

CHAPTER

1

Introduction to Matter

the **BIG** idea

Everything that has mass and takes up space is matter.

Key Concepts

SECTION

1

Matter has mass and volume.

Learn what mass and volume are and how to measure them.

SECTION

2

Matter is made of atoms.

Learn about the movement of atoms and molecules.

SECTION

3

Matter combines to form different substances.

Learn how atoms form compounds and mixtures.

SECTION

4

Matter exists in different physical states.

Learn how different states of matter behave.



Internet Preview

CLASSZONE.COM

Chapter 1 online resources:
Content Review, two
Simulations, four Resource
Centers, Math Tutorial,
Test Practice

What matter can you identify in this photograph?

EXPLORE the BIG idea

What Has Changed?

Blow up a balloon. Observe it. Let the air out of the balloon slowly. Observe it again.

Observe and Think Did the amount of material that makes up the balloon change? Did the amount of air inside the balloon change? How did the amount of air inside the balloon affect the size of the balloon?



Where Does the Sugar Go?

Stir some sugar into a glass of water. Observe what happens.

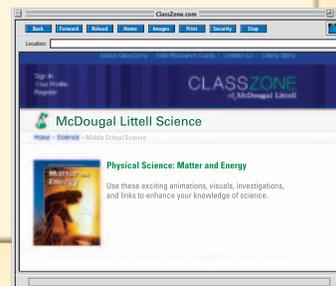
Observe and Think What happened to the sugar as you stirred? Do you think you would be able to separate the sugar from the water? If so, how?



Internet Activity: Scale

Go to ClassZone.com to explore the smallest units of matter. Start with a faraway view of an object. Then try closer and closer views until you see that object at the atomic level.

Observe and Think Are all objects seen at faraway views made up of the same parts at an atomic level? Explain your answer.



Solids, Liquids, and Gases Code: MDL061

Getting Ready to Learn

CONCEPT REVIEW

- Matter is made of particles too small to see.
- Energy and matter change from one form to another.
- Energy cannot be created or destroyed.

VOCABULARY REVIEW

See Glossary for definitions.

- particle**
- substance**



CONTENT REVIEW
CLASSZONE.COM

Review concepts and vocabulary.

TAKING NOTES

MAIN IDEA AND DETAIL NOTES

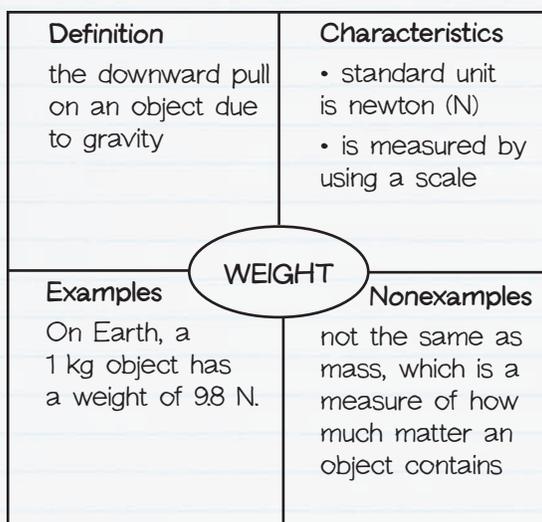
Make a two-column chart. Write the main ideas, such as those in the blue headings, in the column on the left. Write details about each of those main ideas in the column on the right.

VOCABULARY STRATEGY

Write each new vocabulary term in the center of a **four square** diagram. Write notes in the squares around each term. Include a definition, some characteristics, and some examples of the term. If possible, write some things that are not examples of the term.

SCIENCE NOTEBOOK

MAIN IDEAS	DETAIL NOTES
1. All objects are made of matter.	1. All objects and living organisms are matter. 1. Light and sound are not matter.
2. Mass is a measure of the amount of matter.	2. A balance can be used to compare masses. 2. Standard unit of mass is kilogram (kg).



See the Note-Taking Handbook on pages R45–R51.