

WE AS PART OF THE BIODIVERSITY

OBJECTIVES	- Understanding the causes of biodiversity loss; - Making people aware that humans are also part of biodiversity and that the consequences of the loss of biodiversity also affect us; - Reasoning that we are the cause, but we can also be the solution against biodiversity loss.
THEME	The causes of biodiversity loss and the consequences
WHERE?	In classroom
HOW LONG?	1 hours
TARGET	8-13 years
WHAT DO I NEED?	- Quiz questions (Annex 1) - Quiz solutions (Annex 2) - Summary table (Annex 3)

HOW TO DO IT

Preparation

Print out the quiz questions and cut out each question.

Running order

Divide the class into two teams. The first pupil from one of the two teams starts the game by reading the first question (No. 1) to the opposing team and asking his or her teammates to choose the correct answer from those available. The teacher following the solutions (Appendix 2) already announces the correct answers and awards the points made by the team.

This is continued for all boys/girls in the two groups. At the end there is a points count to see which team has scored the most points.

USEFUL TIP

After the quiz moment, you can decide to conclude the activity by grouping your ideas with the summary table (Appendix 3). You can decide to:

- see it and discuss it with the children;
- make a poster;
- continue the activity by cutting out and shuffling each square in the table and then asking the children to place the answers in the correct position.

WHAT SCIENCE SAYS

The natural environment is not only a source of pleasure, inspiration and recreation, but also of food, energy, raw materials, air and water, elements that literally allow us to live and are the engine of our economies. Yet, despite its role and value being fundamental to us, we often take nature for granted. The pressure we put on many natural systems is constantly increasing and prevents them from functioning at their best, sometimes even leading to their collapse.

Man is only one of many species on Earth. If we lose contact with other living beings, if we forget that we are part of nature, we put our future at risk. However, solutions for finding a balance between man and nature do exist and will be explored in the following lessons of the course.

ANNEX 1 - QUIZ

1. How does habitat destruction and degradation occur?

- ☐ Through deforestation
- ☐ Through mining
- ☐ Through urbanisation
- ☐ Through intensive agriculture
- ☐ All of the above

2. A destroyed natural habitat is still able to support the species present, because species are always able to readapt to new conditions.

- ☐ True
- ☐ False

3. If cities increase, the consequences fall on the natural environment but not on man.

- ☐ True
- ☐ False

4. The destruction and degradation of natural habitats means that: (more correct answers)

- ☐ Increases carbon dioxide in the atmosphere
- ☐ Decreases available water

5. In your opinion, what are the possible solutions to counteract the destruction and degradation of habitats?

- | | | |
|--------------------------------------|-------|------|
| Establishing protected natural areas | [YES] | [NO] |
| Reforest | [YES] | [NO] |
| Use renewable energy | [YES] | [NO] |

6. Habitat fragmentation:

- | | | |
|---|-------|------|
| Occurs when a new road or railway is built | [YES] | [NO] |
| Occurs when cultivated fields are present | [YES] | [NO] |
| Occurs when new houses are built in a natural environment | [YES] | [NO] |

7. Road accidents with fauna, in your opinion are:

- ☐ Rare
- ☐ Few cases
- ☐ Fairly frequent

8. Why do animals cross roads?

- ☐ Because they are frightened by cars
- ☐ To explore and reach other resources and find a mate
- ☐ Because they are curious
- ☐ To explore new environments

9. Does running over wildlife in the street cause great economic damage?

- | | |
|-------|------|
| [YES] | [NO] |
|-------|------|

10. To remedy habitat fragmentation:

Green corridors must be built

Hedges should be created that connect forests and facilitate the movement of animals [T] [F]

It is necessary to eliminate ecological corridors, which can be an obstacle for some specie

11. Fertilisers and pesticides on agricultural fields harm animals, but do not pollute water.

[T] [F]

12. In your opinion, what are the possible solutions to combat pollution (air, soil and water)?

Establish protected natural areas [YES] [NO]

Practising sustainable agriculture [YES] [NO]

Reforest [YES] [NO]

Use renewable energy [YES] [NO]

Use LED bulbs [YES] [NO]

13. Plastic pollution causes: (multiple correct answers)

☐ The death of many animals

☐ The beaching of dolphins

☐ Human ingestion of microplastics through water and food

☐ The impoverishment of soils (plants do not grow)

☐ All of the above

14. Air pollution:

Causes the ozone hole [T] [F]

Is caused by car traffic and factories [T] [F]

It is caused by lights and heating of houses [T] [F]

Has something to do with climate change [T] [F]

15. In humans, air pollution causes health damage. Which ones?

Diseases of the respiratory system [YES] [NO]

Diseases of the cardiovascular system [YES] [NO]

Lung cancer [YES] [NO]

Stroke [YES] [NO]

16. Invasive species are:

☐ Animal species that are too curious about humans

☐ Animal and plant species of exotic origin that reproduce and spread, causing damage

☐ Plant species that grow everywhere

☐ Local animal and plant species that spread causing damage

17. Invasive alien species:

Sometimes introduced voluntarily by fishermen and hunters [T] [F]



They are often animals that have escaped from fur farms

[T] [F]

They may be accidentally imported

[T] [F]

**18. Invasive exotic species can cause damage to local fauna because:
(more correct answers)**

☐ They can carry parasites

☐ They compete for food

☐ They feed on local fauna

☐ They are usually more resistant than local fauna

19. Invasive exotic species can also transmit serious diseases to humans.

[T] [F]

20. Invasive alien species do not cause economic damage.

[T] [F]

21. Overfishing:

☐ Causes the displacement of animal species

☐ Can cause damage to the entire marine ecosystem

☐ Is no longer practised

22. In your opinion, what are the possible solutions to combat overfishing?

Establish marine protected areas

[YES] [NO]

Support sustainable fishing

[YES] [NO]

Trawling

[YES] [NO]

23. Overfishing depletes food resources, even to the detriment of humans.

[T] [F]

24. Climate change, according to you:

☐ It is caused by habitat fragmentation

☐ Is caused by artificial snow cannons

☐ Is caused by deforestation and the increase of greenhouse gases

☐ Is caused by too high temperatures for the ozone hole

25. Climate change causes:

Droughts

[YES] [NO]

Extreme weather events

[YES] [NO]

The rise in sea level

[YES] [NO]

The increase in earthquakes and volcanic eruptions

[YES] [NO]

The lowering of global average temperatures

[YES] [NO]

**26. To combat climate change, one must:
(more correct answers)**

☐ Create protected natural areas

☐ Decrease greenhouse gas emissions

☐ Use renewable energy

☐ Remember to switch off the light

27. Climate change can cause conflict between people.

[T] [F]

28. Can human population growth be a threat to biodiversity?

[YES] [NO]

ANNEX 2 – SOLUTIONS

N° Question	Right answer	Max points
1	5°	1
2	F	1
3	F	1
4	1°,3°,4°	3
5	YES, YES, NO	3
6	YES, YES, YES	3
7	4°	1
8	2°	1
9	YES	1
10	T, F, T	3
11	F	1
12	NO, YES, YES, YES, YES	5
13	1°,2°,3°	3
14	F, T, F, T	4
15	YES, YES, YES, YES	4
16	2°	1
17	T, T, T	3
18	1°, 2°, 3°, 4°	4
19	T	1
20	F	1
21	2°	1
22	YES, YES, NO	3
23	T	1
24	3°	1
25	YES, YES, YES, NO, NO	5
26	2°, 3°, 4°	3
27	T	1
28	YES	1

ANNEX 3 – SUMMARY TABLE

Causes of biodiversity loss	How	Environmental consequences	Consequences for humans	Solutions
Destruction and degradation of habitats	Logging and deforestation	Natural habitat, no longer able to support the species present	Less trees = less oxygen and more CO2	Creation of protected natural areas
	Mining	Animal species:		Reforestation
	Urbanisation	no more home or food		
Fragmentation of habitats	Road and/or railway construction	Environment broken down into patches (residual fragments of the initial forest)	Numerous and frequent accidents with fauna (deaths, injuries, car repair costs)	Ecological corridors
	Cultivated fields	Fauna cannot disperse outside the patch (to reach resources, partners...)		
Pollution (water, air, soil)	Gases and very fine dust (traffic, factories, energy and heating plants)	Plastic is ingested by fauna	Harmful effects on health (respiratory and cardiovascular diseases)	Using renewable energy
	Fertilisers and pesticides	Soil impoverishment (plants do not grow)	Ingestion of microplastics	Sustainable agriculture and food
	Millions of tonnes of plastic in the seas	Intoxications and infections in animals due to contaminated food and water	Pesticides/fertilisers: toxicity, carcinogenic, central nervous system, liver effects	
Invasive species	Voluntary introduction for hunting/fishing	Competition for food and habitat with local species	Transmission of diseases	Banning trade in exotic species
	Unintentional introduction	New pests	Large costs for management,	Forbidding (sanctions)

	(accidental leaks)		control and removal	
		Damage to vegetation	Economic damage to agricultural crops	
Over-exploitation of resources	Overfishing	Animal species do not reproduce in time	We no longer have food resources	Sustainable fishing
				Marine Protected Areas
Climate change	Deforestation	Moving and adapting fauna to the new climate	Drought	Reducing greenhouse gases
	Greenhouse gas emissions		Sea level rises	Renewable energies
				Extreme weather events
Population growth	Increasing cities, increasing agriculture, increasing deforestation	Loss of natural habitats	Fewer resources for all	Birth control