Unplugged Activity

Title: FROM FIRE TO ALGORITHM

Educational level: 3rd grade of the 2nd cycle of Primary Education.
Curricular areas: Social Sciences.
Timing: in any term.

Summary

In this activity, students will identify the main technological advances and key discoveries of each stage of Prehistory. They will work on their classification in the stages and their sequencing. To wrap up the activity, students will have to develop an algorithm to solve a challenge and then, they will guide their prehistoric character through different elements of the stages in chronological order.

Aim

- To establish the main characteristics of the stages of Prehistory.
- Identify the technological advances and discoveries of the Paleolithic, Neolithic and Metal Ages.
- Develop classification and sequencing skills.
- Encourage teamwork, creativity and communication.

Key Competences to be develop: mathematics, digital, personal, social and science, technology and engineering.

Comunidad de Madrid
"Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes"
GOBIERNO DE ESPAÑA MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES

How do we do it?

1. INTRODUCTION TO PREHISTORY:

   We begin the class by reviewing with the students the different stages of Prehistory: Paleolithic, Neolithic and Metal Ages.

2. CLASSSIFICATION OF PREHISTORIC TECHNOLOGIES:

   We divided the class into 4 groups and gave each group a set of cards with images of tools and technologies from prehistoric times. The fire and clothing cards for the Paleolithic stage, the pottery and the little house card for the Neolithic stage and the wheel and metal knife for the Metal Age stage.

   Students should sort the cards according to the prehistoric stage to which they belong (Paleolithic, Neolithic and Metal Age)

3. SEQUENCING TECHNOLOGICAL PROGRESS:

   The teams will sort out the cards according to the chronology of the stages of Prehistory.

4. PREHISTORIC ALGORITHM:

   A board is presented with three prehistoric milestones, one for each stage. Students have to work out an algorithm for their prehistoric character to go through the three events in chronological order. Each student will have one sheet of paper to complete the algorithm. The teacher will draw on the blackboard the arrows to be used to represent the algorithm (forward and rotation).

Comunidad de Madrid
"Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes"
GOBIERNO DE ESPAÑA
MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES

Suggestions

Students could provide different models of valid algorithms.

The teacher could organize group activities with the students, encouraging interaction and team work. They would move around the space with a card. The teacher will ask them to do different things. For example: make a group with other children who have a card from the same prehistoric period, to stand in a row to represent a Prehistory time line or to make a circle with the whole class when listening to the instruction: “Prehistory”.

Among the material resources offered, there is an empty board (customizable) so that students can choose the elements from each stage of Prehistory that they want to place on it.

Resources

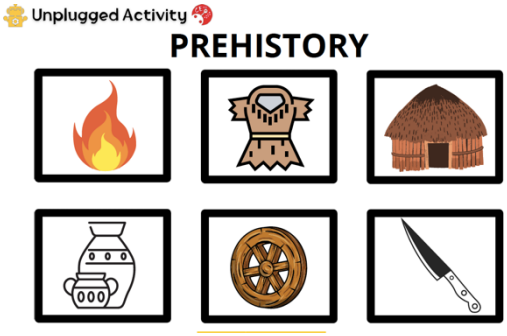
- Human: teacher and students.
- Material: cards of each stage of Prehistory, boards, cards of prehistoric characters and sheets for algorithms.

Space: classroom.

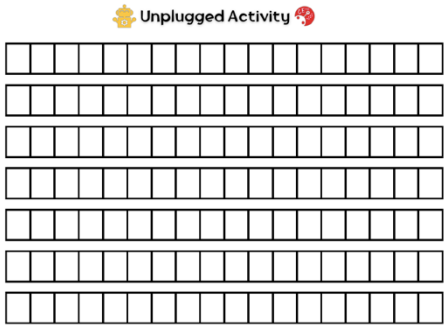
Type of activity: small groups.

Comunidad de Madrid
“Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes”
GOBIERNO DE ESPAÑA
MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES

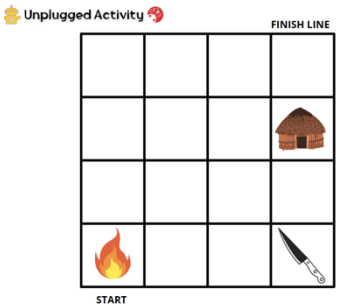
CARDS PREHISTORIC STAGES

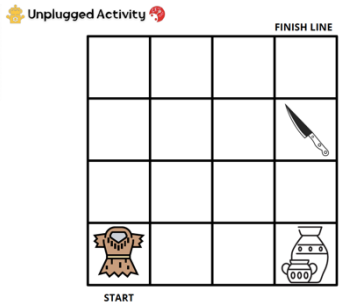


ALGORITHM SHEET



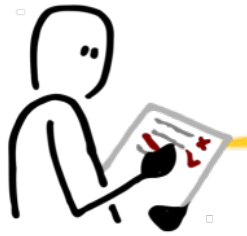
BOARDS





GAME CHARACTERS

"Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes"



What have we learned?

Assessment Criteria	4 Excellent	3 Very good	2 Satisfactory	1 Needs improvement
Identifies the stages of Prehistory.	Identifies and explain all the stages of Prehistory.	Identifies most of the stages, but with some incomplete explanations.	Recognises some stages, but information is limited and unclear.	Does not identify the stages of Prehistory.
Develops classification and sequencing skills.	Classifies and sequences information accurately and logically.	Classifies and sequences information correctly, although there may be some errors.	Shows difficulty in sorting and sequencing with several errors.	Fails to classify and sequence information.
Creates algorithms to solve game situations.	Creates effective algorithms that successfully solve various situations.	Creates algorithms that solve game situations although it can improve on effectiveness.	Creates algorithms but they are confusing or ineffective.	Does not create algorithms or the algorithms presented do not solve the game situations.
Works in a team and are able to communicate.	Collaborates exceptionally well in a team, communicating clearly and encouraging the participation of all.	Collaborates well in a team and communicates well, although inclusion of others could be improved.	Participates in teams but has limited communication and collaboration.	Does not collaborate or communicate effectively in the team.

Comunidad de Madrid
"Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes"
GOBIERNO DE ESPAÑA MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES

Computational Thinking

Logic (prediction and analysis): thinking to make predictions, solve problems and make decisions based on available information.

Algorithms (steps and rules): is a step-by-step process that solves a problem or completes a task.

Decomposition (breaking down into smaller parts): breaking down problems into smaller and more manageable parts, which are easier to understand and solve.

More information

CHARACTERS GAME

GAME BOARDS

ALGORITHM SHEET

STAGES CARDS

Comunidad de Madrid

"Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes"

GOBIERNO DE ESPAÑA MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES