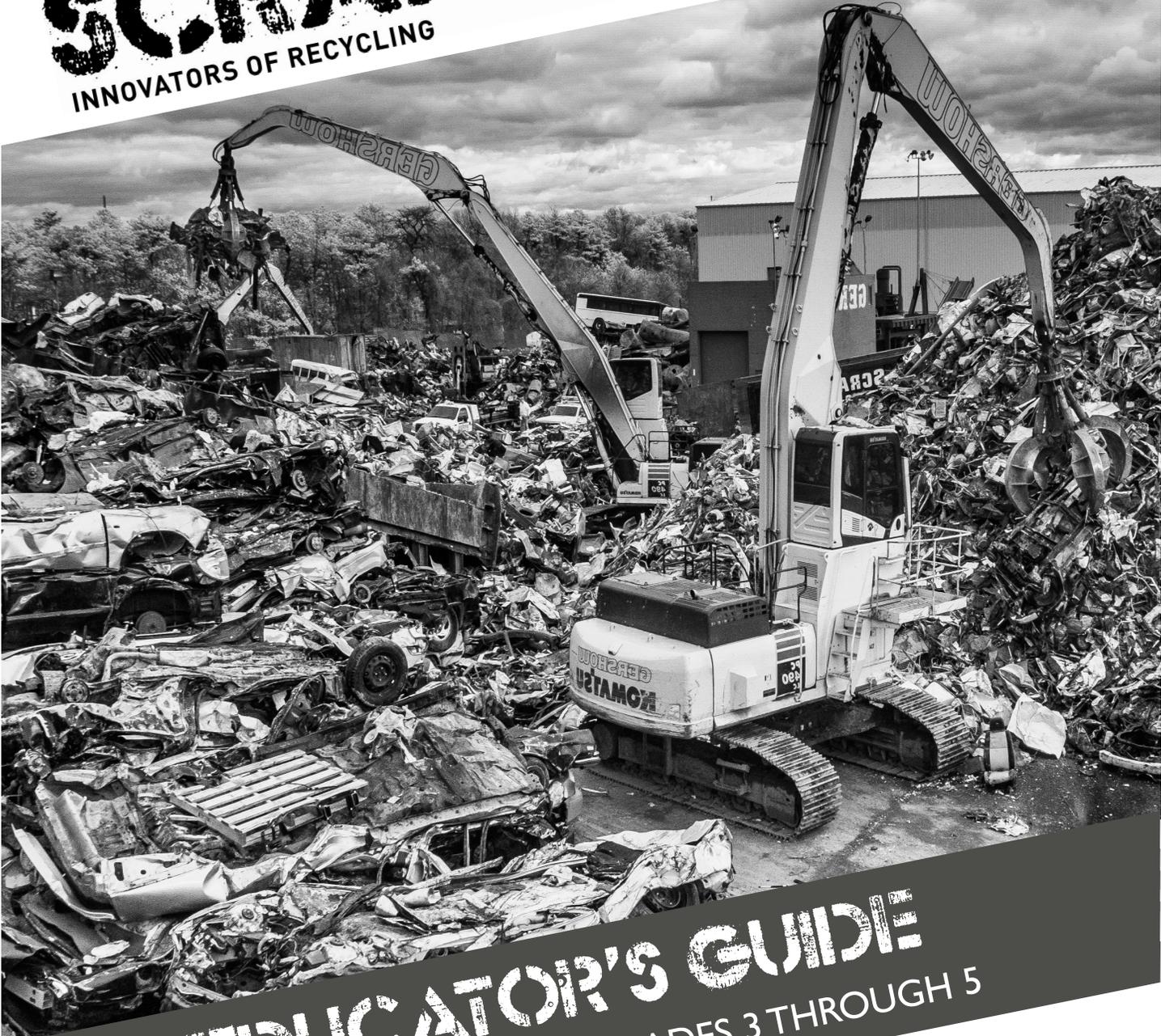


SCRAP YARD

INNOVATORS OF RECYCLING



EDUCATOR'S GUIDE

RECOMMENDED FOR GRADES 3 THROUGH 5

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BEFORE YOU VISIT

- Please read through these materials. Activities in this Guide were designed for grades 3 - 5.
- Please use the classroom activities and resources to help prepare your students.
- Review the glossary of terms with your students.

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ABOUT

Scrap Yard: Innovators of Recycling tells the important role that people, many of them Jewish immigrants, had in creating the scrap industry. It also tells the story of how almost everything that becomes worn, useless, or obsolete can be changed into something useful again. Through hands-on activities, students will experience the sights and sounds of one of America's largest industries, its innovative technology, and the stories of the immigrant families that built it.

This Educator's Guide contains background information on the scrap industry, curriculum connections, and classroom activities to support your visit to the JMM. Please tailor this Guide to best fit your students' learning and classroom needs.

LEARNING OBJECTIVES

- To introduce students to the idea that scrap is not trash but a valuable resource.
- To teach students about the role of Jewish and non-Jewish immigrants in creating the scrap industry.
- To explore the scrap industry's relationship with the environment.
- To introduce students to how the demands of scrapping led to technological innovations.

CURRICULAR CONNECTIONS

We want to support your classroom learning. Please let our team know what you are studying in class and we will work together to create a visit that reinforces and explores those topics further. Our *Scrap Yard: Innovators of Recycling* education program and Educator's Guide explores topics of **immigration, recycling, and Baltimore history**, while strengthening skills such as **strategic thinking, teamwork, interpreting primary sources, and creative thinking**.

Jewish History Connections

Jewish Immigration to the United States 1880s-1930s

Economic Challenges Facing Jewish Immigrants in America

Jewish Innovators and Entrepreneurs

Jewish Values Connections

Achrayut – Social Responsibility

Bal Tashchit – Do not Destroy

Bitachon – Confidence

Netzach – Perseverance and Grit

Roeh et HaNolad – Foresight

Yetzirah – Creativity

Zerizut – Zeal

L'Dor V'Dor Jewish Environmentalism

Learn more about a variety of Jewish organizations seeking to educate and inspire people to protect this planet and its natural resources for generations to come.

Hazon: Called “the Jewish lab of sustainability,” Hazon strives to create “a movement which strengthens Jewish life and contributes to a more environmentally sustainable world for all.”

<https://hazon.org/>

The Pearlstone Center: Founded in 1982 in partnership with The Associated in Baltimore, the Pearlstone Center and its staff “connect people to the land, so they value the connection between both; Adam and Adamah” and “embody, teach and inspire the practice of environmental sustainability.”

<https://www.pearlstonecenter.org/>

Jewish Museum of Maryland: Scrap Yard: Innovators of Recycling Website: An extension of the *Scrap Yard: Innovators of Recycling* exhibit, the Jewish Museum of Maryland's Scrap Yard website seeks to compliment your experience with further details and additional resources about the history of the scrap industry, its technology, and those that dedicated their lives to making discarded items into new products.

<https://www.scrapyardexhibit.org/>

BACKGROUND INFORMATION

WHAT IS SCRAP?

Scrap is not waste, trash, or garbage. Rather, it is worn out and obsolete products – old cars, bicycles, ships, refrigerators, empty bottles, packing materials, or clothing – that can have value after they served their original purpose. Scrap can come from places such as your house, favorite restaurant, neighborhood supermarket, school, the demolition of old buildings and bridges, and hospitals, to name a few.

Scrap can be divided into several commodity groups: ferrous scrap made out of iron or steel, such as cars and machinery; nonferrous scrap made out of metals like aluminum, lead, and copper, such as pipes; electronic scrap such as old cell phones and televisions; and nonmetallic scrap such as paper, rubber tires, and plastic.

WHAT IS THE SCRAP CYCLE?

Did you know that everything you touch becomes part of the scrap cycle?

The scrap cycle begins when you recycle a worn-out or obsolete item. From your recycling bin, it is collected, weighed, and sold to a recycling processing center where the item will be transformed back into its original materials. At the recycling processing center, the first step is to sort all of the scrap into commodity groups. Then, the scrap is processed into smaller components using a variety of tools, such as shredders, shears, and balers. Now broken down into smaller forms, the scrap is sold to manufacturers, such as steel mills, foundries, paper mills, and fabricators where it will be turned into new products.

EARNING A LIVING IN A NEW HOME

For many immigrants to the United States in the 19th and 20th centuries, trading in scrap materials was the only way to make a living because the job required little English or starting money. These scrap collectors, peddlers, and dealers traveled across North America bartering goods for scrap as they went. They could be heard bellowing for rags and metal in city streets and seen buying materials on farms. They carried their haul in sacks or wagons, and they relied on hand tools for breaking objects apart to salvage materials. Their work was demanding and their hours long. As scrap businesses grew, their founders invested in ways to process more material. By the early 20th century, many scrap operations had grown into expansive industrial sites.

THEN AND NOW

A scrapper of the 19th century would hardly recognize the scrap industry of today. What were once small lots often located next to the scrapper's home are now massive, sprawling scrap yards. Back then, scrappers relied on three tools: a pair of alligator shears, a wheelbarrow, and their own two hands. Today, the scrap industry uses balers, shredders, cranes, and trucks to make the industry more efficient and profitable. One thing, at least, remains the same: the entrepreneurial spirit, ingenuity, and adaptability of those who dedicate their lives to making worn-out, obsolete, and discarded items into new products.

CLASSROOM ACTIVITIES: BEFORE YOUR VISIT

VOCABULARY GRAFFITI

The *Scrap Yard: Innovators of Recycling* exhibit uses domain-specific vocabulary from the scrap industry. Prepare your students to engage with this exhibit by practicing the vocabulary before visiting. Vocabulary Graffiti asks your students to make an illustration of the vocabulary word while incorporating the word into the image.

1. Explain the concept of vocabulary graffiti to your students.
2. Assign each student a word and its definition from the glossary in this Educator's Guide.
3. Have students individually research their word and create a piece of vocabulary graffiti for their word.
4. Ask students to share and explain their vocabulary graffiti with the class. Make sure to share your students' artwork with the JMM's social media pages!

WHERE DOES MY TRASH GO?

Putting garbage in a trash can or recycling bin is only the first step in its journey. In this activity, your students will explore the different paths their trash takes and will examine its environmental impact.

1. Have students think-pair-share about where their garbage goes after they throw it away.
2. Share with students that trash often gets placed in a landfill where it can take many years to break down and where its materials cannot be reused or repurposed.
3. Divide the class into small groups of students and assign each group one of the following items: a newspaper, an apple core, a milk carton, a plastic bag, a soda can, a plastic water bottle, and chewing gum. Then ask students to guess how long they think it would take for their item to break down in a landfill.
4. Watch this video from Tech Insider about how long it takes for different items to decompose in a landfill: <https://www.youtube.com/watch?v=iS4VDu98Qa8> Before watching, ask students to watch for their item and check their answer.
5. Review with your students the definition of recycling and explain that, for some items, it is an alternative to the landfill.
6. Watch this video from *How It's Made* that describes how plastic bottles are turned into polyester to show your students how the recycling process repurposes old materials. <https://www.youtube.com/watch?v=xnutURokix0>
7. With your class, research and review what items can be recycled in your area through the website of your local county or city government.

EARNING A LIVING IN A NEW HOME: ARCHIVAL EXPLORATION

Throughout history, immigrants came to America for a wide variety of reasons. One of these reasons was to seek economic prosperity in the land where “the streets were paved in gold,” but for many immigrants the only opportunities were in difficult jobs demanding in both their time and labor. Learn about five different industries in which new immigrants historically found employment through this primary source driven archival exploration.

1. Review the definition of the word “immigrant” with your students and then ask them to name common reasons immigrants might leave their home countries.
2. Explain to your students that one reason immigrants came to the United States in the 19th and 20th centuries was to find a job. Sometimes, however, finding a job in the United States could be difficult for new immigrants, as many did not know English. Jewish immigrants coming to Baltimore often worked in the industries listed below.
3. Model with your class how to interpret a primary source by using the garment industry photograph in the [Earning a Living in a New Home Resource Packet \(Separate PDF download\)](#) and answer the corresponding questions together.
4. Divide students into small groups and assign each group one of the four remaining photographs. Have interpret the photograph by answering their corresponding questions.
5. Ask your students to write a diary entry as though they were an immigrant in the United States working in their industry during the 1920s. Students should think about what their job would entail, what skills or characteristics they need for their job, why they found work in this industry, and what challenges they may face.
6. Ask students to share their diary entries with the class.

Industries:

Garment Industry: where people cut fabric and sewed clothing.

Canning Industry: where people packed food into cans to sell.

Scrap Industry: where people would buy discarded items and sell their parts.

Laundry Industry: where people washed clothing.

Grocery Industry: where people owned small, local grocery stores.

CLASSROOM ACTIVITIES: AFTER YOUR VISIT

JEWISH VALUES: BAL TASHCHIT

What is Jewish about recycling? In this activity, investigate the Jewish value of *bal tashchit* to learn about how Judaism emphasizes not wasting materials.

1. Have students think-pair-share about what it means to “reduce waste.” Ask students to also identify some examples of reducing waste, such as using a refillable water bottle.
2. Share with your students that reducing waste and protecting the environment are part of the Jewish value of *bal tashchit*. As a class, watch the video from Shaboom! to explore this value. Once the video has finished, check your students’ comprehension. <https://www.youtube.com/watch?v=NUxGQ8tHVeg>
3. Brainstorm as a class ways to promote recycling and reduce waste in your school and community (such as presenting a morning announcement about the topic or advocating for recycling bins in every classroom) and work together to implement one of their ideas.

REPURPOSING GAME

Recycling is more than just putting plastic into a recycling bin each week. Discovering new ways to reuse old items can significantly reduce the need for new raw materials. Students will utilize their creative thinking skills in this game about repurposing.

1. Read aloud (or have students read in pairs) a book that describes how one item can be repurposed to make many new objects. See the “Recommended Reading” header below for examples.
2. Divide the class into groups of four or five and give each group a piece of paper.
3. Tell the students that they are going to play the Repurposing Game. For each round, you will show them an image of a discarded item (such as a plastic water bottle). Then your students will have one minute to brainstorm as many ways to repurpose that item as they can (such as using the plastic bottle caps for wheels on a toy car). Once they have finished, each group will share their list and you will tally up their points.
4. Play three to four rounds of the game and whichever team has the most points at the end wins!

Recommended Reading:

The Giving Tree by Shel Silverstein illustrates all of the different items the boy makes from the Giving Tree including a boat, a seat, and a house. Ages 6 - 8.

My Grandfather’s Coat by Jim Aylesworth describes how a coat the grandfather wore when he emigrated to the United States becomes a vest, a tie, and a kitten’s toy. Ages 4 - 8.

The Keeping Quilt by Patricia Polacco illustrates the many ways her family, throughout many generations, has used a quilt that was sewn together from a babushka, a shirt, and an apron. Ages 4 - 8.

Something From Nothing by Phoebe Gilman depicts how Joseph’s grandfather turns a baby blanket into a jacket, a handkerchief, and a button. Ages 4 - 8.

TRASH INTO TREASURE: RECYCLED ART

Inspired by the ingenuity, creativity, and perseverance of those that have dedicated their lives to recycling and repurposing scrap? Engage your students with this artistic activity asking them to create from collected recycled materials sculptures with a message.

1. Collect scrap items such as toilet paper tubes, empty cans, paper towel tubes, plastic bottles, cardboard boxes, bottle caps, scrap paper, empty tissue boxes, etc.
2. As a class, watch one of the videos from the header “Recycled Artwork” below. Ask students why the artist in the video made their art: what are they trying to teach their viewers?
3. Have students create sculptures out of the collected materials. Their art should show the importance of recycling and protecting the environment. Students might choose to make an animal, a natural landscape, or a word out of the recycled materials.
4. Have students write a title and description of how their sculpture promotes recycling on an index card and create an art gallery in your classroom displaying their sculptures and artist descriptions. Make sure to share your students’ artwork with the JMM’s social media pages!

Recycled Artwork

Washed Ashore: This organization, using scrap found along beaches, creates larger-than-life sculptures of sea creatures with the hopes of raising awareness about plastic pollution. <https://washedashore.org/>

- Washed Ashore Sculptures in DC: https://www.youtube.com/watch?v=wNEJhPj_yUY
- Making a Sea Dragon: <https://www.youtube.com/watch?v=HbvXo0VCCkQ>

LandFillharmonic: Watch the story of the Recycled Orchestra of Cateura, “a Paraguayan musical group that plays instruments made entirely out of garbage.” <http://www.landfillharmonicmovie.com/>

- Movie Trailer: <https://www.youtube.com/watch?v=fXynrsrTKbl>

Sandtown Millworks: This Baltimore organization salvages old wood from demolished buildings and uses it to create new furniture. <https://www.sandtown.com/>

- Baltimore Sun Interview: <https://www.youtube.com/watch?v=-QUmvQzd3LQ>

GLOSSARY

Baler: A pressing machine designed to bring together loose pieces of cardboard, paper, plastic or other *scrap* materials into a neat and manageable shape. This aids in the transportation and reuse of materials in the *recycling* industry.

Electromagnetic Crane: Used to pick up and move objects and piles of material containing steel and iron. An electromagnet hangs from the arm of a crane and uses a magnetic field created by an electric current to lift *ferrous scrap*.

Environmentalism: A way of thinking and acting that seeks to balance the interconnections of human activity with the needs of animals, plants, and non-living matter.

Entrepreneurship: The process of creating a new business. A person who creates a new business is known as an *entrepreneur*.

E-Scrap: Discarded electronic products, also referred to as E-waste.

Ferrous Metal: Metal *scrap* that contains iron and is usually magnetic.

Immigrant: A person who permanently moved from their country of birth to another. Many people involved in the *scrap* industry were or are immigrants.

Innovation: To create a new idea, method, or device. It can also mean a change made to an existing product, idea, or field.

Landfill: A site for the disposal of waste materials by burying waste into the ground, also known as a dump.

Non-Ferrous Metal: Metal that does not contain iron and is not magnetic.

Peddler: Someone who sells *scrap*, used items, or small objects along the street or door-to-door.

Rag: *Scrap* textiles, such as cotton, wool, and synthetic materials, ready to be reused in new products.

Raw Material: An unprocessed natural resource.

Recycling: The process of turning trash into new products. Sometimes called *scrapping*. The aim of *recycling* is to decrease the waste of useful materials and to reduce air and water pollution.

Scrap: Left over materials from manufacturing processes or consumption. Scrap is manufactured into valuable commodities that are used to make new products. Scrap is also sometimes referred to as junk, waste, trash, or garbage by those not in the industry.

Scrapper: An individual who works in the *scrap* industry. A scrapper collects recyclable materials and may supply them to a scrap dealer for sale or sell the scrap themselves.

Shears: A tool for cutting metal.

Shredder: Piece of machinery that reduces all manner of materials (paper, plastics, metals etc.) into smaller strips of material.

Sorting: Separating *scrap* materials by type.

Sustainability: A practice where both manufacturing and consumers work to preserve and protect natural resources. Sustainable practices support ecological, human, and economic health and vitality.

Torch: A handheld tool that produces a flame. Torches are used to cut *scrap* into smaller sizes.

Upcycling: A process of reusing 100% of a *scrap* material.

Waste Reclamation Service: This organization was created as part of the War Industries Board in World War I. It promoted the idea of conservation and salvage by ordinary Americans at home to combat wartime shortages.

THANKS

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