



pLatform for INnovation in Natural science onlinE education

Didactic Unit (DU)/Lesson plan

Forest

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OVERALL DESCRIPTION

Sections	Description
1. Topic/DU Title	Forest
2. Brief description of the DU	<p>In this DU, pupils learn about this topic, children will have the opportunity to explain the difference between a natural forest and a park and to learn about the trees that grow there.</p> <p>The DU include three phases on the following topics:</p> <ol style="list-style-type: none"> 1. Definition of natural forest and city park (similarities and differences) 2. Diversity of forests and their tree species. 3. Forest Encyclopedia
3. Beneficiaries	Pupils aged 8-10
4. Total hours	7 hours
5. Situation problem / reality or authentic task	Do all trees grow only in forests? What is the difference between a forest and a park? What types of trees usually grow in forests? What types of forests are there?
6. Aim/s	<p>Understand the difference between a natural forest and a park.</p> <p>To learn about the diversity of forests (conifer forests, broadleaf and mixed forests, Mediterranean forests), know the differences and similarities.</p>
7. Subjects	Science, Math, Technology, Language, Art
8. Expected results	Children will be better able to identify and name trees in their immediate surroundings by their visible parts.

WORKPLAN

Phase/Title/ Lessons	Brief description	Subjects	Objectives	Knowledge and Competences	Educational strategy	Tools and resources	Setting*	Evaluation and assessment	Duration
Lesson 1 Definition of natural forest and city park (similarities and differences)	Teacher introduces students to the concepts of forest and park. Students explore teacher-selected video and photo material showing natural forests and parks (parks in the city and parks in nature). The students working in small groups describe the similarities and differences between a forest and a park using the Venn diagram.	Science, Language	To know and can explain the definitions of forest and park in their own words. To identify and to understand the similarities and differences between natural forests and parks	Be able to critically evaluate the information provided. Be able to formulate and raise/answer problematic questions through debate. Be able to collaborate	Collaboration in groups, class discussion. Working together in groups, complete mind maps/Venn diagrams on the differences and similarities between a natural forest and a park. Presents their ideas frontally.	Video from LINNEO project Forest and city park definition Venn diagram Worksheet (annexed)	Classroom, interactive board or screen.	Answer Kahoot questions correctly. Presentation of a Venn diagram or mind map. Correctly identify the similarities and differences between a forest and a park.	1 hour

	Worksheet Venn Diagram Lesson 1 Students play a game in Kahoot, created by the teachers.								
Lesson 2 The diversity of forests and their tree species.	The teacher presents about coniferous forests, broadleaved forests and mixed forests, and Mediterranean forests showing Video 1 and 2 Students are supported by teachers to explore video and photo material showing different forests and their ecosystem	Science, Language	To identify different types of forests in terms of external features To prove by arguments for the conditions needed for different forests to grow. Group trees according to their exterior traits. Assigns plant components to a certain plant.	Be able to identify different forests and the trees that belong to them. Be able to ask and answer problematic questions through discussion.	Classroom discussions about forest species. Working in pairs, group objects according to given criteria. (Worksheet Sorting by trees Lesson 2)	Video 1 Video from LINNEO project Broadleaf and mixed forest plants Video 2 Video from LINNEO platform Diversity of forests Video 3 YouTube video from Next Generation Science	Classroom, interactive board or screen.	Assessment of completed tasks. Groups trees by forest type and assigns parts of trees to particular tree.	1 hour 30 minutes

	<p>Video 3</p> <p>Students analyze resources about types of leaves and seeds Linneo Resources about trees and seeds</p> <p>Finally, students independently group trees according to the type of forest and assign the parts to a specific tree (Worksheet Sorting by trees Lesson2) and depending on the level of students, group coniferous and deciduous trees (Worksheet 2 Lesson 2) or compare them</p>			<p>Be able to group organisms or parts of organisms according to given criteria.</p>		<p>Temperate Forest Ecosystems</p> <p>Linneo Resource: tree_and_leaf_shape_EN.pptx</p> <p>Linneo Resource: seeds_seeds_dispersion_EN.pptx</p> <p>Worksheet Sorting by trees (annexed)</p> <p>Worksheet 1, Lesson 2, and Worksheet 2, Lesson 2 (annexed).</p>			
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	by description (Worksheet 1 Lesson 2)								
Lesson 3 Forest Encyclopedia	<p>The teacher introduces the concept of an encyclopedia and explains the basic information contained in encyclopedias.</p> <p>The teacher explains in what form an encyclopedia can be created (book, leaflet, e-book, etc.)</p> <p>Students will develop a forest encyclopaedia using forest-related terminology in the format of their choice.</p>	Technology , Language, Science	To analyse, to summarise and to present the information in a structured way.	Be able to use keywords to find targeted information on the internet, in books, etc., Be able to select the relevant information and present it in the chosen format.	Collaborative strategy Working in pairs, they choose the format in which they will present the encyclopedia; gather information and develop a forest encyclopedia.	Encyclopedias, scientific books and other sources. A digital leaflet can be created: Microsoft „Publisher“ https://create.microsoft.com/lt-lt/templates/lankstinukai	Classroom, Computers or tablets, interactive board or screen, selected literature.	Book, e-book, leaflet or encyclopaedia produced presentation. Pairs present the encyclopaedia they have created to the class.	2 hours

Extra Lesson 4 In a forest	<p>The teacher organises a trip to the forest.</p> <p>The teacher introduces the tasks the children will do in the forest.</p> <p>Children observe and identify forest plants in the forest and do tasks in the worksheets (In a forest and The bark research).</p> <p>Children pick up litter found in the forest.</p>	Language, Science, Maths, Art	<p>To Identify trees by their characteristics (trunk, leaves, flowers, fruit, etc.)</p> <p>To identify the type of forest based on its characteristics.</p> <p>To explore forest plants (measure trunk diameter, tree height, research tree trunks (young and old).</p> <p>To create mandalas.</p>	<p>Be able to identify trees by their features.</p> <p>Be able to measure and compare a tree's height and girth.</p> <p>Be able to examine the bark of a tree, compare it due to its outward qualities, and form conclusions.</p>	Students work in small groups or pairs to complete assigned tasks and create mandalas.	<p>Worksheet In a forest (annexed)</p> <p>Worksheet The bark research (annexed)</p> <p>Tools: magnifying glasses, measuring tapes, rulers, rubbish bags.</p>	Classroom, forest.	Discuss the completed tasks and answer to the teacher's questions	2 hours 30 minutes
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*Setting: organisation of classroom space (physical and virtual) functional to the activity, provision of resources (technological and others), management of resources.

Name _____

Date _____

SORT THE TREES BY TREE PARTS

Decide which part of the tree belongs to which tree, then cut out the pictures and glue them into the box. Name the trees and its parts

Tree name



Tree name



Tree name



Tree name



Tree name



Tree name



Tree name



Tree name



Tree name



Tree name

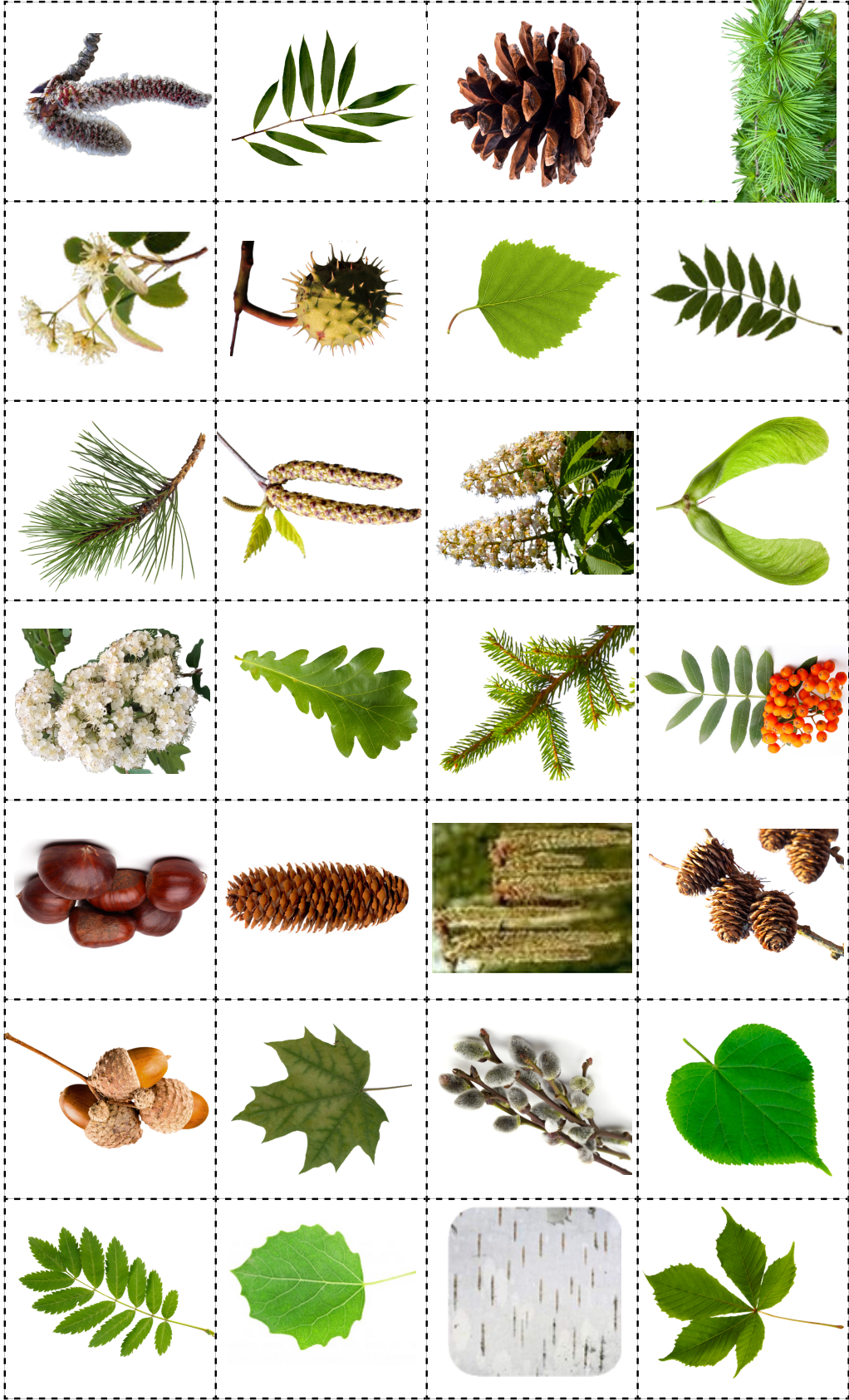


Tree name



Tree name



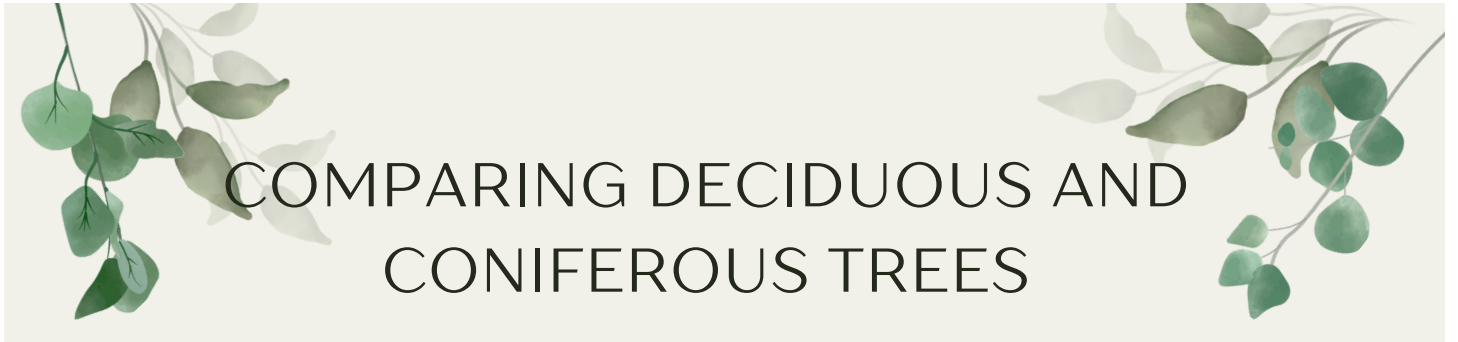


Tree name

Tree name

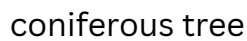
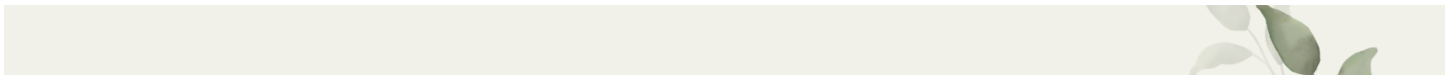
Tree name

Tree name



COMPARING DECIDUOUS AND CONIFEROUS TREES

The image contains two side-by-side photographs. The left photograph shows a tall, slender coniferous tree with green needles, standing in a grassy field under a blue sky with scattered white clouds. The right photograph shows a large, mature deciduous tree with a wide, spreading canopy of green leaves, situated on a grassy hillside under a clear blue sky.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Name _____

Date _____

SORTING CONIFEROUS AND DECIDUOUS TREES

CAN YOU SORT THE TREES INTO THE RIGHT SECTION?

CONIFEROUS

DECIDUOUS



maple



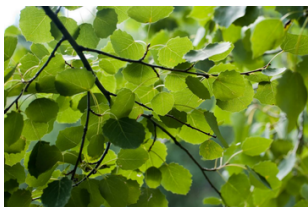
pine



oak



spruce



aspen



hazel



rowan



beech



birch



larch

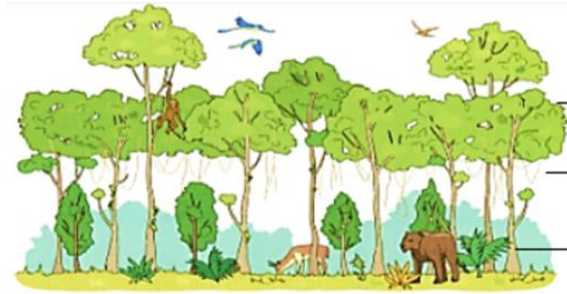
Name _____

EXPLORE AND COMPLETE TASKS. GOOD LUCK!

1. Unscramble the words.

SHA	
LIWLOW	
KOA	
IHRCB	
RIF	
LARED	
DIUCEOUDS	
VEEGERERN	
MOHMSROUS	

2. Name the layers of a forest.



3. Can you find...?

- | | | | |
|-------------------------------------|--|---------------------------------------|--|
| <input type="checkbox"/> pine cone | <input type="checkbox"/> bird | <input type="checkbox"/> feather | <input type="checkbox"/> colourful rock |
| <input type="checkbox"/> green leaf | <input type="checkbox"/> water | <input type="checkbox"/> bug | <input type="checkbox"/> rough object |
| <input type="checkbox"/> brown leaf | <input type="checkbox"/> cloud | <input type="checkbox"/> seed | <input type="checkbox"/> smooth object |
| <input type="checkbox"/> wildflower | <input type="checkbox"/> flying insect | <input type="checkbox"/> grass | <input type="checkbox"/> fallen branch |
| <input type="checkbox"/> spider web | <input type="checkbox"/> round rock | <input type="checkbox"/> pine needles | <input type="checkbox"/> treasure (to you) |

4. What kind of forest are you in? (underline the word)

**5. What trees and shrubs do you recognise?
Write down their names.**

conifer broadleaf mixed		
6. In addition to trees and shrubs, what other organisms do you recognise? Write it down.	7. What forest layers can you see. Underline. Canopy Layer Canopy Layer Undergrowth Understory Layer Tree root system	
8. Explore the forest floor layer: 1) Measure an area of about 30x30 cm. 2) Use a magnifying glass to explore flora and fauna. In the table below, group and write down what did you find. Look them up in the books by picture if you don't know the names.		
Flora	Fauna	Other

9. Choose a tree that you like. Take a good look and analyse it.

Name: _____

Which forest layer does it grow in?

Describe what it looks like:

This tree is (underline)

old young

Ridges on tree trunk bark (underline)

there are there aren't

10. Measure a tree's height while working with a friend.

Step 1: consider the two ways to measure the height of a tree.

Step 2: Talk to a friend and select a measurement method.

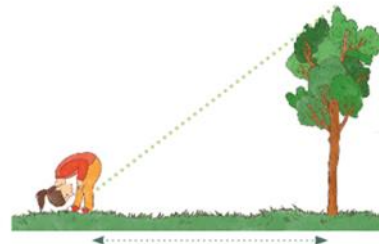
Step 3: Consider what tools you'll need and prepare them.

Step 4: Measure the height of the tree.

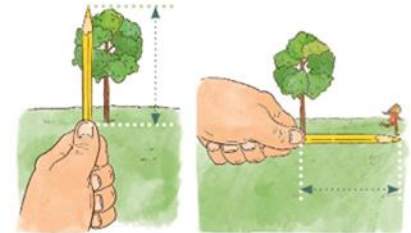
Step 5: Write down the measurement results.

Step 6: Compare the measuring results.

1st way



2nd way



11. Choose three trees with varying ages (trunks).

Measure the girth of the trunk.

	Name of a tree	Tree girth
Tree 1		
Tree 2		
Tree 3		

Calculate the difference between the thickest and the thinnest tree trunk.

12. Collect a variety of natural materials, such as tree leaves, branches and pine cones. Collect a variety of materials in interesting shapes.

Create a mandala.

TREE BARK REASEARCH

Objectives:

1. Find out whether the bark on the trunks of young and old trees is different.
2. Find out how many organisms are present at different heights on a tree trunk.

Tools:

- pencil
- worksheet
- magnifying glass

Progress of research:

1. **OBSERVE THE ENVIRONMENT.** Choose a few young and old trees. Examine them, touch the bark.
2. **I ASK QUESTIONS.** Is the bark of every tree the same? How is it different? What can you see on the trunk of a tree?

3. **I GUESS.** All trees have the same bark.



YES



NO

On a tree trunk near the ground,
more organisms can be visible then at eye level.



YES



NO

Explain why you think so.

1. **I'M INVESTIGATING.** Touch the bark of tree trunks. Experience the difference between the bark of a young and an old tree. Write **what** it is.

Bark of a young tree _____

Bark of an old tree _____

Observe the bark of the tree trunk near the ground for 2-3 minutes, then at eye level for 2-3 minutes. Note where you saw more organisms.

Near the ground:



At eye level:



Insects (beetles, moths, flies) and spiders can be seen on the bark. Write what you see. _____

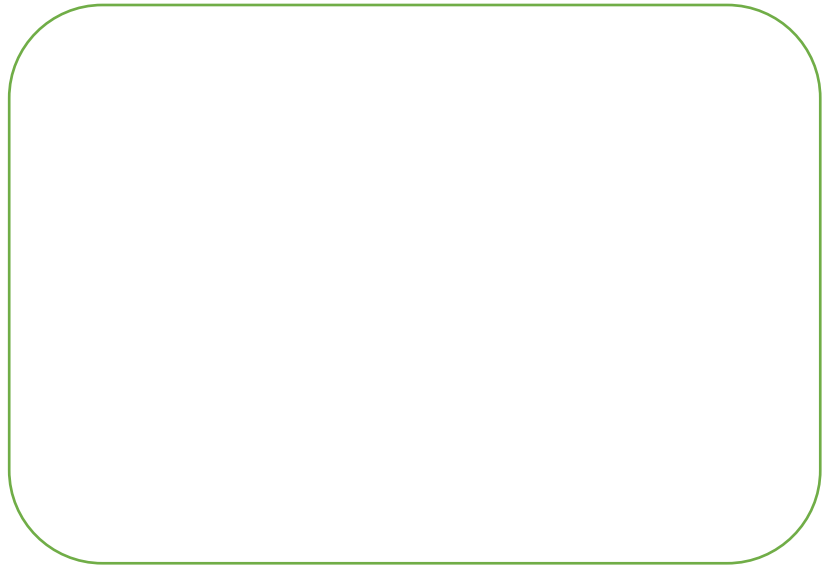
There are lichens, mosses, and fungi growing on the bark. Write what you see. _____

2. CONCLUSIONS.

1. The bark of the trunk of young and old trees is _____
2. There were _____ organisms near the ground than at eye level.

TREE BARK PRINT

Choose a tree. Press some paper up against the bark. Colour gently till the bark pattern appears.



Venn Diagram

