



# DECOMPOSITION

*TEVA TABLING provides quick and easy hands-on interactions with Jewishly rich content from Hazon's outdoor, food, farming and environmental education portfolio. Learn more at [hazon.org/teva](http://hazon.org/teva).*

## LEARNING OBJECTIVE

What can return to the earth quickly and what will stick around for hundreds of years? This game will challenge participants to think critically about the trash they produce, what happens when they throw things “away,” and how the earth plays a role in this process.

## FRAMING

- What do we throw away that we can recycle? Take recycling into your own hands! Ask students to name some items that they typically throw away. Can any of these things be used in other ways? What can you do with the plastic bag their bread came in or egg cartons?
- What is compost? How do we turn our food waste into compost that can be used to grow new food? If your site has their own composting system, remind your students of how it is done at this location. Introduce decomposition and how it is possible because the materials that we compost are biodegradable.
- Many of the materials found in a landfill are non-biodegradable – meaning they cannot be broken down in the environment by a natural process. Decomposition does not occur naturally in landfills. For example, landfills are dated by finding still-readable newspapers that may be 50 years or older!
- Discuss the importance of separating materials into the waste system to which they belong. Remember to point out that a banana peel does not make new useable soil when it's trapped in a landfill!
- If participants question the time values of decomposition given in this activity, use this as a teachable moment. Talk about the challenges of knowing the long-term consequences of using relatively new materials that we have created (i.e. plastic and styrofoam). Scientists and engineers make educated guesses for decomposition rates based on their understanding of the chemical structure of the materials and how they will interact with chemicals found naturally in the environment. Remind participants that the decomposition rates in this activity are an average.



*Teva works to fundamentally transform Jewish education through experiential learning that fosters Jewish, ecological, and food sustainability. Teva is a program of Hazon. Learn more at [hazon.org/teva](http://hazon.org/teva).*

## MATERIALS

Index cards with pictures and labels of the following objects and the time periods labeled on the back of the cards.

Tissues	(1-2 weeks)
Paper towels	(2-4 weeks)
Banana peels	(1 month)
Newspaper	(6 weeks)
Apple core	(2 months)
Orange peel	(6 months)
Leaves	(6 months)
Wool socks	(1-2 years)
Milk cartons	(5 years)
Wood	(10-15 years)
Plastic bag	(10-20 years)
Rubber soles	(50 years)
Batteries	(100 years)
Plastic bottle	(450 years)
Disposable diapers	(500 years)
Glass	(1-2 million years)
Electronics	(millions of years)
Tin foil	(never)
Styrofoam	(never)



## INSTRUCTIONS

- 1** Challenge students to either work individually or with others to “order” the index cards by how long they think it takes the objects to decompose in a landfill.
- 2** String raisins and cereal on 10-12 inches of the wire.
- 3** Ask them how long they think each will take: days, months, years?
- 4** Tell them to flip the cards over to reveal the answers. Ask them to find the errors and reorder the cards in the correct way.

