

Magura Cave, Bulgaria

General information			
Respective blueprint	Magura Cave, Bulgaria Cave paintings - gallery		
Description	<p>In this lesson, students are introduced to famous caves worldwide. They learn about the Magura cave and the primitive people who inhabited it.</p> <p>They recreate the rock paintings and create their own symbols to use to develop mathematical problems.</p> <p>Update mathematical knowledge and skills.</p>		
Learning objectives	<ul style="list-style-type: none"> • Getting acquainted with 5 of the most famous caves in the world; • Consolidate mathematical knowledge to add, subtract and compare numbers up to 1000; • Improving the ability to work in a team. 		
Related curricular subjects	<p>History – historical facts about the cave, primitive people and rock paintings;</p> <p>Geography - location of caves;</p> <p>Mathematics – solve arithmetic problems, compare numbers, find geometric figures in drawings;</p> <p>Fine art – recreate a drawing,</p>		
Duration	120 minutes		
Level of difficulty	Basic	Medium	Advanced
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Inclusivity guidelines			
How to integrate students with SLD	<ul style="list-style-type: none"> • Formulate simple instructions that require only one action at a time. • If you give verbal instructions, make sure you follow them in the form of pictograms or written on the board. • When giving instructions (oral or written), emphasise the word of action so that students know what they are expected to do. • Where possible, you can show the expected result of the manipulation. • When creating groups, try to place students who have difficulties with students who are generally more advanced so that they can help each other. 		
How to integrate students who work faster	They support the work of students who find it challenging to perform the assigned tasks.		

Step-by-step description of the lesson

Step 1: The Caves Tell

Estimated time: 40 minutes

Getting acquainted with the caves and presenting interesting facts:

- Through a presentation, the caves are presented:

Maltravieso – Cáceres, Spain

El Castillo – Spain

Chauvet – France

Coliboaia – Romania

Magura - Bulgaria

- Analysis of images found in Magura cave, Bulgaria

This sequence can be adapted to your geographical location by choosing a cave in your area.

Step 2: Palm print

Estimated time: 10 minutes

Students make two types of footprints following the steps presented in the blueprint.

Step 3: Rock Paintings

Estimated time: 40 minutes

Divide students into small groups of 2 or 4 people. Each group creates symbols to replace the digits. They compile tasks with different levels of difficulty (see blueprint). Each group presents the mathematical expressions, and the others calculate to reveal the correct answer. An example of character creation is presented in the blueprint.

Step 4: Creating cave paintings

Estimated time: 30 minutes

Each student creates a picture using charcoal for drawing and a white sheet. The step is detailed in the blueprint.

Assessment activities

Activity 1: Caves of the World

The teacher asks questions such as:

1. Which cave is located in Spain?
A/ Nawala
B/ Koliboaia
C/ Maltravieso
2. Where is the Magura Cave?
A/ Bulgaria;
B/ Romania;
C/ Spain.
3. How many years ago do rock paintings date?
A/ 700years;

B/ 7 thousand years;
C/ 70 thousand years.

4. What material are the rock paintings painted with?

A/ feces of birds;

B/ feces of bats;

C/ other.

Activity 2: Facing the map of Europe

Students note the location of the caves on the map of Europe.

Attachments

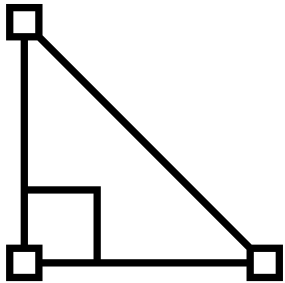
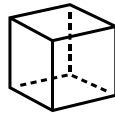
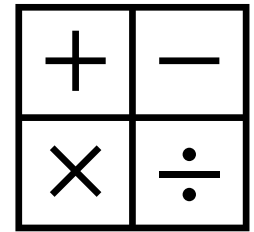
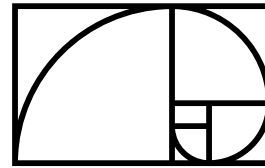
- Presentation "Caves Tell"
- Map of Europe
- Exit ticket

Mark the location of the caves!



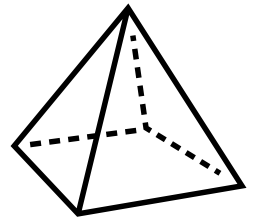
1. Maltravieso - Cáceres, Spain
2. El Castillo - Spain
3. Chauvet - France
4. Coliboaia - Romania
5. Magura - Bulgaria

Source: <https://fr.wikidia.org/wiki/Europe>



The caves tell

Cave paintings



Caves

Caves are natural landmarks that are a natural treasure. They possess bizarre forms, ancient drawings and reveal secrets bequeathed by our ancestors.

They welcome tourists, nature lovers and researchers.

They have been declared a protected area.

Maltravieso Cave – Cáceres, Spain, 64,000 years old



The oldest confirmed cave painting in the world is a beautiful red handmade pattern found in the cave.

Research confirmed that the Paleolithic cave paintings, which included paintings of mammals as well as geometric designs and dots, were made by the only inhabitants of Europe at the time, the Neanderthals.

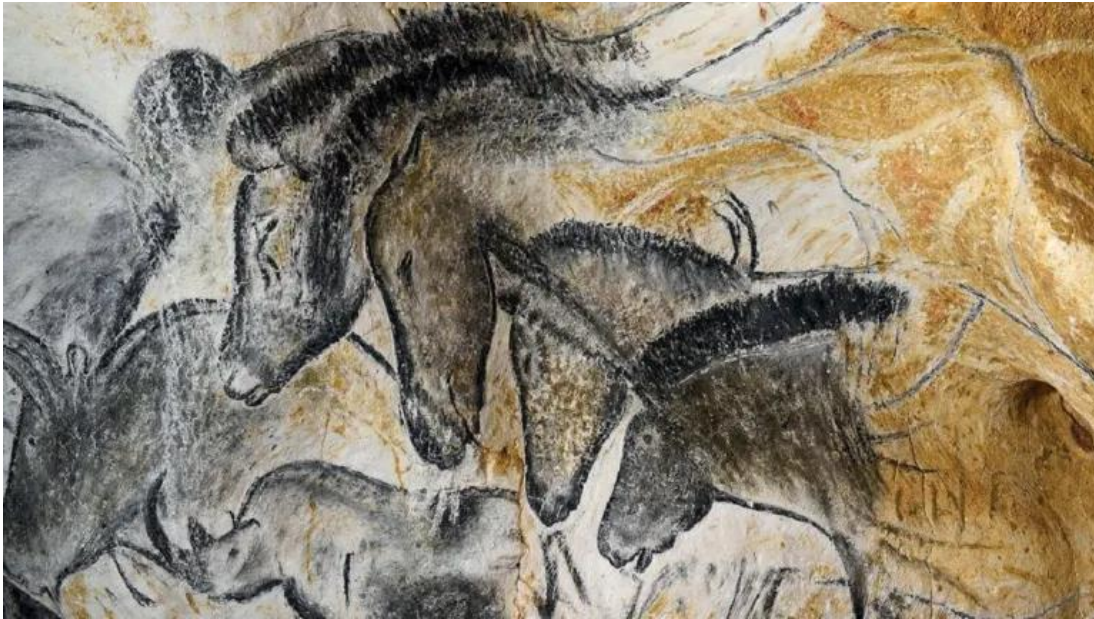
El Castillo Cave – Spain

Ermilio Alcalde del Río discovered the cave in 1903. In it, he finds a long series of paintings, extensive markings and ancient graffiti created with charcoal, as well as red ochre on the ceilings and walls of several caves, ranging from the Lower Paleolithic Age to the Bronze Age. More than 150 works of art have already been catalogued.



40 000 Years

Chauvet Cave – France



35 000 to 30 000 years

The diverse number of animals that "cross" the inner spaces of the cave are both engraved and painted. They are of such exalted aesthetic beauty and high quality that archaeologists initially believed that they were significantly younger. The cave was granted UNESCO World Heritage in 2014.

Coliboaia Cave Romania

Discovered in the 1980s, but very difficult to explore, as most of the galleries are constantly flooded by an underground river.

Many of the paintings can only be seen by floating in the water and showing your head above the surface.

More than half a dozen images have been found, including a horse, two bearheads, a bison and two rhino heads – almost 100% similar to images found so far in Western European caves.

32 000 years



Magura Cave – Bulgaria



Magura is one of the largest caves in Bulgaria, and the paintings in it date back 8,000 to 4,000 years.

On the walls of the cave were found numerous cave paintings painted with excrement of bats. They recreate scenes of hunting, dancing, as well as a wide variety of animal species.

Source:

The text and images in this presentation are from

<https://kakda.org/%D0%BD%D0%B0%D0%B9-%D1%81%D1%82%D0%B0%D1%80%D0%B8%D1%82%D0%B5-%D0%BF%D0%B5%D1%89%D0%B5%D1%80%D0%BD%D0%B8-%D1%80%D0%B8%D1%81%D1%83%D0%BD%D0%BA%D0%B8-%D0%B2-%D1%81%D0%B2%D0%B5%D1%82%D0%B0-%D1%82%D0%BE/?fbclid=IwAR0S1kP5pTVxRVejTfvmN6jPTjC1zSzqkeia87iIXnrBKYfoPVsTxxkYn0> (31.08.2023r)

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