

TEACHING METHODOLOGY OF “THE ATMOSPHERE AND ITS COMPOSITION” IN PRIMARY SCHOOL CLASSES

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Abstract

This article highlights the pedagogical foundations, modern teaching methods, and the significance of teaching the topic “The Atmosphere and Its Composition” in primary school classes for developing students’ ecological awareness and scientific worldview. It also analyzes the use of interactive teaching methods, classroom experiments, and interdisciplinary integration in the teaching process.

Keywords

atmosphere, air composition, primary education, environmental education, interactive methods, natural sciences, STEAM education.

Introduction

Today, one of the most important tasks of primary education is the development of students’ scientific thinking through the teaching of natural sciences. In particular, the topic “The Atmosphere and Its Composition” plays a significant role in helping students understand natural phenomena, develop environmental awareness, and form a responsible attitude toward the environment.

The atmosphere is the gaseous envelope surrounding the Earth and provides the conditions necessary for the existence of life. Therefore, teaching this topic in primary school through simple, engaging, and practical methods is an important pedagogical issue. As John Amos Comenius stated, “Education is most effective when it is organized in harmony with nature.” This idea emphasizes the importance of observation, experimentation, and practical activities in teaching natural sciences. Primary school students often have difficulty understanding abstract concepts. Therefore, when introducing the concept of the atmosphere, it is essential to follow the principle of visualization. The existence of air can be explained through familiar phenomena such as wind, breathing, clouds, and rain.

The composition of the atmosphere can be presented in a simple and understandable way:

Nitrogen – 78%

Oxygen – 21%

Carbon dioxide and other gases – 1%

Teachers can demonstrate the existence of air through experiments. For example, by placing an empty glass upside down into water, students can observe that air occupies space.

The Russian educator Konstantin Ushinsky wrote: “A child learns to think through observing nature.” This approach highlights the importance of observation methods when teaching about the atmosphere.

Interactive Teaching Methods

The use of interactive methods in primary school increases students’ interest in the topic and develops their independent thinking skills.

Brainstorming Method

The teacher may ask the following questions:

What would happen if there were no air?

Why is the atmosphere important?

What consequences might occur if humans pollute the air?

This method encourages students to express their ideas freely and participate actively in discussions.

Cluster Method

Students create associations around the concept of “Atmosphere,” including:

Air

Clouds

Wind

Oxygen

Rain

Environmental protection

This activity helps students organize and connect their knowledge.

Experiment-Based Learning

Practical experiments contribute significantly to the development of students’ scientific thinking. Examples include:

Demonstrating the role of oxygen in combustion using a candle;

Showing that air occupies space by inflating a balloon;

Observing the movement of warm and cold air.

According to John Dewey, “Education is life itself.” Therefore, students should acquire knowledge through practical experiences.

Interdisciplinary Integration

Integrating the topic “The Atmosphere and Its Composition” with other subjects enhances learning effectiveness.

Subject Integration Activity

Language Arts Writing a text about the atmosphere

Mathematics Calculating the percentage of gases in the atmosphere

Visual Arts Drawing nature and sky landscapes

Technology Creating environmental posters

Such integration promotes comprehensive and holistic thinking among students.

Environmental Education

The topic of the atmosphere provides excellent opportunities to develop students’ environmental awareness. Teachers can explain factors that contribute to air pollution, such as:

Vehicle emissions;

Industrial waste and factory smoke;

Forest and grassland fires;

Burning household waste.

Students should also learn practical ways to protect the environment:

Planting trees;

Keeping the air clean;

Reducing waste generation.

The renowned Uzbek educator Abdulla Avloniy emphasized the importance of education and upbringing with his famous statement: “Education is for us a matter of life or death.”

Conclusion

Teaching the topic “The Atmosphere and Its Composition” in primary school is essential for developing students’ scientific worldview, environmental awareness, and responsible attitude toward nature. Organizing lessons through interactive methods, experiments, and interdisciplinary integration increases teaching effectiveness. Furthermore, it enhances students’ observation, analytical thinking, and independent learning skills.

As a result, learners gain not only scientific knowledge about the atmosphere but also a deeper understanding of their role in protecting the environment and ensuring a sustainable future.

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