

Introduction to Matter ▪ *Guided Reading and Study***Measuring Matter**

This section explains the difference between mass and weight. It also explains what the density of a substance is.

Use Target Reading Skills

Before you read, preview the red headings. In the left column of the chart, write a what or how question for each heading. As you read, complete the chart by writing the answers to your questions.

Measuring Matter

Question	Answer
How are weight and mass different?	Weight is a measure of . . .

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Weight and Mass

1. A measure of the force of gravity on an object is called _____.
2. Is the following sentence true or false? You weigh more on the moon than you do on Earth? _____
3. What is mass?

4. Why do scientists prefer to describe matter by its mass rather than its weight?

5. What system of units do scientists use to measure the properties of matter?

6. The SI unit for mass is _____.

Volume

7. The amount of space that matter occupies is called its _____.
8. List three common units of volume.

9. What formula do you use to find the volume of a rectangular object?

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Measuring Matter *(continued)*

Density

10. Why does a kilogram of sand take up much less space than a kilogram of feathers?

11. What formula do you use to calculate the density of an object?

12. If you drop a block of iron and a block of wood into water, the iron sinks and the wood floats. What can you conclude about the density of iron and wood compared to the density of water?

13. Is the following sentence true or false? The density of a substance varies with samples of that substance. _____