

## Kindergarten – How to Save Critters from Litter: Reuse, Reduce, Rot, Recycle, Refuse!

### Standard

**K-L2. obtain, evaluate, and communicate information about how organisms and human activity cause changes to the local environment**

2a. collaboratively develop and refine a model to represent the relationship between the needs of plants and animals (including humans) and the places they live (Clarification Statement: Students should explore both living and nonliving components in the environment. )

2b. ask questions based on observations to explain how plants and animals (including humans) change the local environment to meet their needs

2c. collaboratively design and communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things to the local environment (Clarification statement: Examples of human impact on the land could include cutting down trees to produce paper and using resources to produce bottles. Examples of solutions include reusing paper and recycling cans and bottles.)

### Teaching Tips

**Preparation** Obtain a variety of items made of different materials for students to bury and dig up 1 week – 1 month later. Consider comparing a food item, fabric item, metal item, plastic item, and paper or cardboard item. Other supplies needed: garden trowels for students to use to dig holes.

**Directions** for this lesson and investigation (on next page) are written for adult use. Students will use the Notice / Wonder / Design template from the appendix, which has larger space for drawing and writing.

**Phenomenon:** Present phenomenon in lesson without explanation before or after students view it.

**What Do you Notice?** Engage students in writing a tentative explanation (or making a labeled drawing) that tells what they observed.

**What Do you Wonder?** Engage students in asking their own questions, which will form the basis for research.

**Student Research** After each student writes a question, consider placing the question on a sticky note, grouping them in categories, and allowing students to research in small groups according to their interests. A curated collection of videos is provided for student research using the jigsaw protocol: [www.jigsaw.org/](http://www.jigsaw.org/)

**Teacher-Directed Activity** Show this video to students: What Happens to Stuff We Throw Away? (<https://www.youtube.com/watch?v=BjjqkU74IGc>) or substitute a similar book or video

**Zero Heroes Lesson Activity** Students will participate in a schoolyard scavenger hunt to find evidence of ways humans can harm plants or animals by

**Revised Explanation** Allow students to return to and revise their initial explanations of the phenomenon. Clear up any misconceptions about where materials go when they are littered or thrown away.

**Teacher Resources** Explainer Videos: choose one or more to show all and the rest for student research groups

Where Does Litter Go? - [Sea Animals Harmed by Plastics](#)

What Can We Do to Reduce the Trash we Make? [Waste Less](#) [Crayon Recycling](#) [Reduce, Reuse, Recycle](#)

How Long Does it Take Garbage to Rot Away? [Garbage Rotting Away Timelapse](#)

Where does paper come from? [Paper is made from trees](#) video

Where do plastic bottles come from? [From Oil to Plastics](#) video

Where do cans come from? [How Aluminum Cans are Made](#) video



# K: How to Save Critters from Litter: Reduce, Reuse, Rot, Recycle, Refuse!

## The Phenomenon



Credit: The Dodo – [Six Pack Turtle Unstoppable](#) article

## What do you notice? (tentative explanation)

Show the picture of the turtle **without providing any explanation!** Engage students in writing about or drawing what they noticed when observing this phenomenon. Ask them to explain what they think happened. This will serve as their tentative explanation. At the end of the lesson, allow students to revise and refine their explanations to reflect new information and understanding. Explanations may take the form of labeled drawings. Use K-2 Lab Report template. Additional photos of animals harmed by waste may be found [here](#); and plants [here](#).

## What do you wonder? (student questions)

Engage students in **asking their own questions** about the unexplained phenomenon (misshapen turtle with the plastic loop around its midsection). These questions will form the basis for student research, which the teacher can facilitate by curating the resources below to select the most relevant ones.

## Curated articles and videos for [Jigsaw Research](#) [www.jigsaw.org](http://www.jigsaw.org)

- What Happens to Stuff We Throw Away? [Where Does Garbage Go?](#)
- Where Does Litter Go? -[Sea Animals Harmed by Plastics](#)
- What Can We Do to Reduce the Trash we Make? [Waste Less](#) [Crayon Recycling](#) [Reduce, Reuse, Recycle](#)
- How Long Does it Take Garbage to Rot Away? [Garbage Rotting Away Timelapse](#) video
- How is paper made? [Paper is made from trees](#) video
- How is plastic made? [From Oil to Plastics](#) video
- How are cans made? [How Aluminum Cans are Made](#) video

## Investigation: Schoolyard Scavenger Hunt

- Conduct a schoolyard scavenger hunt where students search for animals and plants that could be harmed by litter.
  - Also search for litter and collect it to analyze before disposing it properly (in landfill or recycling bin).
  - Note: for the sake of student safety and to reduce the number of disposable gloves needed for this activity, students may be the "spotters" and the teacher the "collector."
  - Categorize the most common types of litter by creating a graph in the classroom.
- Discuss: What harm can waste do? (students may focus on injuries to wildlife, as in phenomenon, or harm to plants and people too).
- Discuss: Ideas for how we can protect wildlife by being less wasteful and recycling, reusing, or refusing disposable items.
- Extension: Participate in the [Soil Your Undies](#) community science project by burying different types of materials in the schoolyard.
  - Debrief the activity by asking which items rot if composted; and which do not?
  - Discuss why materials that biodegrade (break down quickly into bits, whether littered or disposed of in a landfill) are less likely to harm wildlife or plants than materials that are long-lasting (do not biodegrade) yet cannot be re-used - such as single-use plastics

## Revised Explanation

As a class, discuss and decide on a revised explanation for what happened and why (in the photo that depicts the phenomenon) and what they have learned from it. For instance, students may say they learned that disposing of waste improperly can harm wildlife and that being careful not to litter and choosing to recycle are things people can do to care for the planet, including its plants and animals.