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Worksheet

This Worksheet is designed to guide educators on how the comic strips can be integrated into their classroom. Teachers can adjust based on student level and depth of discussion needed.

Topic N° 12– The State Changers : Matter & its Transformations

Lesson Duration : [Suggested number of sessions/days]

Lesson Plan

1 Pedagogical objectives [Suggested duration]

By the end of this activity, students will:

- Understand the different states of matter and how they change .
- Explore real-world applications of phase changes.
- Develop cirtical and creative thinking about matter transformations.

2 Introduction: What is Matter & Transformations ? [Suggested duration]

Matter exists in different states: solid, liquid, and gas. These states can change when temperature or pressure is altered. Water is a perfect example—freezing into ice, melting into liquid, and evaporating into gas! But what if matter could talk? Imagine a character transforming between states like a superhero!

3 Explore the Storyline [Suggested duration]

Teacher's Role: Present the comic strip and guide the discussion.
Student Task: Read the comic strip and analyse:

- What is happening in the story?
- How do the characters interact with of matter?
- What challenges arise?

Discussion: The teacher and students analyze the scientific principles behind state changes in the comic.

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Activities

- **Activity 1: Observation and Reflection [Suggested duration]**

Objective: Help students recognize key concepts visually.
Instructions : Observe the following images and identify those related to Matter transformations . Justify your choice.
Materials: [Insert images of ice melting, boiling water, condensation on a glass, dry ice sublimation, etc.]
Discussion Questions:

- How do these images relate to changes in matter?
- What common patterns do you notice?

- **Activity 2: Combine the Elements [Suggested duration]**

Objective: Reinforce understanding by linking concepts with definitions.
Instructions : Links each concept to its corresponding definition.

Concept	Definition
Melting	The process of a solid turning into a liquid.
Freezing	The process of a liquid turning into a solid.
Boiling	The rapid transition from liquid to gas.
Condensation	The process where gas turns back into a liquid.
Sublimation	When a solid changes directly to a gas without becoming liquid.

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- **Activity 3: Reflective questions**
- **Activity 3.1. Mini-challenge: Creation and Imagination [Suggested duration]**

Objective: Encourage students to think creatively and apply their knowledge.
Instructions: Imagine you are a scientist discovering a new state of matter!

- Describe your idea in a few sentences.
- Make a diagram or a short comic strip explaining how it behaves.

Activity 3.2. Group or pair discussions [Suggested duration]

- What do you think about the importance of phase changes in everyday life?
- What are some real-world applications of matter transformations?

Conclusion and Review

Quick summary: Summarize the 3 most important points about the topic.

[suggestion]

1. *Matter exists in different states and can transform with temperature or pressure changes.*
2. *These changes include melting, freezing, boiling, condensation, and sublimation.*
3. *Understanding phase changes helps in areas like cooking, weather patterns, and industrial processes.*

Final Quiz : Answer the following questions in one sentence.

1. What is a phase change?
2. Give an example of a phase change in daily life.
3. What do you think the future applications of matter transformation could be?

Remember: Phase changes are all around us, shaping our world in ways we often don’t realize!