

Air and the Atmosphere

READ ALOUD PASSAGE

You already know that air is real, that it takes up space, and that it has weight. All the air surrounding the whole Earth forms one giant layer called the atmosphere, held close to the planet by gravity. Without gravity pulling on it, that air would simply drift off into space.

This is exactly why the moon has no atmosphere of its own. The moon is much smaller than Earth, so its gravity is weaker. That weaker gravity is not strong enough to hold gases near the surface, so any air the moon may have once had drifted away into space long ago and never came back.

Scientists often describe Earth as being made of four connected parts. The geosphere is the solid rock and soil that makes up the planet's surface. The hydrosphere includes the oceans, lakes, and rivers. The atmosphere is the blanket of air surrounding everything else. And the biosphere is every living thing on Earth, along with the way all those living things interact with the other three parts.

Astronauts have to carry their own air supply once they travel past the atmosphere, since there is no air at all in outer space for them to breathe. Down here on the surface, we breathe the atmosphere without a second thought, but it took exactly the right amount of gravity, sustained over billions of years, to keep that air from ever drifting away.

Activity 1

Fill in the blank with the correct word from the word box.

WORD BOX

geosphere hydrosphere atmosphere biosphere gravity

1. The solid rock and soil of the Earth is called the _____.
 2. The oceans, lakes, and rivers make up the _____.
 3. All living things, and how they interact with the planet, make up the _____.
 4. The blanket of air surrounding Earth is called the _____.
 5. The atmosphere is held close to Earth by _____.
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Activity 2

Because / But / So Complete each sentence three different ways.

Earth's gravity holds the atmosphere close to the planet because

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Earth's gravity holds the atmosphere close to the planet but

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Earth's gravity holds the atmosphere close to the planet so

.....

Activity 3

Circle True or False for each statement.

1. **True / False** The atmosphere is held near Earth by gravity.
 2. **True / False** The moon has a thicker atmosphere than Earth.
 3. **True / False** The hydrosphere includes oceans, lakes, and rivers.
 4. **True / False** Astronauts do not need to bring air with them into outer space.
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Activity 4

Combine the short sentences below into one smooth sentence.

1. · Air is invisible.
 · It has weight.
 · Gravity holds it close to Earth.

Combined sentence:

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2. · The moon is smaller than Earth.
 · Its gravity is weaker.
 · It cannot hold on to an atmosphere.

Combined sentence:

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