Lesson	Activity Sequence	Make a Decision
1 (60 min)	1.1 Systems and Scale Unit Pretest (20 min)	
	1.2 Expressing Ideas and Questions About Ethanol Burning (40 min)	
2 (2 hr 30 min)	2.1 Powers of Ten Video and Discussion (30 min)	
	(Optional) 2.2 From Big to Small (30 min)	This activity provides students with a tactile opportunity to continue exploring scale. **Decide if this will be helpful for your students.**
	2.3 Zooming into Air (30 min)	
	2.4 Atoms and Molecules Quiz and Discussion (30 min)	
	2.5 Using a Digital Balance and BTB (30 min)	
(Optional) 3 (3 hr)	3.1 Predictions About Soda Water Fizzing (20 min)	For students with little experience of chemistry or chemical change, the complicated change in Lesson 4 (burning ethanol) is a heavy load. Lesson 3 provides an option to engage students with *Carbon TIME* activity structures (investigations, molecular modeling, chemical equations to explain chemical changes) in the simpler chemical change context of soda water fizzing. **Decide if this extra, simpler introductory experience will be helpful for your students.**
	3.2 Observing Soda Water Fizzing (30 min)	
	3.3 Evidence-Based Arguments about Soda Water Fizzing (45 min)	
	3.4 Molecular Models for Soda Water Fizzing (45 min)	
	3.5 Explaining Soda Water Fizzing (40 min)	
4 (3 hr 20 min)	4.1 Predictions about Ethanol Burning (30 min)	
	4.2 Observing Ethanol Burning (30 min)	
	4.3 Evidence-Based Arguments about Ethanol Burning (50 min)	
	4.4 Molecular Models for Ethanol Burning (50 min)	
	4.5 Explaining Ethanol Burning (40 min)	There are multiple scaffolds you can choose from including example explanations, the Three Questions Explanation Checklist, a reading, and a graphic organizer. **Choose options that fit your students at this time.**
5 (3 hr 30 min)	**(Optional)** 5.1 Molecular Models for Methane Burning (40 min)	Students use molecular models to model the chemical change that occurs when methane burns. **They may not need to do this if their performances in Activity 4.4 (molecular models with ethanol burning) were already proficient.**
	(Optional) 5.2 Explaining Methane Burning (40 min)	**You may want to skip this activity if your students can already construct an atomic-molecular scale explanation of what happens to matter and energy when methane burns.**
	5.3 Preparing for Future Units: Organic vs. Inorganic (40 min)	
	5.4 Explaining Other Examples of Combustion (50 min)	Activity 5.4 involves explaining combustion of different fuels. **Consider a jigsaw format with different students becoming experts on different fuels and then sharing/comparing.** You may choose to scaffold the students with the Three Questions Explanations Checklist.
	5.5 Systems and Scale Unit Posttest (40 min)	