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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° 10– The Adventures of the Atom: Atomic Structure & Periodicity

Lesson Duration : [Suggested number of sessions/days]

Lesson Plan

1 Pedagogical objectives [Suggested duration]

By the end of this activity, students will:

- Understand the basic structure of the atom, including protons, neutrons, and electrons.
- Explore energy levels, orbitals, and periodic trends.
- Encourage critical and creative thinking about atomic behavior and chemical properties.

2 Introduction: What is Atom? [Suggested duration]

Atoms are the tiny building blocks of everything around us. Each atom consists of protons, neutrons, and electrons. Imagine these particles as characters in an adventure: Protons are the strong leaders, Neutrons are the neutral diplomats, and Electrons are the speedy troublemakers zipping around the nucleus!

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 atomic structure?
- What challenges arise?

Discussion: The teacher and students analyze the scientific principles behind atomic behavior 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 atomic structure. Justify your choice.
Materials: [Add relevant images of atomic models, electron clouds, periodic table elements, etc.]
Discussion Questions:

- How do these images relate to atomic structure?
- What common patterns do you notice in atomic models?

- **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
Proton	Positively charged particle in the nucleus.
Neutron	Neutral particle found in the nucleus.
Electron	Negatively charged particle orbiting the nucleus.
Energy Levels	Specific regions where electrons move around the nucleus.
Periodic Table	A chart organizing elements based on their properties.

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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:magine you are a scientist discovering a new element. Describe its properties and place on the periodic table.

- Describe your idea in a few sentences.
- Make a diagram or a short comic strip explaining how it interacts with other elements.

Activity 3.2. Group or pair discussions [Suggested duration]

- How does atomic structure influence chemical reactions?
- Why is the periodic table important for scientists?
- What real-world applications rely on atomic properties?

Conclusion and Review

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

[suggestion]

- ✓ *Atoms are made up of protons, neutrons, and electrons, each with specific roles.*
- ✓ *Electrons exist in energy levels and determine how atoms interact.*
- ✓ *The periodic table organizes elements based on their properties and trends.*

Final Quiz : Answer the following questions in one sentence.

1. What is an atom in one sentence?
2. Give an example of a periodic trend in the periodic table.
3. What do you think will be the future of atomic research?

Remember: Atoms may be small, but they hold the secrets to all matter in the universe!