

Lesson 8



FORESTS. WHAT ENDANGERS FORESTS? FOREST FIRES

Lesson objective: To acquaint pupils with the structure of forests and the threats they face. To help pupils understand the importance of forests to the Earth and its climate.

Terms: forests, forest types, threats, forest fires.

Materials required for the experiment: 3 - 5 wooden or cardboard boxes, natural raw materials (chestnuts, pine cones, twigs, pebbles, acorns, etc.).



1. Discussion

Learning objective: To develop pupils' abilities to draw conclusions based on arguments and experience. Consolidate knowledge about the forest.

ACTIVITIES

Teacher: coordinates pupils' activities. Ask pupils to answer the questions, asks to select pictures that depict a forest

Pupils: answer the questions based on their own experience. Complete an interactive taskby choosing the pictures with the forest.

On the screen: Questions:

- 1. What is a forest?
- 2. What lives in the forest?
- 3. How does the forest form?
- 4. How long does it take for the forest to form?

After the questions cards with photos needed for the interactive part of the task are displayed.

2. Interactive task (information)

Learning objective:

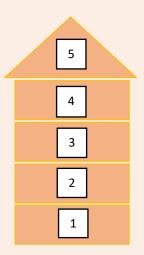
To help pupils understand the structure of the forest, to introduce them to forest parts.

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** Select parts of the interactive task and listen to the information.

On the screen: pupils see a diagram of the shape of a house where each part represents a different component (part) of the forest:

- 1. Forest floor.
- 2. Shrubs (bushes).
- 3. Undergrowth.
- 4. Forest canopy.
- 5. Giant trees.





3 min. 🕚

3. Interactive	8 min. 🕚											
LearningTo help pupils understand what are the components (partsobjective:forest.												
	ACTIVITIES											
Teacher: coordinat Pupils: complete a Arrange the picture (parts) of the forest On the screen: can They are placed in	5											
 Forest floor. Shrubs (bushes) Undergrowth. Forest canopy. Giant trees 		2										

4. Interactive task

Learning objective:

To help pupils understand the diversity of forests and how they are divided into different types.

3 min. 🕚

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** listen to the information about different types of forests.

On the screen: pictures with different forest types are displayed. They are being opened (by clicking on them) in the selected order. When opened, a larger image is displayed and information about forest types is provided.

1. Taiga.

Notes:

- 2. Mixed and broad-leaved forests.
- 3. Hard- leaved forests.
- 4. Moist and tropical forests.

5. Discussion

Learning To develop pupils' critical thinking and ability to draw conclusions based on arguments.

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** answer the given questions.

On the screen: the picture and the question are displayed: How important are forests for humans, the world and the climate?

6. Information (Audio/text)

4 min. 🕚

3 min. 🕚

Learning objective:

To provide pupils with knowledge about the benefits of forests and trees due to their ability to release oxygen.

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** observe the information on the screen.

On the screen: a picture with a tree leaf and the oxygen release process taking place in it is visible on the screen. Information is displayed.

Plants get everything they need for their growth from the environment. They need fertile soil, moisture and light to grow well.

When the sun shines and it's bright, the green leaves of the trees produce the nutrients needed by the plant and release oxygen.

Plants suck water from the soil, take in carbon dioxide from the environment through their leaves and use the energy of sunlight. One deciduous tree produces as much oxygen per year as 10 people consume per year.

Forests absorb carbon dioxide and at the same time contribute to cooling the warming planet. It also contributes to the formation of the ozone layer in the atmosphere and this helps to protect all life on the planet from the harmful effects of the sun's rays.

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7. Information (Audio/text)

Learning objective:

To acquaint pupils with forest pests.

ACTIVITIES

4 min. 🕚

7 min. 🕚

Teacher: coordinates pupils' activities. **Pupils:** observe the information on the screen. Get acquainted with a forest pests.

On the screen: a picture of a forest is displayed. When the animation starts it shows the influence of pests and humans on the forests.

Tree diseases are caused by viruses, bacteria, fungi and adverse environmental factors (heat, cold, hail, storms, lack of nutrients, environmental pollution). Trees weaken and may die.

There are a lot of animals that harm trees. Most of them are small insects, mites, aphids and moths. They suck tree sap, gnaw leaves and other plant tissues. As the climate changes, animals begin to migrate. New species of animals appear in the forests. They feed on forest vegetation, reproduce quickly. Other animals that feed on them do not always migrate together. This destroys the balance.

But the greatest enemy of the forest are people. They cut down huge areas of forests and do not replant them. Deforested areas are used for agriculture, manufacturing and other human-useful activities. People even cause forest fires by burning bonfires, smoking and behaving very irresponsibly.

8. Eco workshop

Learning

objective:

To help pupils understand how natural materials can be creatively used for various purposes. To develop pupils' creativity and cooperation skills while working

ACTIVITIES

Teacher: coordinates pupls' activities.

Pupils: listen to the information and perform the selected work: construct an insect hotel or a sensory trail from collected natural materials.

On the screen: a description of the activity is displayed.

in a group.

Materials required for the workshops: wooden or cardboard boxes, various natural materials (pine cones, chestnuts, acorns, twigs, pebbles, etc.), metal mesh (for an insect hotel).

9. Information (Audio/text)

Learning To provide students with knowledge about forest fires and their causes.

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** listen to the information about forest fires.

On the screen: a picture with a forest fire is displayed, information about it is provided.

One of the biggest threats to forests are forest fires. A forest fire is an uncontrolled burning of trees and other plants. High ambient temperature, intense sun, lack of precipitation, wind strength and careless human activities in nature contribute to forest fires.

In old forests a fire can start faster than in a young one. Fallen leaves and needles, lichen, branches and twigs lie on the ground and catch fire faster. When spring comes and the snow melts the forest begins to dry out and conditions for fires become more favourable.

When a forest burns, animals living there lose their homes and food. They have to find a new living environment. In such cases animals often die because it takes more than 50 years for a new forest to grow. During a fire heat, smoke, various pollutants and harmful substances spread into the atmosphere. All this also affects human health negatively.

10. Discussion

Learning

objective:

To develop pupils' critical thinking and ability to draw conclusions based on arguments.

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** answer the given questions.

On the screen: the picture and the question are displayed: How important are forests for humans, the world and the climate?

Notes:

5 min. 🕚

4 min. 🕚

11. Interactive task

Learning Consolidate pupils' knowledge about the structure of the forest, objective: threats to it, importance to the climate.

ACTIVITIES

Teacher: coordinates pupils' activities.

Pupils: perform an interactive task - answer the questions by choosing the correct answer.

On the screen: 4 questions are presented consecutively:

- 1. What type of forests do oaks and birches grow?
 - In the taiga. •
 - In swampy and broad-leaved forests
 - In hard-leaved evergreen forests.
 - In humid tropical forests.
- 2. Why are forests important for people and animals?
 - You can pick berries and hunt animals in them.
 - It is possible to hide from rain and sun.
 - The forest produces oxygen.
 - It is a house for animals.
- 3. How important are forests for the climate?
 - They absorb carbon dioxide and lower the air temperature.
 - You can pick berries and mushrooms in it. •
 - It is a great place for animals to live. •
 - The forest protects the Earth from hurricanes.
- 4. What harms forests?
 - A warming climate, animal pests and irresponsible human activities.
 - Cleaned land.
 - Recreation and tourism.
 - Diversity of trees.

Notes:

12. Discussion

Notes:

10 min. 🕚

LearningTo develop pupils' critobjectives:based on arguments.

To develop pupils' critical thinking and ability to draw conclusions based on arguments.

ACTIVITIES

Teacher: coordinates pupils' activities. **Pupils:** answer the questions.

On the screen: the picture with an animal and the question are displayed: Do you know of any other reasons why animals suffer?

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