting Started Websites

General Background on Recyclable Materials (commodities):



Scrap Recycling Commodities

[-https://www.isri.org/recycling-commodities](https://www.isri.org/recycling-commodities)

General Background on the History of Recycling:



Article: The History of Recycling:

<https://www.buschsystems.com/resource-center/page/a-brief-timeline-of-the-history-of-recycling>

Article: A Brief History of Household Recycling:

<https://www.citylab.com/city-makers-connections/recycling/>

Videos on How Materials Are Recycled:

The Paper Recycling Process - <https://www.youtube.com/watch?v=jAqVxsEgWIM>

Glass Bottles - How Are They Recycled? - https://www.youtube.com/watch?v=fi_4tQEP1ec

How Computers & Electronics are Recycled:

<https://www.youtube.com/watch?v=lw4g6H7alvo>

ISRI Shredder Video (How Scrap Metal is recycled):

https://www.youtube.com/watch?v=lvpNoDH_P0w

Life of a Plastic Bottle: <https://www.youtube.com/watch?v=erGnf7ws20E>

How Stuff Works: Recycling Aluminum: <https://www.youtube.com/watch?v=AOpGhAdQFEY>

The Fiber Side of Textile Recycling: <https://www.youtube.com/watch?v=CJka9tHkxjs>

How It's Made - Recycled Rubber Mats: https://www.youtube.com/watch?v=F_SoetZu67A



*** There are lots of other great resources and websites so be sure to explore on your own and dig deeper!**