Unplugged Activity

Title: ELASTIC BANDS FOR MY LITTLE HANDS

Educational level: **3rd grade of Early Childhood Education (5 years old).**

Curricular areas: **cross-curricular.**

Timing: **1 lesson of 45 minutes (in any term).**

Summary

In this activity, students will work with colored elastic bands and their own hands to reproduce models from cards, fostering their computational thinking through play.

By observing and placing the bands on their fingers according to visual instructions, they will break down the problem into small steps, identifying patterns and sequences.

Aims

- Introduce the following ordered steps, facilitating the understanding of basic algorithms.
- Break down tasks into small, easy steps.
- Identify and reproduce visual sequences using manipulatives, reinforcing observation and logic skills.
- Develop communication and cooperation skills.
- Work on spatial concepts (near-far, on, under, etc.).
- Improve fine motor skills.

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

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

Unplugged Activity

Resources

- **Human:** teachers and students
- **Materials**: 8 colored elastic bands (8 green, 8 white, 8 yellow, 8 red, 8 blue, 8 pink, 8 black, and 8 orange), double-sided printed template with cards, thermal laminating pouches, and laminator.

Space: classroom.

Type of activity: small group.

How do we do it?

1. Organize the classroom so that students can work in small groups.
2. Prepare the cards according to their numbering. They are graded based on their difficulty. Cards with lower numbers represent simpler patterns, while those with higher numbers contain more elaborate patterns. This gradual progression in difficulty adds an element of increasing challenge to the activity.
3. Build teams of 3 or 4 participants and provide each with a set of cards and colored elastic bands.
4. Explain that they need to reproduce the pattern shown on the card using their hands.
5. Students must observe the color of each elastic band and determine which hand and finger to place it on, paying attention to positions and combinations.
6. They should use attention and logic to break down the task, identify patterns, and repeat them.
7. In case of error, they should try different combinations until the pattern is correctly reproduced.
8. Within each group, students can work in pairs to help each other check if the elastic bands are in the correct position, fostering cooperation and communication.
9. Once the activity is completed, you can reflect with the class on how reproducing patterns requires paying attention to details, breaking the task into parts, and following a series of steps. This is similar to how computers follow algorithms to solve problems. Emphasize the importance of observing patterns and persevering in the face of errors, which are key skills in computer programming.

Suggestions

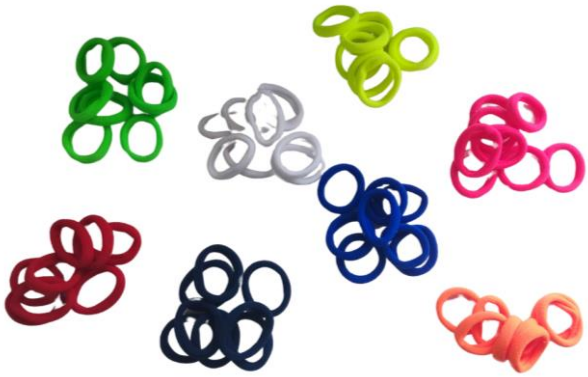
1. Once the group has mastered the game, competitions can be held to see who can replicate a card in the shortest time possible.
2. Provide photocopies of the cards on paper with blank hands and crayons so they can create their own patterns.

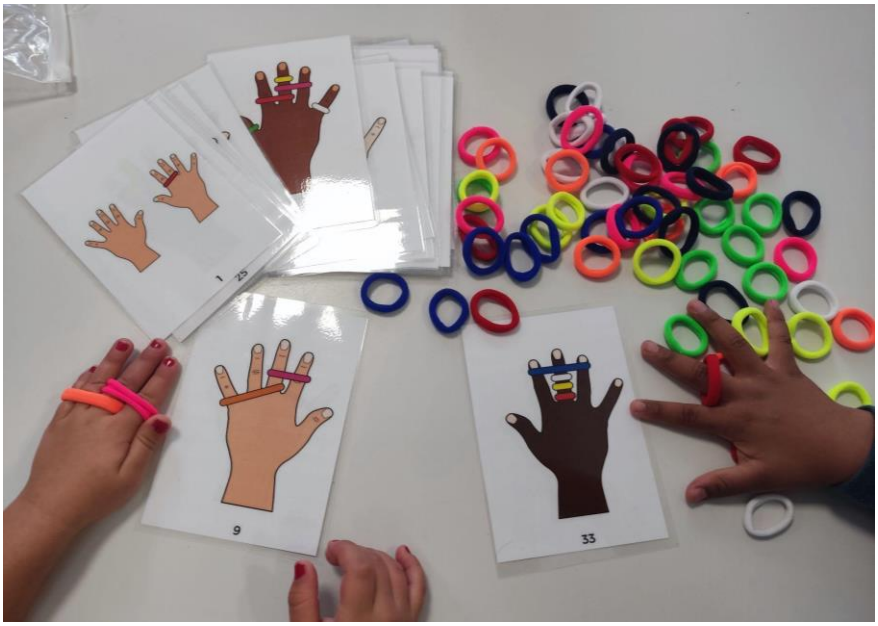
Comunidad de Madrid
"Programa financiado por el Ministerio de Educación, Formación Profesional y Deportes"
GOBIERNO DE ESPAÑA MINISTERIO DE EDUCACIÓN, FORMACIÓN PROFESIONAL Y DEPORTES

1. Flashcards to print:

Flashcards to print and template black & white.

2. Elastic bands (3cm diameter):





What have we learned?

The rubric for the activity is as follows:

Assessment Criteria			
Reproduces the elastic band patterns correctly on his/her hands and fingers.			
Communicates clearly and cooperates well with other team members.			
Makes quick decisions and completes the activity without assistance.			
Demonstrates good fine motor skills.			

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

Computational Thinking

Algorithms (steps and rules): By following the visual instructions on the cards, learners practice executing a well-defined series of steps to recreate the correct pattern. They also develop problem-solving skills by determining which hand or hands (left or right) to use. This process helps them understand the importance of following a set of rules or sequences to complete a task.

Decomposition (breaking down in smaller parts): More complex patterns are broken down into small, manageable steps. Students decompose the task into simpler parts, such as identifying the color, the hand, and the corresponding finger, making the problem-solving process easier.

Patterns (recognise and use similarities): Students identify patterns on the cards, noticing similarities in the positions of the elastic bands. By recognizing these patterns, they are able to replicate the combinations more quickly and efficiently in future tasks.

Abstraction (delete unnecessary details): During the activity, they learn to focus on key elements (colors and positions of the elastic bands) and discard details that are not relevant to solving the problem, such as the skin color of the hands, thus simplifying the process and facilitating resolution.

More information

This activity has been developed based on the idea proposed by @maestramaiteog on the blog Orientación Andujar. Click the link to access more educational resources.

QR code linked to the activity resource:

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