

Gases and Air

Week 9 — Monday | Understanding Invisible Matter

Reading Time

We have learned about solids and liquids. Today we meet the third state of matter: gases! A gas is matter that spreads out to fill any space. Most gases are invisible. You cannot see them, but they are real matter. The air all around you is made of gases.

How do we know air is real if we cannot see it? We can feel it! When wind blows on your face, you are feeling air. When you blow up a balloon, air fills it and makes it bigger. The air takes up space inside the balloon. Anything that takes up space is matter.

Gases do not have their own shape. They spread out to fill their whole container. If you open a bottle of gas, the gas escapes and spreads everywhere. That is different from a solid, which keeps its shape, and a liquid, which sits at the bottom of its container.

Reading Questions

1. What is the third state of matter we are learning about?

2. Why is it hard to see most gases?

3. How does a balloon prove that air takes up space?

4. How is a gas different from a solid and a liquid? Use the reading to help you.

Vocabulary Grid

Write a definition or draw a picture for each word.

Gas

Air

Invisible

Matter

Spread

Wind

Gas or Not a Gas? Sort

Sort each item into the correct column.

Gas	Not a Gas

Items to sort: Air in a balloon, Rock, Steam from a kettle, Milk, Wind, Bubbles in soda, Ice cube, Breath on a cold day

True or False — Circle Your Answer

- ☐ 1. Air is matter because it takes up space.
- ☐ 2. You can see most gases with your eyes.
- ☐ 3. A gas spreads out to fill its whole container.
- ☐ 4. Wind is moving air.
- ☐ 5. A gas keeps its own shape like a solid.
- ☐ 6. A balloon gets bigger because air fills it.

Draw wind blowing a flag

Draw air inside a balloon

Draw bubbles in a drink

Compare the Three States of Matter

State	Does it keep its shape?	Can you usually see it?	Example
Solid			
Liquid			
Gas			

Think About It

How do you know air is inside a soccer ball?

Fill in the Blanks

Word Bank: gas air space invisible spreads matter

1. A _____ fills any container it is put in.

2. The _____ around us is made of gases.

3. Air takes up _____ inside a balloon.

4. Most gases are _____, so we cannot see them.

5. When a gas escapes, it _____ out everywhere.

6. Anything that takes up space is _____.

Air Hunt Around the House

Find things that hold air or use air. Ask a grown-up for help!

Question	What I Found
Something filled with air	
Something that moves air	
Something that needs air to work	
A place where you felt moving air	

Experiment Preview

Coming Wednesday: You will blow up a balloon without touching it! We will also trap air under water with a cup.

Think about it: Can a gas push a balloon open all by itself?

Write your prediction below:

Drawing

Draw a picture that proves air is real. Show air doing something!

