

Lesson 8: Changing Matter & Mass

Learning Goal: I can explain whether or not mass is conserved during a physical change.

Culminating Learning Target

I will be able to explain with evidence whether or not the mass of water changes when it goes through a phase change.

Introduction

Read the introduction to Lesson 8. Look over the flow chart to see what you will be learning and doing in this lesson.



Formative Assessment Probe

Individually complete the formative assessment probe 'States of Matter Changes.' Once you have completed this, share your ideas with your lab partner.



Inquiry 8.1: Investigating Mass and Melting

Read through the instructions on page 76 completely before you begin the inquiry.

Make a prediction of what you think will happen to the mass of ice when it melts from a solid into a liquid. 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.

Working with your laboratory group, create a procedure you will follow to measure what happens to the mass of water when it melts from a solid into a liquid.

Use your procedure to create a data table that will record all your measurements and calculations. Make sure that you run at least 2 trials.

Record your average change in mass into the data table for your group.

Learning Target

I can create a procedure that will allow me to accurately measure what happens to the mass of ice when it melts from a solid to a liquid.



Laboratory Questions

Complete the **Laboratory Questions** from the student template.

Check your answers with the answer key.

Learning Target

I can explain what happens to the mass of an ice cube when it melts.



Continue on the back



Inquiry 8.2: Investigating Mass and Freezing

Read through the instructions on page 77 completely before you begin the inquiry.

Make a prediction of what you think will happen to the mass of water when it changes from a liquid into a solid (freezes). 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.

Continue using the lesson template to create a procedure and data table. Carry out the investigation and record your results.

Learning Target

I can create a procedure that will allow me to accurately measure what happens to the mass of water when it changes from a liquid to a solid (freezes).



Definitions

Define the following term and add it to the science terms section of your science notebook.

- **Physical Change**



Science Focus Question

What happens to the mass of water when it goes through a phase change?

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

Record your SFQ score and feedback in your Learning Folder.