

Discover

What is biodiversity?

It is the entire living world on our planet made up of:

8 to 10 million species on earth

Millions of living species

with very different genetic characteristics.

- Animals
- Plants
- Fungi
- Microorganisms

Natural environments

of extraordinary diversity.



- Forests
- Mountains
- Rivers
- Deserts

All humans are part of the same species!

The interaction between species and their habitat

Allows for the maintenance and development of life.

Many mechanisms such as **reproduction, migration, predation, decomposition, etc.** are at work so that this incredibly rich life is organized harmoniously.

For nature to survive, we must preserve its balance.

If we disrupt it, the risk is that everything will stop. It is therefore not just a matter of protecting the environment, it is necessary for all the phenomena that occur there to continue to exist!

Understand

The right balance of biodiversity gives us, for example, access to:

- Breathable air
- Drinking water
- Fertile soils

We all depend on the services that a healthy nature is able to provide.

The extinction of a species or the modification of a natural space can have a significant impact on the balance of the whole biodiversity.

1 out of 8 species threatened

But our activities increasingly disrupt this balance.



Exploitation of natural resources



Climate change



Transportation of invasive species



Intensive farming

Pollution

Humanity alone could be responsible for the

6th mass extinction

Act

Take our responsibilities

to prevent the disappearance of nature, as we know it!

We can act now by changing the way we consume, learn, think, in short: live.

Act alone or collectively

There are many examples of what we can do:

- Stop deforestation
- Stop overfishing and overhunting
- Use renewable energies
- Eat less meat
- Use less plastic
- Repair broken items
- Throw waste in the trash

And so much more!

Learning more about nature is the first step towards loving and protecting it better.

Only 9%

of plastic waste is recycled

around the world!

Discover

70% of the surface of our planet is covered by seas and oceans.

Diverse living beings

- Birds
- Whales
- Pisces
- Corals
- Plankton
- Jellyfish
- Microorganisms

240 000

known marine species

but scientists estimate that they know barely 10% of marine animals and only 1% of the bacteria that inhabit the ocean.

The oceans are the real lungs of the planet.

Oceans and marine life are essential to the proper functioning of the planet, providing 2/3 of the oxygen we breathe and absorbing more than a quarter of the CO₂ from the atmosphere.

The marine environment brings us:

- Oxygen
- Work
- Food
- Energy
- Climate regulation
- An ideal setting for our leisure and well-being

Understand

Yet, our activities destroy marine biodiversity.



Overfishing
of natural resources



Climate change



Ocean pollution



Invasive species

7th
continent

Over the years, billions of plastic wastes have gathered into a monstrous mass that continues to expand in the middle of the Pacific Ocean and occupies 1.5 million km².

According to the UN, if we continue to pollute the oceans with plastic, by 2050, the sea will contain more plastics than fish!

If we do not change the way we overconsume seafood and overproduce products that damage it, there will soon be nothing left to fish for and we will be swimming among plastics.

Act

Change our way of living

because it impacts the seas and oceans.

So, what small actions can we take to protect marine biodiversity?

Act alone or collectively

There are many examples of what we can do:



Waste dumped on the beach will take years to degrade in the environment!

5 years
450 years
1000 years

- Restoring the shores
- Practice sustainable fishing
- Transform the way we consume
- Choose responsible products
- Reduce the use of plastic
- Recycle our waste

Our waste doesn't go "nowhere" because nowhere doesn't exist!

Protecting the oceans means protecting our beautiful blue planet.

Discover



The greenhouse effect, I make it my business!

Human activities

produce greenhouse gases (carbon dioxide and methane)

- Transportation
- Construction
- Deforestation
- Energy production
- Breeding
- Etc.



These greenhouse gases trap the sun's energy and transform it into heat by forming a bubble around the earth.



This is a natural phenomenon.

Without it, it would be extremely cold on our planet; but the pollution that we have been creating for more than a century is increasing its effect tenfold and the Earth's temperature is increasing everywhere

Without this layer of gas, it would be
-18°C

Understand

This warming of the climate disrupts the precious balance of nature

- The sea level rises
- The oceans are becoming acidified
- Species are threatened
- Entire ecosystems die

Rising sea levels are the first consequence.

This increase will continue to accelerate; by 2100, sea levels could rise by 60 cm or, according to the most pessimistic forecasts, by almost 3 meters.

1 in **10** people threatened by rising waters

Humans also suffer the consequences:



Floods



Droughts



Extreme temperatures



Forest fires



Cyclones, typhoons & hurricanes



Supply difficulties



Act



We can limit the damage

It is the responsibility of everyone, young and old, to adopt responsible behavior to modify our ecological footprint on the planet and limit our greenhouse gas emissions.

Each of us can do something!

Students, parents, teachers, businesses, farmers, governments...



- Use less polluting transport
- Eat local
- Buy more durable items
- Recycle our waste
- Limit our consumption of water, electricity, etc.

Organic waste is easily compostable and represents up to

60% of our trash!

The UN climate convention



Each year it brings together states to set targets for reducing CO2 emissions: to work better, together to save the planet!

When it comes to climate, every action counts!

Discover

Our consumption is increasing at an unreasonable pace.

More and more resources

- Food
- Building
- Energy
- Telephones
- Etc.



Production, transportation and consumption of these resources generate more waste and greenhouse gases.

Our "ecological footprint" is the trace we leave on Earth.

To calculate it, we estimate the quantity of resources we use to live (what we eat, how we travel, what we buy, etc.), the surface area needed to produce all these resources and the surface area and time it takes to absorb the waste that comes from producing these resources.

"The day the earth was overtaken"

Each year, within just 7 months, humanity swallows up all the resources that the Earth could theoretically generate in 1 year.

Understand

This over-exploitation of resources leads to the loss and fragmentation of habitats.

This is the main cause of biodiversity loss: animals and plants can no longer find the environments they need to live, feed and reproduce. They can no longer move to other more favorable environments and are pushed towards extinction.

Human activities are transforming ecosystems



Pollution
Air, water and soil...



Climate change



Introduction of invasive species

There are over **7 billion** of us on Earth

The more the world's population increases the more needs there are to cover.

Many species are sought after for their real or supposed value, and are **threatened with extinction**

by collectors and consumers of medicinal plants or meat from endangered animals.

Act

There are more and more of us on Earth.

Therefore, we all need to limit our impact on the environment to give biodiversity a chance.

Let's take action today!

There are many examples of what we can do:



The circular economy aims to limit the waste of resources. To achieve this, we can choose products that:

- Consume little energy
- Are reusable
- Can be repaired
- Can be recycled

- Consume responsibly
- Combating invasive species
- Choose renewable energies
- Educate and raise awareness
- Rethink the city to accommodate nature
- Restore nature

A good idea?
Restoring the connectivity of natural environments

Together, let's start restoring nature!

Discover

We are closely dependent on nature

Nature provides us with

- Water
- Air
- Food
- Materials to shelter and clothe us...
- Plants to make medicines
- And so on.

Our essential needs are linked to life on Earth (the natural cycles of the sun and water, the existence of plants and animals, etc.)

More than **2 billion** people

including 350 million in Africa, do not have access to drinking water at home.

A quiet walk in a forest or park can make us more resistant to allergies and help us recover more quickly from illness, as well as reduce fatigue and depression.

Spending time in nature improves our physical and mental well-being.

Nature is an important source of medication.

Many traditional societies still use medicinal plants such as Artemisia to treat malaria.

Understand

A healthy natural environment is essential for the good health of all of us.

Many factors create favorable conditions for the development and transmission of diseases.



Destruction of habitats



Climate change

An example of the tiger mosquito

The tiger mosquito originated in southeast Asia and appeared in Africa in the 1990s. It spread because of the global transport of plants such as bamboo and used tires.



Disappearance of species



Intensification of livestock farming



City life



Modes of transport

COVID-19 showed how human movements allowed the virus to spread rapidly and worldwide.

Nature is a precious shield.

It helps prevent certain diseases

- Fewer allergies
- Reduced pain and faster healing
- Good for the body, and good for the head

Act



So, what can we do at our level to change things?

Let's take action today!

There are many examples of what we can do:



- Less meat on our plates
- Preserve agricultural land
- Let's clean up our food
- Greener urban areas
- Less waste
- Let's create our own kitchen garden at school
- Grow medicinal plants
- Get out and breathe the fresh air!

Learn about the virtues of nature
Raise awareness around you

Share everything you've learnt about nature in this module with your friends, family, neighbours, etc.

If everyone takes positive action, our whole environment - and therefore our health - will improve.

Together, we can do something!

Discover

Technical progress helps improve our living conditions.

Ecological transition

- Communications and the internet
- Energy production
- Building insulation
- Mobility
- Circular economy

New technologies are offering us solutions:

These are Green Technologies. They are helping us reduce our impact on the planet...



IPCC

Group of scientific experts that publishes reports on the climate and the state of the planet.

According to them, we need to act very quickly to make all the necessary changes: preserve the environment, reduce our greenhouse gas emissions, transform the way we consume and produce... in short, change our whole way of life!

So, should we pit technological progress against nature conservation?

Technological progress has transformed the world we live in.

Now that we have access to all these technologies, it's surely time to adjust these tools to make them more environment friendly.

Understand

New technologies as solutions!

Vary our energy sources!

There are five main sources :

- Water
- Wind
- Sun
- Biomass
- Geothermal energy

Let's get around cleanly!

It's easier to get around by car but watch out for pollution! We need to learn to do it without the fossil fuels that power all our machines today....



Fortunately, technology has come up with some great alternatives, and we will do it in the near future!



Car sharing



Electric cars



Remote meetings



Magnetic train



Hyperloop



Electric aircraft

Better production and recycling

A smart city is a city that uses new technologies, such as mobile phone applications, to rethink and optimize its entire organization.

Act

If we all put our minds to it, we can do it!

Let's look at a few ways forward, and then it's up to you to go further by discussing all of this with your friends or in your class.

Get back to basics

- Walk or cycle more often
- Buy second-hand equipment
- Avoid packaging
- Learn to use the internet properly

Connect to your nature club

- Join conservation networks on the web
- Develop your communication material
- Be creative



Professional future:

In the magic of technical progress, there is always someone, somewhere, looking for a solution to our problems.

And that someone could be YOU!

