Recycling & the Circular Economy
About the authors

Created in partnership with the National Wildlife Federation’s education team and Rubicon’s sustainability team, this lesson plan will encourage deeper learning for students participating in the “Trick or Trash” Halloween candy wrapper recycling campaign. It is also valuable to any students learning about recycling, sustainability or environmental preservation.

To explore the National Wildlife Federation’s education programs, please visit https://www.nwf.org/Educational-Resources/Education-Programs. To explore National Wildlife Federation’s virtual learning resources, please visit https://www.nwf.org/Eco-Schools-USA/Resources/Activities/Virtual-Classroom.

To learn more about Rubicon, please visit: http://www.trickortrash.com/.
Lesson title
Recycling and the Circular Economy

Grade level
Grades 3 - 5

Lesson overview
More and more students are practicing recycling and understand its benefits to the planet. But they might not realize recycling is also a vital component of the “circular economy,” a system designed to phase out pollution and waste and phase in products and solutions that have longer life spans and multiple uses. Schools, businesses, cities, and governments are now actively developing “circular systems” to conserve resources, save money, and reduce waste.

Not only is it important for students to understand the principles of “circularity,” but it is also motivating for them to know what new products can come from their recycling efforts. Rubicon’s “Trick or Trash” campaign uses a specially-designed recycling box for candy wrappers and is donated to schools ahead of Halloween 2020. The accompanying activities are designed for children in grades 3-5 and build upon basic waste and recycling knowledge, while at the same time, is a component piece in laying the foundation for understanding a circular economy in later grades.
Learning outcomes

Children will be able to

- Define resources, recycling and waste.
- Identify examples for each vocabulary
- Explain why recycling is important; and
- Participate in the recycling process by putting candy wrappers into a Trick or Trash box at school or nearby community location.

Core Concepts

- Using academic vocabulary
- Sorting
- Tallying
- Adding
- Graphing
Learning outcomes

Enduring Understanding

Recycling keeps the community clean and protects wildlife.

Guiding Questions

The guiding questions can be referenced throughout the Trick or Trash activities, but they will be specifically used for the worksheet *Trick or Trash, Use Your Words*.

- What is a resource?
- What is waste?
- What does it mean and what does it look like to recycle?
- Why do we recycle?
- Why is reducing waste and recycling important for wildlife?
Vocabulary

Resource:
An item used by people to meet a need. For example, a jar of jelly is a resource. We use this resource in recipes or on toast, and when it is gone, we throw the jar away.

Waste:
Items that are unwanted that people throw away. Waste is also called trash, litter or garbage, and can be a solid, liquid or gas. For example, the jar we threw away is considered waste.

Recycle:
This is a process where resources, instead of throwing them away and becoming waste, are changed into something we can reuse. Recycling keeps our neighborhood clean and protects wildlife.
If children do not have access to a printer to print off the worksheets, these activities can be completed with paper, pencil, a straight edge (like a rule) and some colors.

• Trick or Trash, Show What You Know
• Trick or Trash, Use Your Words
• Trick or Trash, Candy Wrapper Sort
• Trick or Trash, Graphing Data
Activities
Trick or Trash, Show What You Know!

Think about what you know about waste and recycling, then answer each question in a complete sentence.

What is a resource?

What is waste?
Trick or Trash, Show What You Know!

Think about what you know about waste and recycling, then answer each question in a complete sentence.

What does it mean and what does it look like to recycle?

Why is reducing waste and recycling important for wildlife?
Trick or Trash, Use Your Words

Use each vocabulary word in a sentence, then illustrate your sentence.

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<thead>
<tr>
<th>Resource</th>
<th>Waste</th>
<th>Recycle</th>
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# Trick or Trash, Candy Wrapper Sort

1) Spread out your candy wrappers in front of you.

2) Choose how you want to sort them-by wrapper color, candy type, etc, and add your heading to column 1, row 1.

3) Sort your wrappers based on your choice in number 2.

4) Tally them using the center column, labeled "Tallies".

5) Find the total for each row.

6) Find the sum of the totals in column 3.

7) Optional. Write an equation representing your tallies.

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<tr>
<th>Example: Candy bar wrappers</th>
<th>Tallies</th>
<th>Totals</th>
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Use the graph template to create a bar graph.

• Your graph requires three labels. (A title, an x-axis title and a y-axis title)
  • The x-axis, (line that runs left and right/horizontally) will be your sorting categories from column 1.
  • The y-axis, (line that runs up and down/vertically) will be the increments. You will decide if you should number this axis by 1s, 2s, 5s, or 10s.
Resources for further learning

- United States Environmental Protection Agency
- National Geographic – Pollution
- RUBICONMethod
- Rubicon – A guide to what makes something recyclable
- Recycle Across America

- Ellen MacArthur Foundation
- World Economic Forum

- National Geographic – Great Pacific Garbage Patch
Thank you!