Unplugged Activity

Title: DECODING OUR SMART BASKET

Educational level: 2nd cycle, Early Childhood Education (5 y.o.).
Curricular Areas: interdisciplinary
Timing: 4 sessions of 45 minutes each. (any term).

Summary

This activity consists of 3 sequential challenges. First, the students will use binary code to obtain a letter. Second, this letter is part of the name of a healthy or unhealthy food. To discover the name of the food, the students will have to join their group and arrange the letters each member has decoded. Third, one student from each group will place their food in either the healthy or unhealthy basket.

The teacher will explain to the class that through this activity, they will learn about binary code as the basis of how a computer works.

Aims

- Understanding and taking care of their bodies having healthy habits.
- Begin developing logical-mathematical, reading, and writing skills.
- Emotions control.
- Developing communication and cooperation skills.
- Making quick decisions and problem solving in real time.

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

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How do we do it?

1st Session:

1. Organize the students into groups with as many members as there are letters in the words assigned to them. For example, if you choose the word "GRAPES," the group will have 6 students. Sit them in groups. The activity consists of three challenges:

2. **Challenge 1:** Give each group member a card with a word/food they've been assigned, from the attached file students worksheets, and a pencil in the color assigned. Explain that they must fill in the grid following this rule: an empty square is not colored, a filled square is colored, the number is the amount of squares.

3. Once all group members have decoded the letter on their card and the teacher has approved it, the group earns a point (a variation could be that they exchange cards and another group member corrects them).

4. **Challenge 2**: Have all the food items printed, laminated, and placed in a box (see the attached food file). In this challenge, each group will combine the letters from all group members to spell out a food item. Once they decipher the food item, a designated team member will stand up and retrieve it from the box. Points are awarded based on the order they finish: the first group earns 3 extra points, the second earns 2 extra points, and the remaining groups receive 1 extra point if they successfully decipher the food item.

5. **Challenge 3:** Each group reflects on whether the food item they deciphered is healthy or not. Once they reach a consensus, one student (previously chosen) from each group will explain to the class whether their food is healthy, earning an additional point for their group. The food items are then placed in a paper basket (see the attached basket file, printed in A3) or a real one.

6. This activity can be repeated with different words in each round, allowing students to continue earning points.

7. Once the activity is complete, the teacher will lead a class reflection on healthy and unhealthy foods and on binary code as the basis for how computers work.

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2nd session: This activity can be done in groups or individually.

1. The teacher introduces another way of communicating using binary code (0 and 1), based on the completed cards in the other options file. The teacher asks the students to think of a healthy food item different from those already discussed, and they note it down to avoid repeats.

2. Each student receives as many blank cards from the other options file as the number of letters in the chosen healthy food item. The student will write the binary code (0s and 1s) for each of the letters. Once they finish, they exchange their cards with a classmate.

3. Each student must decipher their classmate's food item using the binary code. They should use colored markers other than black for this step.

4. This activity can be repeated to create a large bank of healthy foods. Points can be awarded, though it's optional.

5. To end the session, students tape their letters together to form the word of the food item (the teacher will keep these words for the final session).

3rd session:

1. We repeat the previous session, but this time with unhealthy foods, creating a large bank of unhealthy food items. Students use a pencil or black marker to decode these items.

4th session:

2. We create a food display on a large sheet of paper, clearly separating the two types of foods on each side. Students will paste the words and decorate freely. The final display will be showcased in the lobby.

Suggestion

It is helpful to project a table on the board so that each group can see their scores, which will keep them motivated. However, the activity can also be done without points. With this activity, you can also work on patterns and colors in foods

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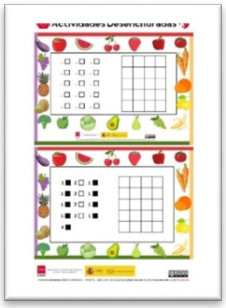
Resources

- **Personnel:** teachers and students.
- **Materials:** prepared worksheets, printed foods and basket, colored pencils or crayons and continuous paper.

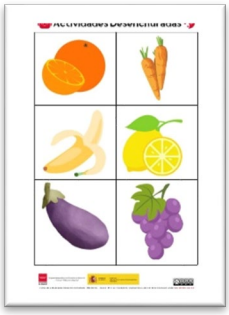
Spaces: classroom.

Activity type: unplugged activity for small groups or individual work.

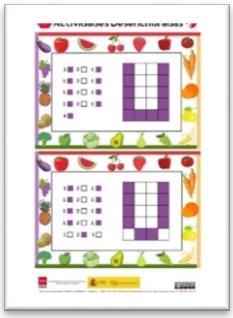
Student worksheets: this file contains blank templates to create more cards for other letters and student worksheets.



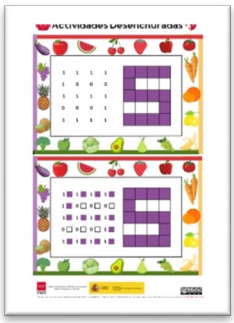
Food



Solved whorksheets



Other options



Basket

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What have we learned?

Assessment criteria			
Identify healthy and unhealthy foods by deciphering words.			
Solve binary code initiation tasks by coloring pictures with code.			
Control their emotions, communicate and cooperate well with other students through group activities.			
Make quick decisions and solve problems without help through the activities.			

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Computational thinking

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

Algorithms (steps and rules): follow a series of well-defined steps or instructions to solve a problem or complete a task.

Patterns (detecting and using similarities): identify similarities or patterns in problems or data, which helps find quicker and more efficient solutions.

More information

QR codes for files related to this activity:

Student worksheets	Food	Other options	Solved whorksheets	Basket

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