



# RACE TO DECOMPOSITION

## Instructional Guide

Dear teacher,

The EarthGen team has been working to create virtual experiences for students to continue to learn about and explore the world around them. The Race to Decomposition is an interactive resource that allows students to observe and influence the decomposition process in their own homes. This is a paced experience, with four weekly videos to check on your students' progress. The Race is a science investigation informed by NGSS and is best suited for upper-elementary students. Students are encouraged to be creative and make adjustments to their investigation as they go.

During this series of short (~5 min) videos, students will explore what decomposition is, what elements are necessary for organic material to decompose, and why decomposition is important. The Race to Decomposition is inspired by EarthGen's Zombie Guacamole program. Zombie Guacamole describes the true story of an archeologist who found a 25-year-old, perfectly preserved bowl of guacamole in a landfill in Arizona. Throughout the Zombie Guacamole lessons, students discover what factors were missing in that landfill that prohibited decomposition to occur. There are two primary types of decomposition, aerobic (with oxygen) and anaerobic (without oxygen). During the Race to Decomposition, students will learn about the components required for effective aerobic decomposition. The requirements for effective aerobic decomposition are oxygen, light, water, temperature, and FBI (fungi, bacteria, and invertebrates).

To use this resource, please send your students the link to the Race to Decomposition. Your students will be able to watch the introduction video and begin assembling their investigation. In the three weeks to follow, have your students watch the subsequent videos and conduct weekly check-ins on their progress. We encourage students to share photos of their progress with you or EarthGen at [shannon@earthgenwa.org](mailto:shannon@earthgenwa.org).

Good luck and please let us know if you have any questions!

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### Standards:

**5-LS2-1** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

**5-ESS3-1** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

**5-PS3-1** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.





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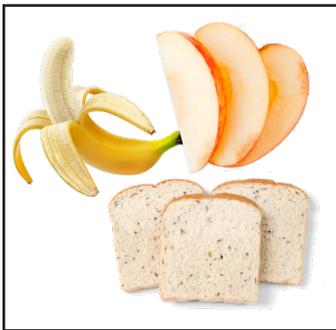
## Materials List:



A clear container with a lid  
(can be plastic or glass)



Soil  
(not potting soil)



A piece of organic material  
(apple, banana, bread, etc.)



Any other materials that  
you would like to add to  
your jar to help speed up  
decomposition



A notebook or piece of  
paper (for sketching and  
observation notes)



A pencil or pen

## Video Guide:

What makes an apple core decompose? This video kicks off EarthGen's "Race to Decomposition" – a simple investigation using everyday materials from home. Through a series of four online video lessons, we'll race against time and explore factors that affect decomposition.

## Video Notes:

- Shannon uses a slice of apple in her jar, but any piece of organic material (see materials list for ideas) you have in your home will work.
- Shannon uses a small glass jar, but you can use any clear container (plastic or glass) that has a lid.

## Share Your Progress:

Keep us updated on your investigation by emailing your drawings or photos to [shannon@earthgenwa.org](mailto:shannon@earthgenwa.org) or tag @earthgenwa on social media. We'll share the images we receive, so we can all see your progress.

## Questions?

Email Shannon Brennan at [shannon@earthgenwa.org](mailto:shannon@earthgenwa.org).

