Unplugged Activity

Title: PREHISTORY: HUMANEJOS SITE.

Nivel educativo: Early Childhood Education (3, 4, 5 years old).

Áreas Curriculares: Discovery and exploration of the environment.

Temporalización: 1 session of 45 minutes.

Summary

In this activity, students will use different images to encode into numbers (0-1), simulating the bit code used by computers. Subsequently, they will perform the reverse process of decoding.

The teacher will explain to the class that, through this activity, they will learn how a computer classifies and organizes information, using a method different from that of humans.

It can be developed as a motivational activity before a visit to the Humanejos Archaeological Site.

Aims

- Encode images in numbers (0 and 1).
- Read a sequential code of numbers (0-1) (NO-YES).
- Self-evaluate the activity carried out, to correct possible errors, through the interpretation of a number code.

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- Develop communication and cooperation skills.
- Make quick decisions and solve problems in real-time.

Key competencies to develop: linguistic, mathematical, in science and technology, digital, personal, social, and learning to learn.

How do we do it?

1. Create the coding grid, shown in the resources section, on the classroom floor or in a large space, according to the size of the image. You can use chalk, adhesive tape, laminated colored cardboard.
2. Organize studens into groups of four. The rest of the groups will carry out a parallel activity (corner game, table activity, etc.)
3. Place the group of students at the “start” of the coding grid, located at the bottom edge with a double green line.
4. Place each prehistoric image card from the resources section face down in each cell of the left column of the coding grid. Follow one of the ‘self-assessment and decoding codes’ provided in the resources.
5. The coding in 0 and 1 will depend on whether the answer to a question is true or not. For example: Does the image correspond to elements/facts from Prehistory? Yes=1, No=0.
6. The Images with warm color box are true=1, and images with cool color box are false=0.

	0
	1
	1
	0
	0
	0

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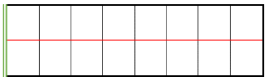
7. Give the students the cards with the number 0 and 1. (They will have to be given the same number of cards of 0 and 1, as images we have arranged in the coding grid). These cards are the resulting code from encoding the different images.
8. Students must advance from the starting box, taking the images one by one and placing, coding, in the next box, a card with a value of 0 or 1.
9. They must repeat this process until they reach the end of the column, completing all the boxes in the coding grid. Obtaining images in a column and next to them the corresponding code.
10. When they have coded all the images, they will carry out the self-assessment with the resource “Self-assessment and decoding codes”.

Suggestion

Perform the reverse process of decoding. Start the activity by displaying a sequenced code of 0 and 1 on the grid, where the team will need to find images that correspond to each 0-1 number. Responding affirmatively or negatively to the question asked.

Ask each team to propose a complete code of 0s and 1s for the other teams to decode into images.

Modify the grid from the vertical plane (forward-backward) to the horizontal plane (right-left, applying reading prerequisites). Compare and find differences between the images of Prehistory and the present.



Resources

- **Human:** teachers and studentes
- **Material:** a coding grid of varible size and number of cells depending on the age of the students (it can be printed or made with adhesive tape or chalk on the floor). Colored cards, printed sheets with numbers, image cards, decoding grid template, and laminator.

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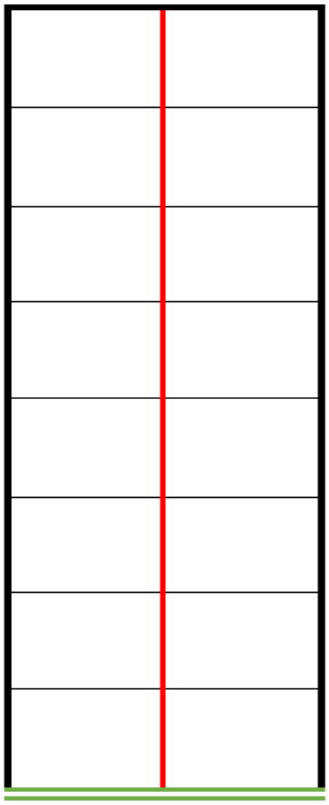
Unplugged Activity

Spaces: large classroom, playground, gym.

Type of activity: small groups.

Coding grid. (Adjust number of boxes to the age of the group.)

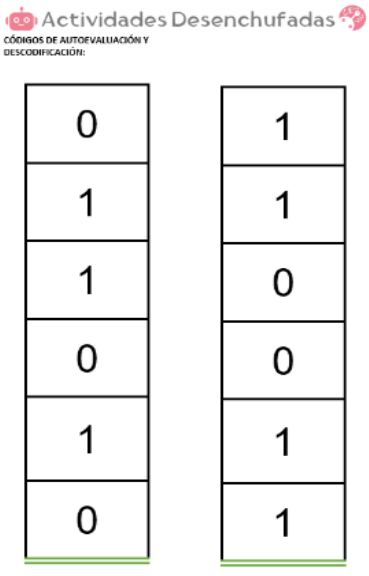


Cards to print:

Numbers bits 1-0

Site image template

Self-assessment and decoding codes



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What have we learned?

Assessment Criteria			
Encode images according to indicated criteria.			
Decode the numerical codes according to the instructions given.			
Makes quick decisions and solve problems without help.			
Communicates clearly and cooperate well with other students.			

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Unplugged Activity

Computacional 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.

Patterns (recognise and use similarities): recognising similarities or patterns in problems or data, which means come up with solutions quickly and effectively.

Abstraction (delete unnecessary details): simplifying things in a problem hiding unnecessary details or aspects to focus on those which are relevant and essential.

More information

Documentation on the Humanejos Archaeological Site.

QR code linked to the activity resources:

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