

Lifecycle of a Recyclable Product

Help students to understand the lifecycle of a recyclable product by following from the extraction of raw materials, manufacturing, packaging and distribution to use, recycling, material recovery, and back to manufacturing!

AGES: 3rd – 5th Grades

INTENDED OUTCOMES: Head

SUGGESTED SUPPLIES:

- A common recyclable product such as a piece of notebook paper, a glass or plastic bottle (e.g. from a drink), or a soda can
- A white board or poster on which to draw or write out the steps of the cycle as students learn them

SUGGESTED STEPS:

- Select a common product to follow. Choose one that is simple (in that it does not contain many different parts made from other things) and is recyclable. Suggestions include a piece of notebook paper, a glass or plastic bottle (i.e. from a drink), a soda can.
 - Discuss with students what the main body of the item is made of. For example, paper is made from trees, glass is made from sand, cans are made from aluminum, which is made from a mineral called bauxite. If you can, bring a sample of the raw material (i.e. a piece of wood) for students to touch and explore! With older students, you can discuss where that raw material is found, expanding their sense of place and connections to the wider natural and societal ecosystems.
 - Look for online videos to show students how the raw material is turned into the product that will be used.
 - Explore where the item goes once it is used. Take students on a tour of the school's own recycling bins. Your custodial staff can be a great resource here and can explain to students where and how the school's recycling gets picked up. There are also a number of children's books on the topic that show through pictures and simple dialogue where the recycling truck goes!
 - If possible, take a tour of a local recycling facility. Many local waste haulers actually just do sorting, as most of the recyclable material in the United States is shipped to other countries to actually be turned into a new product. Even if you don't get to see a new bottle come from an old bottle, it's pretty neat to see part of the process!
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TIPS AND TRICKS

- Add each step that you discuss to a white board or poster to give students a visual of how the steps are connected and how they cycle back on each other.
- Try providing a hands-on recycling experience for students by creating handmade paper out of scraps of old paper! Generally this process requires a kitchen blender, a large bucket or tub, and a mesh screen in a frame and is quite fun! Search online for “how to make handmade paper” for full instructions.
- For older students, you can explain that not all recyclable materials get turned into the same thing they were before (i.e. a glass bottle into a glass bottle). Your plastic bottle might end up as a fleece jacket, or your recycled paper as an egg carton! Try looking around the classroom for things that contain recycled material. (Things like printer paper will often be labeled with what % of it came from recycled material.)
- Older students, and maybe even some younger ones, can make the connection that if they like sand, trees, or another raw source material, they might not want to use it all up to make new bottles, paper, etc. You can use this to explain the “why” behind recycling - that it allows us to have thing things we need without using up more raw materials.



Relevant Standards

SC09-GR.3-S.3-GLE1