The Forest Team

A Story About Biotic and Abiotic Factors



Sofia and her best friend Leo were visiting Whispering Pine Nature Reserve with Forest Ranger Mateo.

Birds chirped high in the trees.

A small stream flowed over smooth rocks.

Butterflies fluttered among colorful flowers.

Squirrels climbed tall pine trees.

"This forest feels so alive!" Sofia said.

Ranger Mateo smiled.

"It is much more than a forest.

"It is an ecosystem."

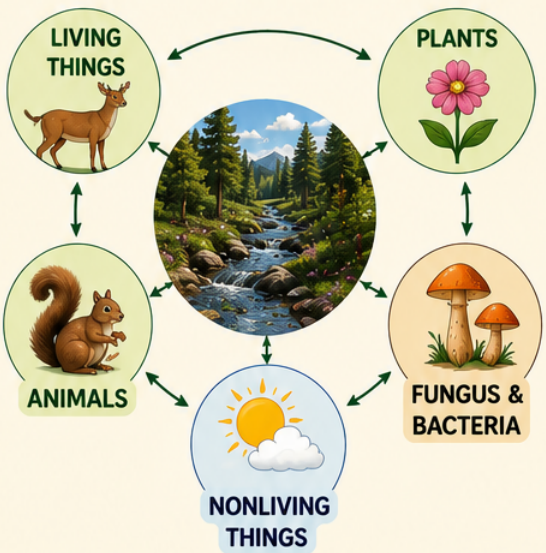
"What's an ecosystem?" Leo asked.

"An ecosystem is a place where living things and nonliving things interact and depend on one another."

"Today, we're going to discover how everything in this forest works together."

WHAT IS AN ECOSYSTEM?

An ecosystem is a place where living things and nonliving things interact and depend on one another.



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Meet the Two Important Teams



Ranger Mateo picked up a green leaf and then a smooth rock.

"The living things in an ecosystem are called biotic factors."

He pointed to the trees. The birds. The flowers. The mushrooms.

Then he held up the rock.

"The nonliving parts are called abiotic factors."

He pointed to the sunshine, water, air, soil, and rocks.

Sofia smiled.

"So an ecosystem has two important teams!"

"Exactly," Ranger Mateo said. "Without both teams, the ecosystem couldn't survive."

EVERY ECOSYSTEM HAS TWO IMPORTANT TEAMS!

BIOTIC FACTORS

Living or once-living things.



ABIOTIC FACTORS

Nonliving things.



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Living Things: The Biotic Team



Ranger Mateo showed Sofia and Leo a fern.
"This fern is a plant," he said. "It makes its own food from sunlight, water, and air."
Then they saw a deer drinking from the stream.
They heard birds singing in the trees.
They watched ants carrying tiny bits of leaves.
Ranger Mateo smiled.
"All these living things—plants, animals, fungi, insects, and tiny microbes—make up the biotic team."
They are born, they grow, they need food, they have babies, and one day, they die.
"They all depend on each other to stay alive!"

EXAMPLES OF BIOTIC FACTORS

These are the living parts of an ecosystem.



PLANTS

Make their own food and provide shelter and oxygen.



ANIMALS

Get food, move, and depend on others to survive.



BIRDS

Help spread seeds and keep the ecosystem healthy.



FUNGI

Break down dead matter and return nutrients to soil.



INSECTS

Pollinate flowers, break down matter, and are food for many animals.



MICROBES

Very tiny living things that help recycle nutrients.

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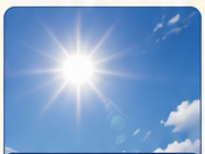
Nonliving Things: The Abiotic Team



Ranger Mateo picked up a rock
and held it in his hand.
"This rock is not alive," he said.
"It doesn't grow or have babies."
But it is still a very important
part of our ecosystem."
He pointed to many things
around them.
The sunlight warming the water.
The cool air blowing through
the trees.
The water rushing over the rocks.
The soil under their feet.
Ranger Mateo smiled.
All these nonliving things—
sunlight, water, air, rocks, soil,
temperature, and even wind—
make up the abiotic team.
They don't need food,
they don't grow,
but they help all living things
survive.
"Without the abiotic team,
life could not exist!"

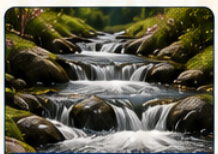
EXAMPLES OF ABIOTIC FACTORS

These are the nonliving parts of an ecosystem.



SUNLIGHT

Provides light and heat for life.



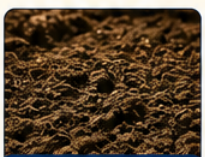
WATER

Needed by all living things to survive.



AIR

The air we breathe. It also has wind.



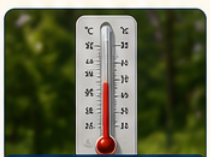
SOIL

Provides nutrients and support for plants.



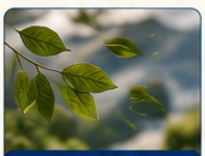
ROCKS

Form the land. They break down into soil.



TEMPERATURE

Affects how living things grow and survive.



WIND

Moves seeds, brings rain, and cools the environment.



WEATHER

Rain, clouds, snow, and storms shape our ecosystem.



LAND

The surface where living things live and grow.

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How the Two Teams Work Together



Sofia looked at the stream.
"So the living things need the nonliving things," she said.
"And the nonliving things help the living things too!"
Ranger Mateo nodded.
"That's right! The two teams depend on each other."
Plants use sunlight, water, air, and soil to grow.
Animals eat plants or other animals, and they need water and air.
Fungi break down dead things and return nutrients to the soil.
Insects help pollinate flowers and break down matter.
Rocks and weather shape the land and affect where living things can live.
Ranger Mateo smiled.
"When both teams work together in balance, the ecosystem stays healthy and strong."
"It's like a big team where everyone has an important job!"
Sofia and Leo smiled.
"We're part of the team too!"

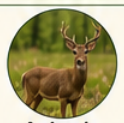
HOW THE TWO TEAMS WORK TOGETHER

Everything in an ecosystem is connected.
When one thing changes, it affects many others.


Plants

Plants use sunlight, water, air, and soil to make food. →


Animals


Animals

Animals eat plants or other animals for food and energy. →


Fungi


Fungi

Fungi break down dead plants and animals and return nutrients to the soil. →


Soil


Insects

Insects help pollinate flowers and break down dead matter. →


Flowers


Nonliving Things

Sunlight, water, air, rocks, soil, weather, and land support all living things. →


Healthy Ecosystem

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Science Element

Everything in nature is made up of two important teams that work together.

1. BIOTIC TEAM (Living Things)

These are the living parts of the ecosystem.


Trees

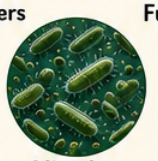

Animals


Birds


Flowers


Fungi


Insects


Microbes


Plants

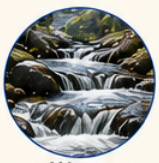
They are born, grow, need food, reproduce, and die. They depend on each other to survive.

2. ABIOTIC TEAM (Nonliving Things)

These are the nonliving parts of the ecosystem.


Sunlight

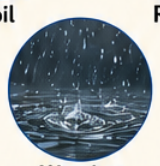

Air


Water


Soil


Rocks

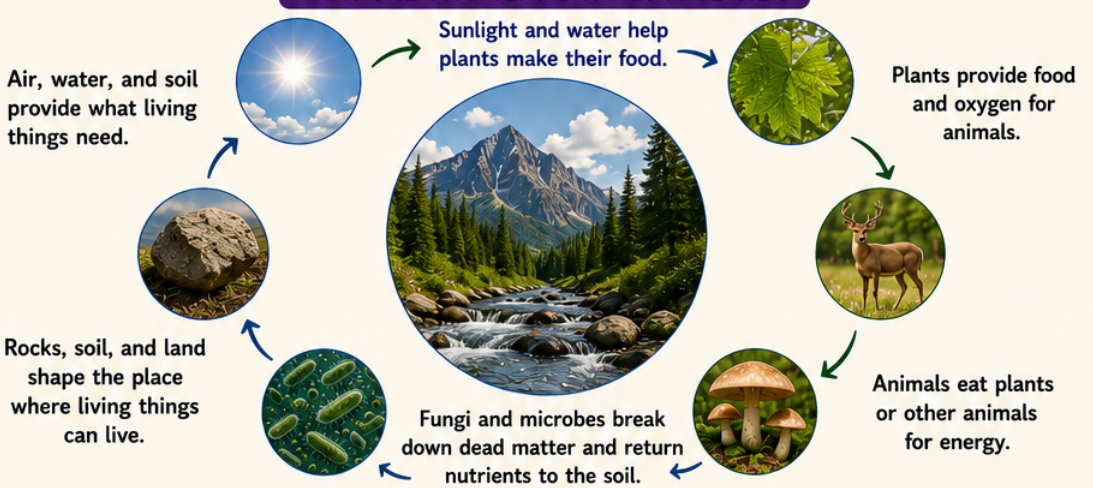

Temperature


Weather


Land

They don't need food or grow, but they provide what living things need to survive.

HOW THE TWO TEAMS WORK TOGETHER



When the biotic team and abiotic team work together in balance, the ecosystem stays healthy and strong!

We are all part of nature. Let's take care of it!

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