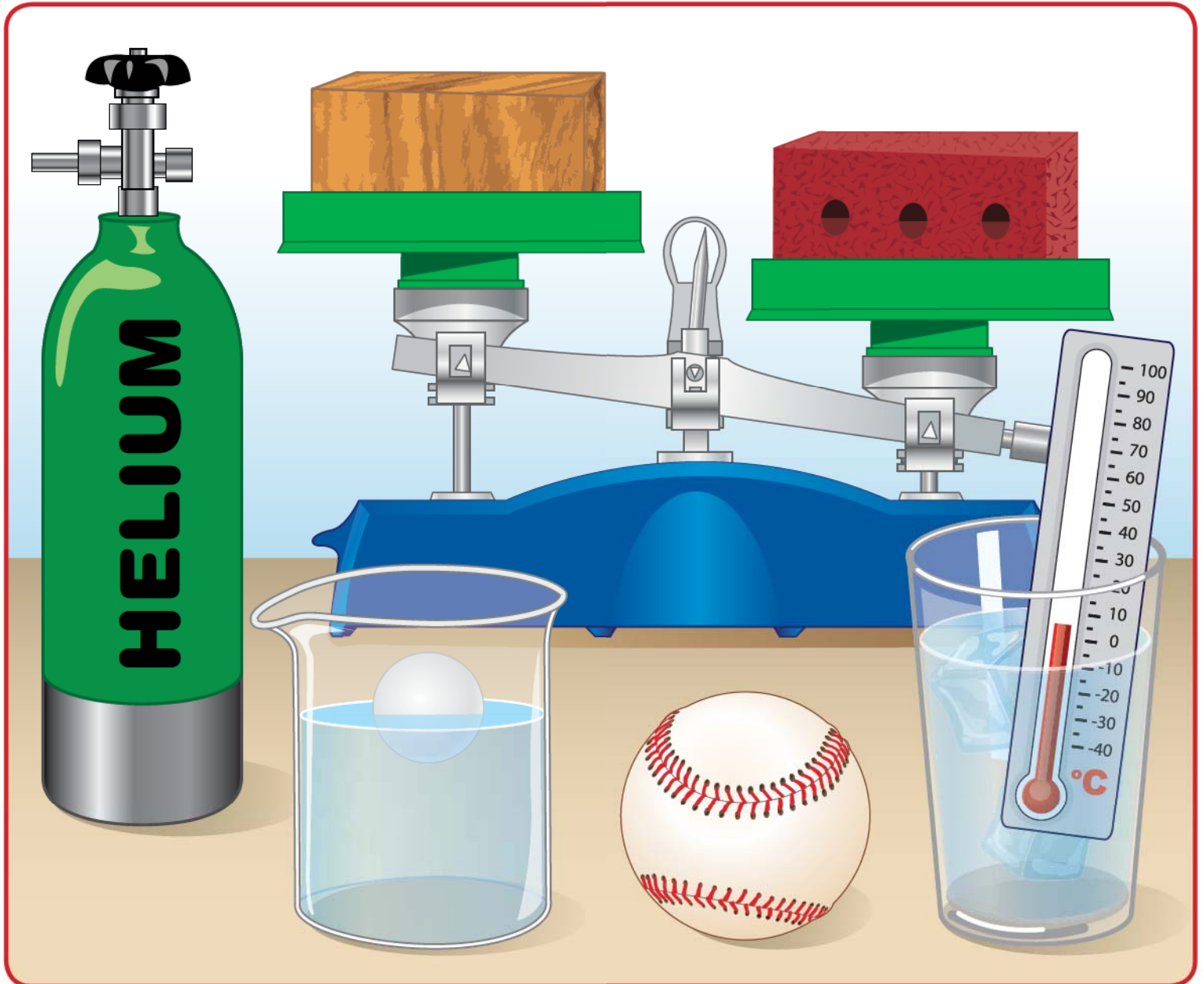


All About Matter *Learning Guide*

Elementary Science



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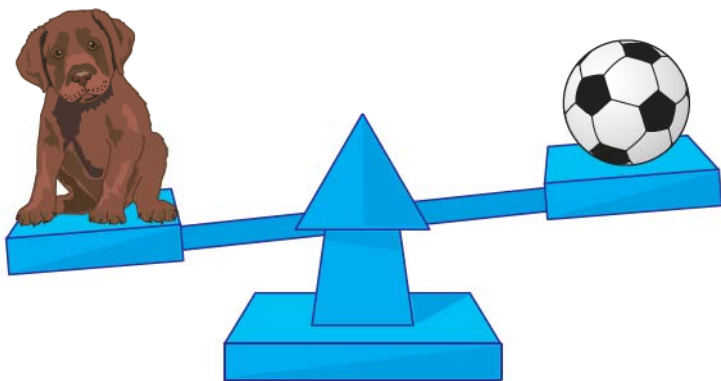
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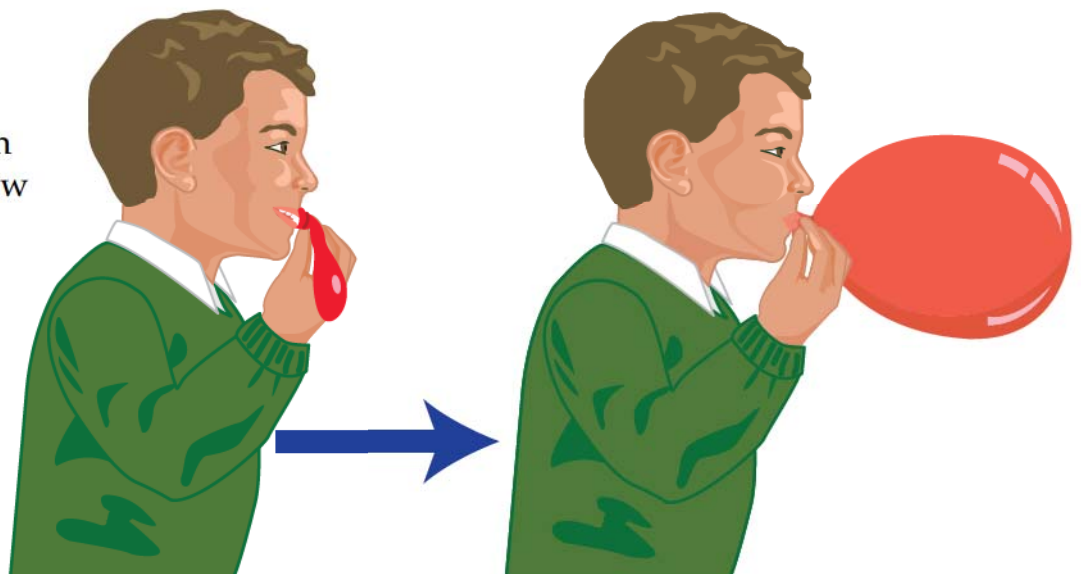
WHAT IS MATTER?

Everything that you see, smell or touch around you is **matter**. Even many things that you cannot see, smell, or touch are matter. **Living** and **nonliving** things are made of matter, including our clothing, the food we eat, and even the air that we breathe.



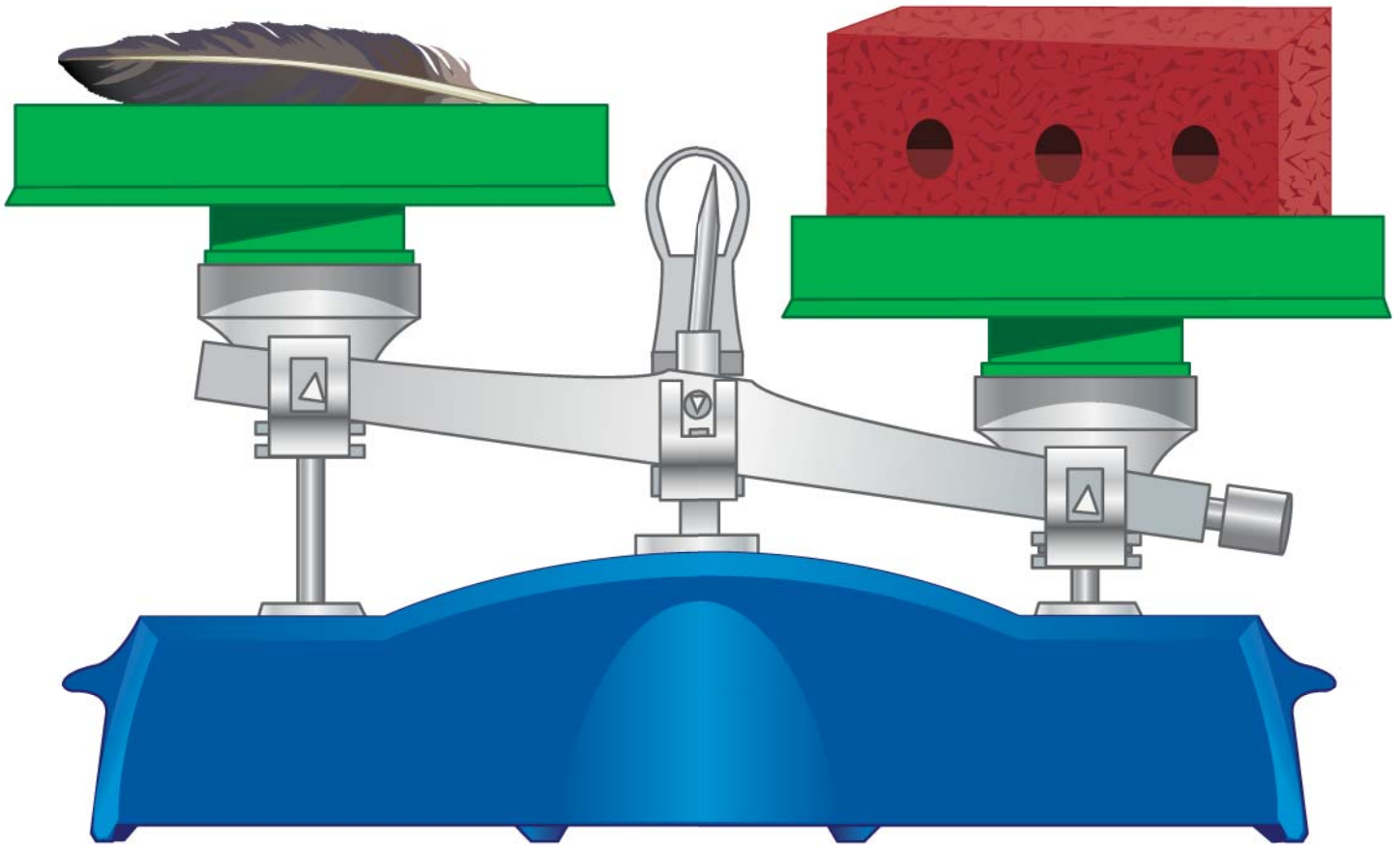
Matter is anything that takes up space and has **mass**. The amount of matter in an object is its mass.

Air is matter that you **can't see**, yet it still takes up space. You can observe this as you blow up a balloon; the air takes up space making the balloon bigger.



Pause and Review

Compare the properties or characteristics of a brick to a feather.



FEATHER

BRICK

Pause and Review

Label the properties below as those that can be identified with your **senses** or those that can be **measured**.

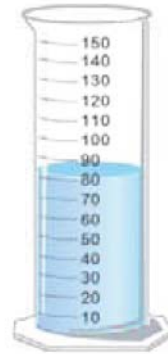
texture



color



volume



length



temperature



odor



hardness



mass



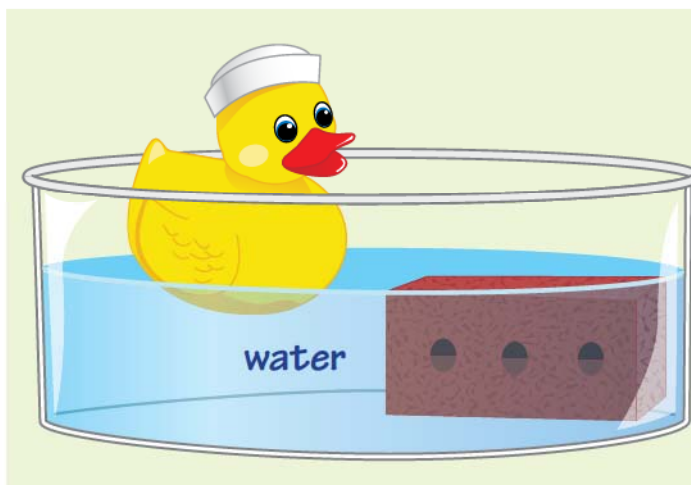
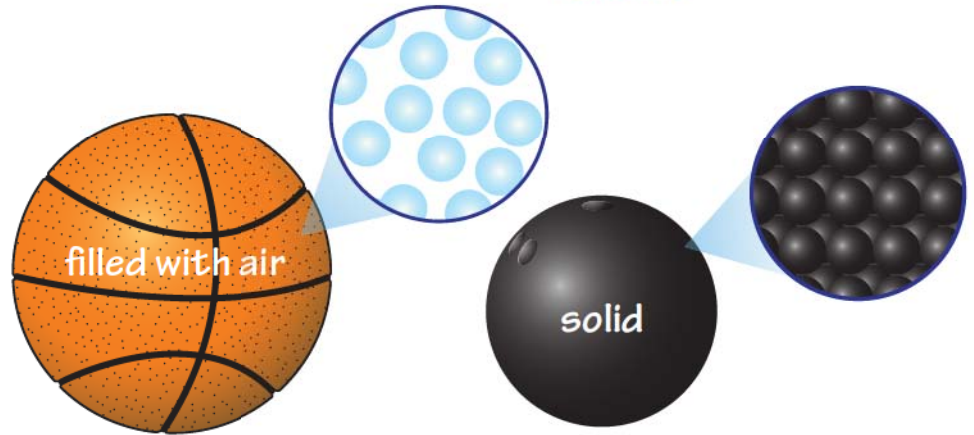
shape



MEASURING MATTER

Did you ever wonder why some small objects weigh more than larger objects? It depends on their **density**. Density is a measure of how much matter fits into a certain amount of space. To find out the density of an object divide its mass by its volume. Which do you think has a greater density- a bowling ball or a basketball? If you guessed the bowling ball, you're correct!

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

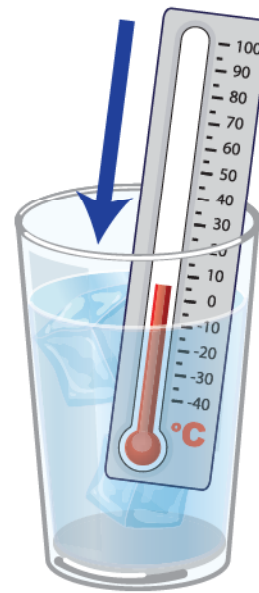


Buoyancy is a **property** that demonstrates whether an object is more or less dense than water. Density and buoyancy are closely related. An object will float in water (have buoyancy) if it's less dense than water and **sink** if it's more dense.

Temperature is a measure of the hotness or coldness of an object. A **thermometer** is used to measure temperature in metric units of degrees Celsius (°C). A thermometer shows the temperature by the up or down movement of a colored **liquid** inside the thermometer.



As an object heats up, the liquid moves up showing a higher temperature.



What do you think happens when the liquid moves downward? Is the temperature getting warmer or cooler? You're correct if you answered that it's getting cooler!

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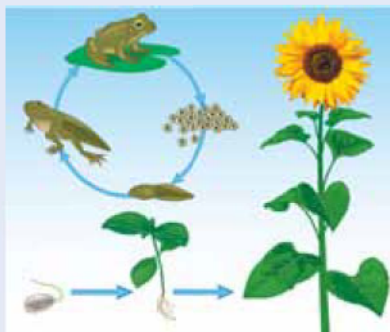
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Each comprehensive student learning guide listed below, includes self-directed readings, easy-to-follow illustrated explanations, guiding questions, inquiry-based activities, a lab investigation, key vocabulary review and assessment review questions, along with a post-test.

Titles in the Series Include:



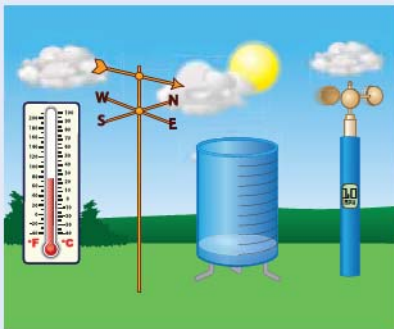
What are Ecosystems?



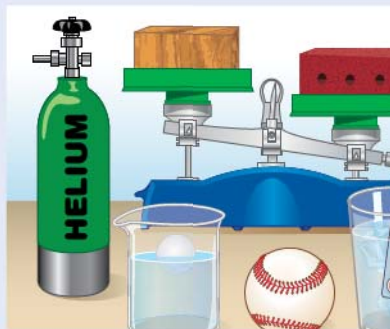
Life Cycles of Plants
and Animals



How Does Earth's
Surface Change?



What is Weather



All About Matter



All About Energy

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