Unplugged Activity

Title: Transformations in Sequence

Educational Level: 2nd Cycle of Primary Education.
Area: Natural Sciences.
Timing: Two 45-minute sessions in any term.

Summary

In the first session, students will create sequences of matter changes using a board. They will then record these sequences on a worksheet, considering the movements they used on the board. In the second session, they will create sequences of changes, taking into account the name of the change. Finally, they will create a board with new sequences.

Aims

- Understand matter changes through the creation of transformation sequences.
- Promote computational thinking.
- Develop communication and cooperation skills.

Key competencies to develop: mathematical and science, technology and engineering competence, personal, social and learning to learn competence and entrepreneurship competence.

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How do we do it?

1. **Introduction to Matter Changes**: Begin by briefly explaining the different states of matter and how they can change (e.g., water can be ice, liquid, or vapour).
2. **Creation of Sequences**: Hand out the worksheet for Activity 1, where students will create sequences of matter state changes using different movements on the board.
3. **Recording Sequences**: Once students have recorded different sequences on the worksheet for Activity 1, they should record the sequences on the worksheet for Activity 2.
4. **State Change Sequences**: In Activity 3, students will complete sequences considering the specified state change. They will be encouraged to use different material icons that have not appeared in previous activities.
5. **Completing the Board**: Finally, students will be asked to complete a board (Activity 4) that includes different icons and their sequences.

Suggestions

Worksheets can be completed individually or in pairs.

It is recommended to follow the order of activities, but it can be adjusted based on the teacher's needs.

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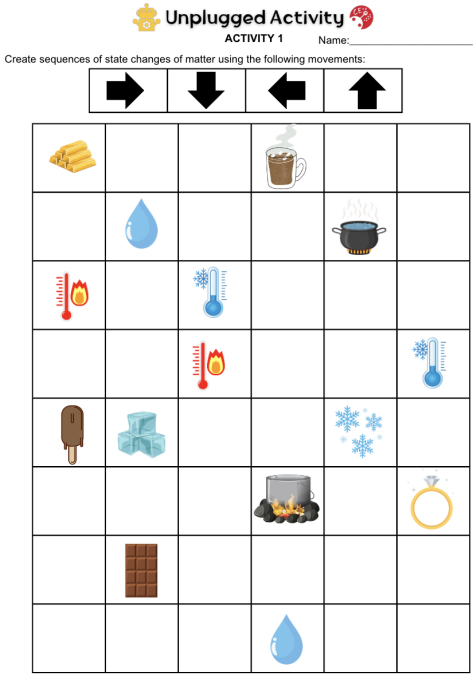
Resources

- **Human:** teachers and students.
- **Material:** printed activity worksheets and a pencil case with coloured pencils.

Space: classroom.

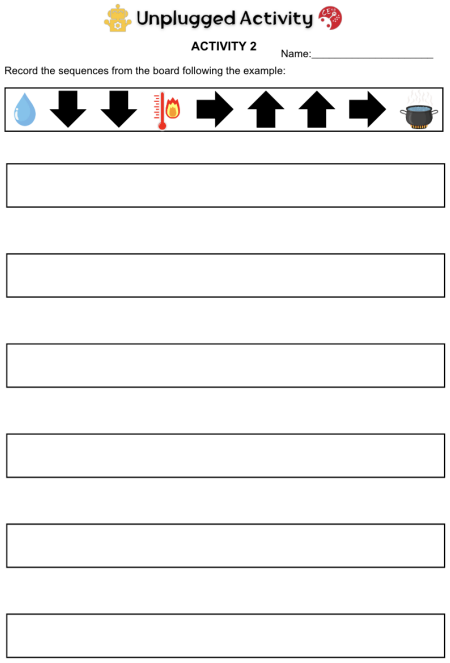
Type of activity: individual/pairs.

Activity Worksheets


Unplugged Activity

ACTIVITY 1 Name:_____

Create sequences of state changes of matter using the following movements: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ACTIVITY 2 Name:_____

Record the sequences from the board following the example:

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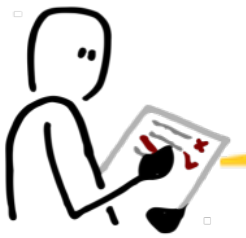
What have we learned?



The rubric for the activity is shown below:

Assessment Criteria	4 Excellent	3 Satisfactory	2 Needs Improvement	1 Insufficient
Creates correct and reasonable sequences.	Consistently creates correct and reasonable sequences.	Creates correct sequences, but with some confusing details.	Creates basic sequences with logical errors.	Does not create sequences or they are completely incorrect.
Uses original sequences, utilising different visual elements.	Uses very original and creative sequences with innovative visual elements.	Uses original sequences with varied visual elements.	Uses some visual elements but lacks originality.	Uses unclear or repetitive visual elements.
Sequences are organised and easy to follow.	Sequences are clearly organised, easy to follow, and understandable.	Sequences are organised and mostly easy to follow.	Sequences have some organisation but are confusing.	Sequences are disorganised and hard to follow.
Presents information clearly.	Presentation is exceptionally clear and effectively communicates information.	Presentation is clear and understandable, with some details that could be improved.	Presentation is clear but has several errors or ambiguities.	Presentation is confusing and hard to understand.

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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.

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

QR code to the activity resource:

Activity Worksheets

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