

# Environmental Education: 3Rs (Reduce, Reuse, Recycle)

## Time to Decompose

### Background

When trucks bring garbage to Hartland Landfill it is taken to the active face and dumped on the ground. Once the truck has moved away a compactor will crush and compress everything so it is as small as possible. This saves space, and will allow the landfill to last longer. Once compressed the garbage is covered in gravel or dirt. As time goes on, more garbage comes in and will be dropped on top of the gravel layer creating a new layer of garbage. The landfill is built with these layers, crushed garbage, gravel, crushed garbage, gravel, etc.

While garbage does decompose in a landfill, it takes much longer than if left in the open. Decomposition often relies on oxygen, as well as certain temperatures and moisture. In older landfills and open dumps, decomposition was faster. Older landfills were often uncovered and exposed to more oxygen and rain and would therefore have faster decomposition. Because the garbage is crushed and buried at Hartland there isn't very much oxygen or moisture in the landfill which results in slower decomposition.

### Activity Instructions

There are a few ways to explore how long things take to decompose in a landfill. Use one of the attached handouts or;

1. Gather commonly recycled materials or materials listed in the table below.
2. Print labels or have students write the times to decompose on scrap paper.
3. Place materials around the room.
4. Have students walk around the room and leave a label with the time they think it would take that item to decompose.
5. Once all students have visited each item, review the findings.

### Discussion Questions

Did you find any of the times surprising?

Why would burying items in a landfill be an issue?

If we had recycled all these materials what new things could have been made?

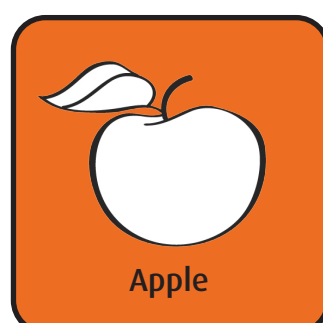
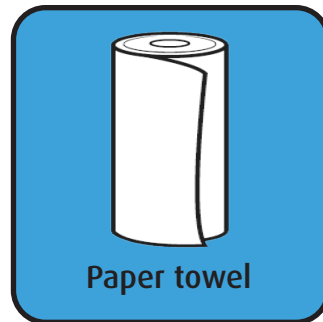
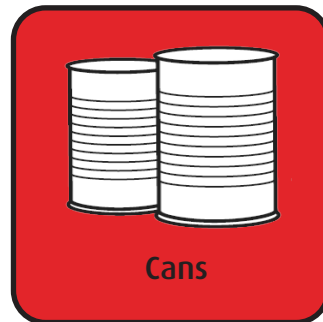
What are alternatives to throwing things in the garbage?

Answer Key:

Item	Time to Decompose
Paper towel	4 weeks
Apple core	2 months
Plastic grocery bag	20 years
Aluminum can	200 years
Disposable diaper	500 years
Glass bottle	1 million years
Styrofoam cup	Unknown

## Time to Decompose

How long do you think it takes things to start to decompose or breakdown in a landfill? Use the provided times to label the items with the time you think it will take them to decompose.



Options:

1 million years

20 years

Unknown

4 weeks

2 months

200 years

## Time to Decompose

Cut out each item below and arrange them in a line. Start with the item you think will take the **shortest** amount of time to decompose and end with the one that will take the **longest** time to decompose.



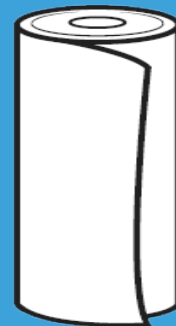
Plastic bag



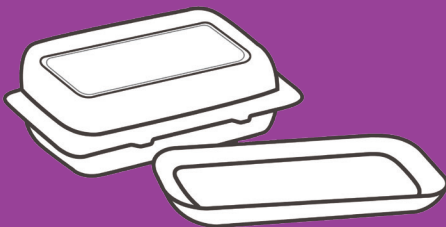
Cans



Glass jars



Paper towel



Styrofoam



Apple

## Time to Decompose

Match the items below to the time it takes them to decompose in a landfill.

Item	Time to Decompose
Apple core	
Aluminum can	
Disposable diaper	
Plastic grocery bag	
Paper towel	
Glass bottle	
Styrofoam cup	

Unknown	500 years	4 weeks	1 million years
	20 years	200 years	2 months

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