



The Trail, located in Escola Básica D. Fernando II is a project in partnership with the Sintra-Cascais Natural Park, the Sintra University of the Science and Technology department of the New University of Lisbon. In this space it is possible to observe in the "school forest", a great variety of indigenous plant species, a great variety of birds and a set of fossils of the cretaceous period.

What is the school ecological trail?



What is it?

Do the correct match.



Flora

- all types of animal life of any particular region or time.

Fauna

- the scientific study of life that existed in past geological periods, based on the study of fossils.

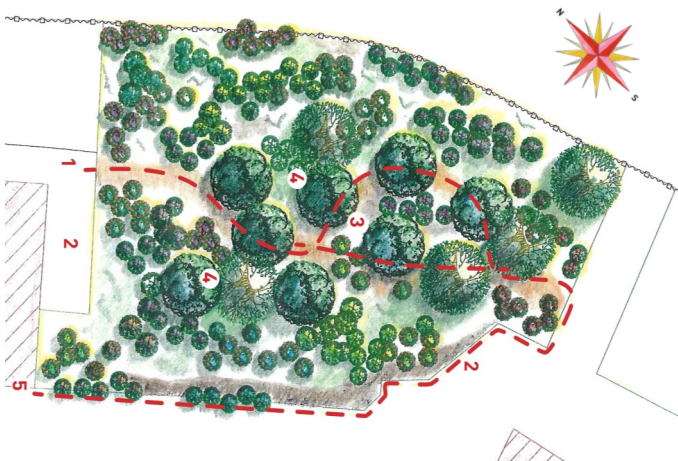
Paleontology

- the typical plant life of a particular region or time.

Come on. Let's discover nature ...



Trail's route



- 1 - Route's beginning
- 2 - Interpretation station
- 3 - Pine forest
- 4 - Shrub mass
- 5 - Route's end



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Science 4 all

AGRUPAMENTO DE ESCOLAS MONTE DA LUA
ESCOLA BÁSICA 2,3 D. FERNANDO II

SCHOOL ECOLOGICAL TRAIL



DATE:

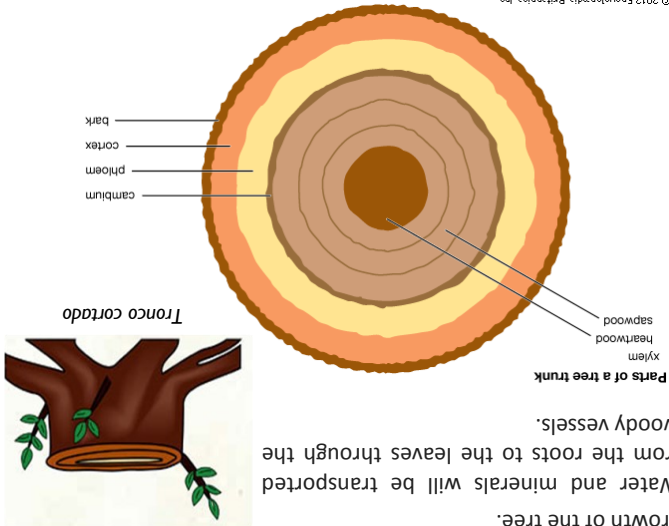
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This guide belongs to:

➤ Look for a cut log and record the year it was planted.
In the forest you will find several logs cut.



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Parts of a tree trunk

If you observe a cut trunk you see that it consists of:
 1 - Bark that is the outermost layer that protects the tree from the middle aggressions. Under the bark we have the wood.
 2 - Rings of wood (rings of growth) formed by successive layers of channels of hard walls, the woody vessels, that form sets consisting of a light and dark band that corresponds to a year of growth of the tree.
 Water and minerals will be transported from the roots to the leaves through the woody vessels.

How can you know a tree's age?

What animals can you see?

The school forest has a wide variety of animal species. During your tour you will be able to observe: insects, arachnids, reptiles, birds and mammals.

➤ Some of the birds that visit our forest are represented below. Try to identify them using the names in the table.



Chamariz
Decoy

Chapim Azul
Blue tit

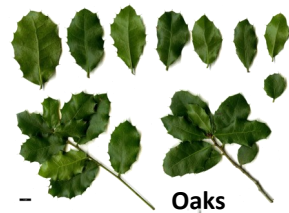
Gaio
Jay

Melro
Blackbird



What plants can you see?

The school forest has a wide variety of plant species. During your tour you will be able to observe: pines, arbutus, cork oaks, oaks, olive trees, myrtle, rosemary, holly, among others.



OBSERVAÇÃO
 Data / Date



➤ Look carefully at the plants in the school grounds. Record the plants you observed, placing the date on the column for observation. Take a picture of each plant.

What plants can you see?

Nome comum	Common name	Nome científico	Scientific name
Azevinho	Holly	<i>Ilex aculeata</i>	
Alcornoque	Rosemary	<i>Rosmarinus officinalis</i>	
Murta	Myrtle	<i>Myrtus communis</i>	
Oliveira	Olive tree	<i>Olea europaea</i>	
Carrasco	Quercus cork oak	<i>Quercus coccifera</i>	
Carvalho	Oak	<i>Quercus sp</i>	
Sobreiro	Cork oak	<i>Quercus suber</i>	
Medronheiro	Arbutus	<i>Arbutus unedo</i>	
Pinheiro	Pine	<i>Pinus sp</i>	



Fossilization can occur through several processes, the main being mineralization, conservation or mummification, molding, and print.

Fossilization is a rare, slow, and complex process. Most living things die or are eaten by scavengers, or are decomposed or destroyed. Special conditions (hard parts, fast burial with fine sediments) are necessary for a living being to become a fossil.

How does a living being become a fossil?



The fossils are remains or traces of the activity of living beings of the past and that have been preserved in the rocks.

What are fossils?

The history of the Earth is made from the analysis of the geological record (mainly the sedimentary rocks) and the fossil record.



Earth!
Come visit the school forest and discover a little book that tells the story of

FOSSILS DISCOVERY



What type of fossil can be observed in the school forest?

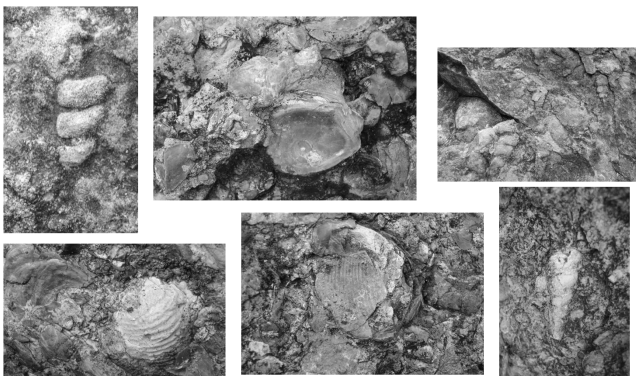
The outcrops of limestone that can be observed in the school forest belong to the Caneças Formation. This formation includes several layers of sedimentary rocks: limestones, marls, sandstones and dolomites of the Cretaceous period. In these strata, cardiid fossils (bivalve molluscs with the heart-shaped shell), ostreids (bivalves with a highly calcified shell), gastropods such as turritelas (mollusks with helical shells) and echinoderms (marine invertebrates where the body is usually divided into five parts arranged around the central axis), among others.



In the 2nd Interpretation station...

1. Look closely at the present rock.
2. Photograph the fossils found. (ATTENTION: do not forget the scale).

3. If you don't find fossils, look closely at the following photos and look again.



The animals leave traces like footprints and excrement. The footprints of small mammals often go unnoticed. You can examine them accurately with a magnifying glass. Then you can photograph them or draw them.

How can you find them?

What birds can you observe?

The bird's variety is great. Thirty species of birds were identified in the school forest. However, they prefer to visit this space at the weekend when the school is empty and quiet.

➤ If you observe any of the birds, place the date in the observation column.



ESPÉCIE SPECIES		OBSERVAÇÃO OBSERVATION
Nome comum	Common name	Data / Date
Melro	Blackbird	<i>Turdus merula</i>
Gaio	Jay	<i>Garrulus glandarius</i>
Chamariz	Decoy	<i>Serinus serinus</i>
Chapim azul	Blue tit	<i>Parus caeruleus</i>
Pardal	Sparrow	<i>Passer domesticus</i>
Águia	Eagle	<i>Búteo sp.</i>