Decomposers Unit Read Me

The Decomposers Unit is a tool kit, not a script.

While the *Decomposers Unit* Teachers' Guide may *look* like a script with lots of activities to do one after another, it is actually designed to be more like a user's manual for a set of tools. You can decide which tools are right for your students and your goals. This document alerts you to choices to make before each lesson.

Making Your Choices

Here is a brief summary of choices for teaching *Decomposers*. See the Teacher's Guides for more in depth discussions of your choices.

Pre-Lesson 1

All students should complete Pre-Lesson 1.

Lesson 1

All students should complete Lesson 1.

Lesson 2: Choose how to use repeating activities.

Activities 2.1, 2.2, and 2.3 are *exactly the same* as the equivalent activities in the *Plants* and *Animals* units. These are important and foundational activities, but students may not need to repeat them. Within Activity 2.1, the Cells: The Building Blocks Reading is optional.

Activity 2.4 is decomposer-specific, so we recommend teaching it.

Lesson 3

All students should complete Lesson 3.

Lesson 4: Choose how to use repeating Activity 4.1.

The molecular modeling part of Activity 4.1 is *exactly the same* as the molecular modeling for cellular respiration in the *Plants* and *Decomposers* units. Consider skipping the molecular modeling parts of the activity if you have already done them in another unit.

There are a set of scaffolding tools you can choose to use with your students in Activity 4.2, These tools include:

- The Explanation Tool, which gives the students both more structured and less-structured ways to construct explanations that answer the Three Questions
- The 4.2 Explaining How Cows Move and Function: Cellular Respiration PPT
- The Three Questions Explanation Checklist, which students can use to evaluate their own explanations or other examples
- Example explanations that students can analyze and discuss
- A reading (4.2 How do Decomposers get the Energy They Need to Move and Function? Reading), and a graphic organizer (Matter and Energy in Decomposers Graphic Organizer)

You may find that you use more of these scaffolds early on and gradually use fewer over time depending on your students' needs. Use your professional judgement about the best choice for your students.

Lesson 5: Choose whether to use Activity 5.2.

The molecular modeling part of Activity 5.2 is *exactly the same* as the molecular modeling for biosynthesis in the *Plants* and *Animals* units. Additionally, it is a 2-turtle activity which means it involves a higher level of complexity. Consider skipping the activity if you have already taught it in another unit or if it is too advanced for your class.

In Activities 5.3 and 5.4, you may choose from similar scaffolding tools listed for Activity 4.2.

Lesson 6: Choose how students will share their work.

Activity 6.1 allows students to learn more about decomposers through readings and activities. Decide if and what parts of this activity your students will complete.

Activity 6.2 engages students in reading about three different decomposers and explaining how they grow, move, and function. You probably don't want every student to do a worksheet on all three decomposers, so there are several ways that students could become "experts" on one decomposer, then compare what they have learned: a jigsaw activity, working in groups to make posters, etc.

For Activity 6,3, students can compare plants, animals, and decomposers (6.2a) or develop a summary explanation that applies to all decomposers (6.2b). Both provide students with a review of the unit concepts in preparation for the posttest, so you should select one of the versions based on if you have previously taught Plants and Animals and your students' needs.

- For Activity 6.3a, students will compare what they know about plants and animals from the other units to what they have learned about decomposers in the Decomposers Unit.
- For Activity 6.3b, students will work with partners or groups to complete the provided worksheet, make a poster, or make a PowerPoint presentation.

Key to text colors:

Black Text Activities for All Students

Orange Text **2-Turtle Activities**

Blue Text *Repeated or Optional Activities (Omit if students have already completed and/or are proficient)*

Pre-Lesson	**Use this lesson to setup for the investigation.**
	0.1 Investigation Setup
Lesson 1	**Use this opportunity to learn more about what your students already know and think they know about how animals grow, move, and function.**
	1.1 Decomposers Unit Pretest
	1.2 Expressing Ideas about Decomposers
Lesson 2	**Consider your knowledge of your students and learning goals. Decide whether to teach the Repeating Activities in this lesson, modify them, or skip them.**
	2.1 Zooming into Plants, Animals, and Decomposers
	2.2 Molecules Cells Are Made of
	2.3 Molecules in Cells Quiz

	2.4 Questions about Decomposers
Lesson 3	**Use this lesson to gather evidence about mealworms and set a purpose with students' questions for Lessons 4 and 5.**
	Activity 3.1 Predictions about Bread Molding
	Activity 3.2 Observing Bread Molding
	Activity 3.3 Evidence-Based Arguments about Bread Molding
Lesson 4	**Consider your knowledge of your students and learning goals. Decide whether to teach the Repeating Activity in this lesson, modify it, or skip it.**
	4.1 Molecular Models for Fungi Moving and Functioning
	4.2 Explaining Cellular Respiration
Lesson 5	**Consider your knowledge of your students and learning goals. Decide whether to teach the Repeating Activity in this lesson, modify it, or skip it.**
	5.1 Tracing Fungi Growing
	5.2 Molecular Models for **Fungi Growing**
	5.3 Explaining Digestion
	5.4 Explaining Biosynthesis
Lesson 6	**Consider your knowledge of your students and learning goals. Decide whether to teach the Optional Activity in this lesson, modify it, or skip it.**
	(Optional) 6.1 Exploring Different Kinds of Decomposers
	6.2 Explaining Other Examples of Decomposers Growing, Moving, and Functioning
	6.3 Explaining How All Decomposers Grow, Move, and Function
	6.3 Decomposers Unit Posttest