

# Solids, Liquids, and Gases Unit

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Dear Families,

Our class is beginning the Science Companion<sup>®</sup> Solids, Liquids, and Gases unit. In this unit the children will explore the materials in the world around them, taking note of things that may otherwise be so familiar that they pass without comment.

In this unit the children will:

- Learn about properties of objects, such as size, weight, color, texture, and flexibility.
- Identify the different materials that make up common objects, and think about the properties that make each material useful.
- Identify solids, liquids, and gases in their own environment.
- Compare different materials to explore the properties that help us classify things as solids, liquids, or gases.
- Explore how water (and other things) can change from a liquid to a solid, and back to a liquid—over and over.
- Explore how water can change from a liquid to a gas, becoming water vapor in the surrounding air.

In addition to the work your child will do in class, you and your child can explore this rich topic together at home in the following ways:

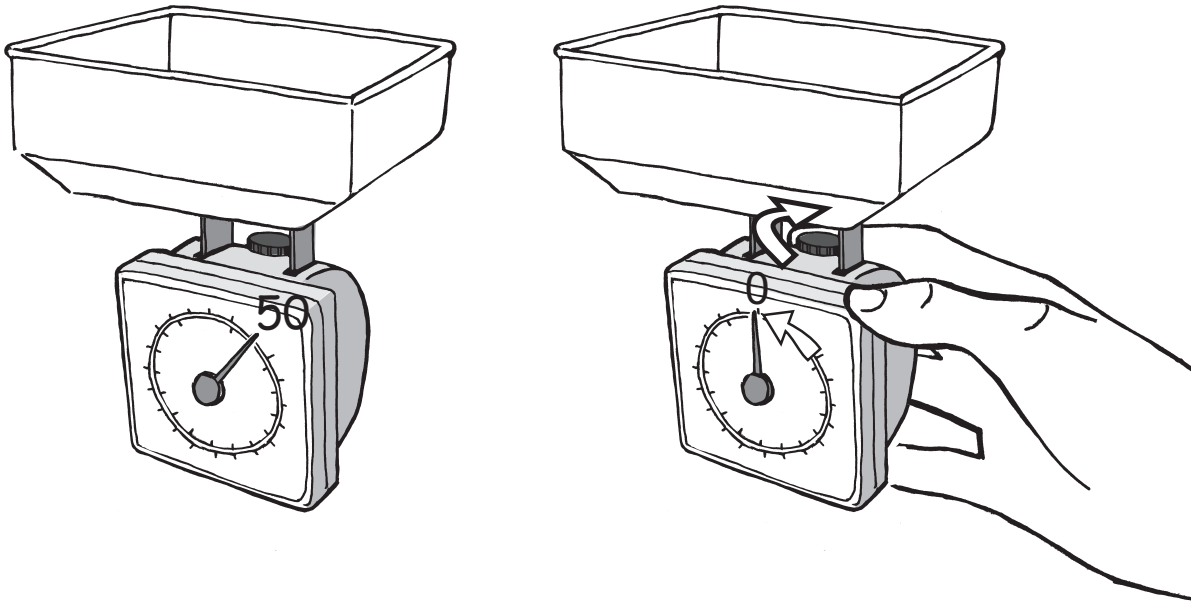
- Visit the library and search for books about solids, liquids, and gases to read together and share with the class. There are book suggestions on the Science Companion web site. This web site also features a list of recommended web sites about solids, liquids, and gases. The address is: **[www.ScienceCompanion.com/Links](http://www.ScienceCompanion.com/Links)**
- Work together on the Family Link activities that are sent home from time to time. Your child may also want to repeat and vary some of the activities we do in class, as well as explain what they discovered and learned. Try to encourage their independent experimentation at home.

Exploring solids, liquids, and gases can open children's eyes to the materials around them and the way things change. We hope some of their interest comes home so you can learn with them, and help them learn.

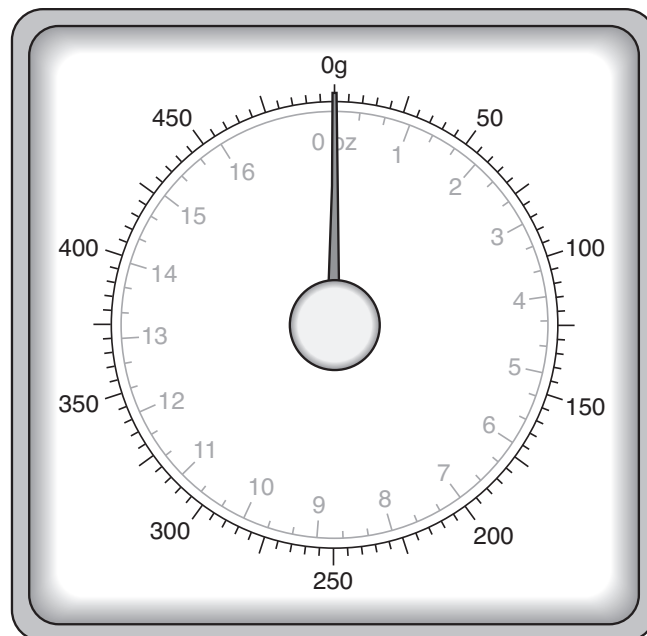
Sincerely,

# Measuring Weight

Before you weigh an object, make sure the scale is set to zero.



Many scales have both metric units (grams and kilograms) and customary units (ounces and pounds). On this scale, read the grams on the outside of the circle.



# Measuring Weight

Each mark on the outer circle of the scale stands for 5 grams.

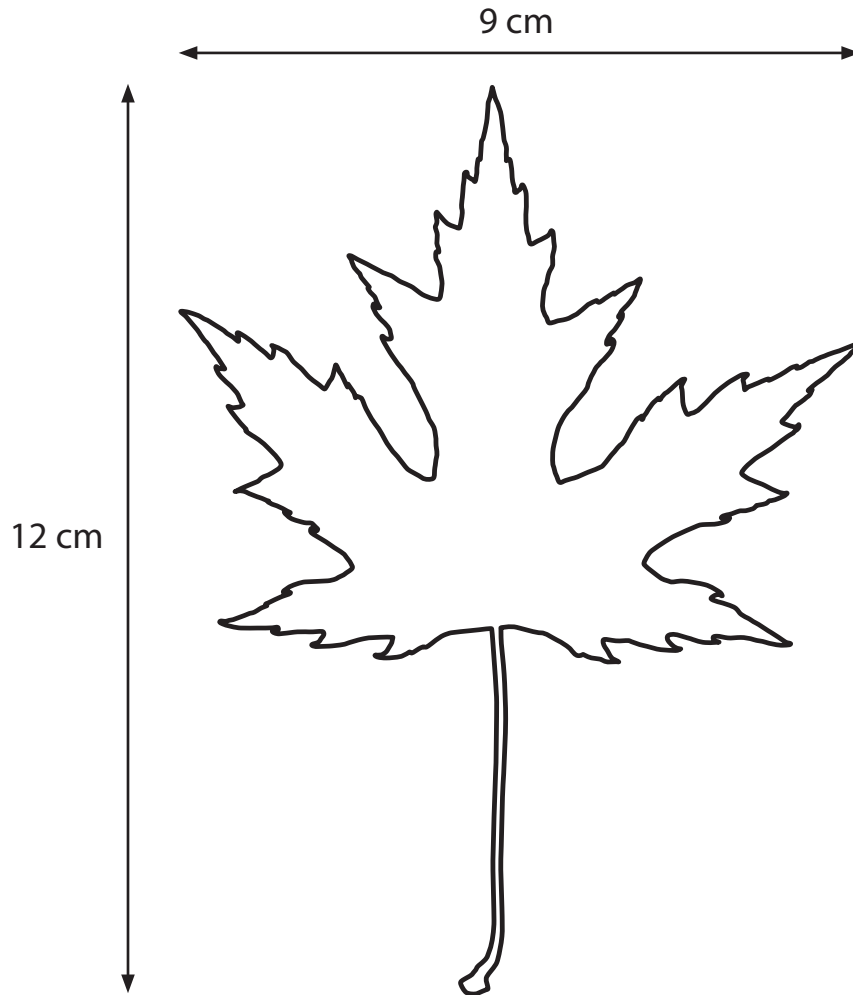


about 25 grams

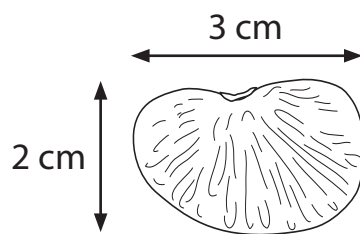


about 35 grams

# Measuring Length and Width



The leaf is about 12 cm long and 9 cm wide.



The lima bean is about 3 cm long and 2 cm wide.

# Properties Word Bank

Some Properties:	Ways to describe properties of different things:		
<b>Weight</b>	50 g 40 pounds	3 kg about as heavy as me	1 ounce
<b>Size</b>	5 centimeters long 4 centimeters tall 2 inches long about as long as a paper clip 1 liter	2 centimeters wide 5 cm x 2 cm x 4 cm about the size of my fist	1 gallon
<b>Shape</b>	cube round like a potato	cylinder tall and skinny volcano-shaped	flat pointy egg-shaped
<b>Color</b>	red bright yellow	orange dull pink	greenish-blue florescent purple
<b>Texture</b> (How does it feel when you touch it?)	rough soft bumpy	smooth hard velvety	slippery lumpy grainy
<b>Flexibility</b> (Is it easy or hard to bend?)	stiff flexible	soft squishy	hard brittle
<b>Temperature</b>	32°F cold	20°C room temperature	hot warm

Name: \_\_\_\_\_ Date: \_\_\_\_\_

# Properties of Materials

Name of object: \_\_\_\_\_

**This object is made of:**

wood    plastic    metal    plastic    cotton    nylon  
paper    cardboard    rubber    other: \_\_\_\_\_

**Properties of this material (circle one or more):**

squishy    soft    hard    stiff  
easy to bend    hard to bend    breaks when bent  
strong    breaks or tears easily  
bounces when dropped    doesn't bounce when dropped  
smooth    rough    bumpy    sticky  
attracted to a magnet    not attracted to a magnet  
other words: \_\_\_\_\_

**Other objects that contain this material or something like it:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

# Sample Solid, Liquid, or Gas

**This object is a:**    solid            liquid            gas  
                                 mixture        don't know

<b>It feels:</b> (circle one or more)	hard            soft            rough            smooth wet            sloshy            heavy            light
<b>Shape:</b> (circle one or more)	keeps its own shape is the same shape as its container changes shape easily doesn't change shape easily
<b>Color:</b>	
<b>Can you see through it?</b>	
<b>Other words that describe this object:</b>	



Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Family Link with Science—Homework

# Tools for Measuring Properties

*Our class is working on a short unit about solids, liquids, and gases. In class, children have been identifying properties of objects and materials, such as weight, size, color, texture, and flexibility. This activity explores the idea that some properties are measured with tools.*

Do you have tools at home that measure these properties?

Draw or write down the tools you find.

Weight:

Size (length or volume):

Temperature:

Please complete this assignment for science class.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Family Link with Science—Homework

# Materials in Common Objects

*As part of their study of Solids, Liquids, and Gases, the children are practicing identifying materials such as wood, plastic, metal, rubber, fabric, glass, air, and water in the objects around them. If needed, you can do the writing for your child as your child discusses his or her ideas.*

Find an object at home that is made of more than one material. Tell a family member what the different materials are. Talk about why each material works well in the object.

My object:

Materials in the object:

Why do the materials work well in this object?

Please complete this assignment for science class.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Family Link with Science—Homework

# Solids, Liquids, and Gases at Home

*As part of their study of Solids, Liquids, and Gases, the children are practicing identifying solids, liquids, and gases in their own environment. If needed, you can do the writing for your child by writing down what she or he tells you.*

Find a solid, a liquid, and a gas at home. Describe them.

My solid is _____ Here is a picture:	Properties of this solid:
My liquid is _____ Here is a picture of the liquid in its container:	Properties of this liquid:
My gas is _____ Here is a picture of where I found the gas:	Properties of this gas:

Please complete this assignment for science class.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Family Link with Science—Homework

# Containers for Liquids

*The children have been working with different liquids during science class. Thinking about why some containers can hold liquids is another way to explore the properties of liquids. If needed, you can write down what your child tells you.*

Look around your home for some different containers.

Draw and describe a container that is good for holding liquids.

Why is it good?

Draw and describe a container that cannot hold liquids.

Why is it bad?

Please complete this assignment for science class.