

Lesson 7: Just a Phase

Learning Goal: I can explain why characteristics properties of matter refer to a substance and not to an object.

Culminating Learning Target

I will be able to explain with evidence whether or not melting points and boiling points are characteristic properties of matter.

Introduction

Read the introduction to Lesson 7. Look over the flow chart to see what you will be learning and doing in this lesson.



Getting Started

Working with a partner, answer the getting started questions in your science notebook. Discuss your answers with another group.



Inquiry 7.1: Heating Ice Water

Read through the instructions on pages 66-67 completely before you begin the inquiry. Mr. Boriss will also have some directions to follow in heating your ice water.

Make a prediction of what you think will happen to the temperature of the water after it is boiling and you continue to heat it. Will it **increase, decrease, or stay the same**. Be sure to provide a reason for your prediction.

Have your partner read through your prediction making sure that you have provided a reason for your thinking. Have them sign below indicating the prediction is complete.

Begin the inquiry, following the directions in your student guide making sure that 1 person is the **timekeeper**, the 2nd is the **stirrer**, the 3rd **records the temperature** and the 4th person **records observations**.

Follow the directions in the student guide and on the template to create a graph of your results.

Record the melting point and boiling from your group in the class data table.

Learning Target

I can create an accurate graph that shows my results from heating ice water.



Reflecting on What You've Done

Complete the **Laboratory Questions and Application** section from the student template.

Check your answers with the answer key.

Learning Target

I can describe the way a substance changes between a solid, liquid and gas.



Continue on the back

Class Demonstrations

Follow the directions on the lesson template while Mr. Boriss conducts the classroom demonstrations for boiling water.

Learning Target:

I can explain how the class demonstrations support the idea that boiling point is a characteristic property of matter.

**Reading: Boiling Oil**

Read the article on pages 68-70 in your student guide and answer the reading questions from the student template.

Check your answers to the reading questions with the answer key.

Learning Target:

I can explain how heating water and heating crude oil are similar and different.

**Reading: Lost Wax Casting**

Read the article on pages 71-73 in your student guide and answer the reading question from the student template.

Check your answers to the reading question with the answer key.

**Science Focus Question**

Are melting points and boiling points a characteristic property of a substance? Explain.

Make sure you look at the class data before you answer the SFQ.

Record your SFQ score and feedback in your Learning Folder.