Introduction

Introduction to the Water Cycle

The water cycle is an essential process that affects our daily lives and the environment. This educational activity sheet is designed to help 14-year-old students understand the water cycle and develop their critical thinking and problem-solving skills.

Section 1: Water Cycle Basics

Water Cycle Basics Questions

Answer the following questions:

1. What is the main component of the water cycle?
    a. Water
    b. Air
    c. Soil
    d. Sun

   Answer: a) Water

2. What are the three main stages of the water cycle?
    a. Evaporation, Condensation, and Precipitation
    b. Evaporation, Transpiration, and Infiltration
    c. Condensation, Precipitation, and Runoff
    d. Infiltration, Percolation, and Evapotranspiration

   Answer: a) Evaporation, Condensation, and Precipitation

Section 2: Visual Thinking Routines

Visual Thinking Routines Questions

Answer the following questions:

1. What is the purpose of visual thinking routines in problem-solving?
    a. To develop critical thinking skills
    b. To improve memory
    c. To enhance creativity
    d. To increase productivity

   Answer: a) To develop critical thinking skills

2. How can visual thinking routines be used to understand the water cycle?
    a. By creating diagrams and charts
    b. By writing essays and reports
    c. By conducting experiments and investigations
    d. By watching videos and presentations

   Answer: a) By creating diagrams and charts

Section 3: Water Cycle Diagrams

Create a Water Cycle Diagram

Create a diagram to show the different stages of the water cycle. Label each stage and explain the process in your own words.

[Space for diagram]

Section 4: Critical Thinking Questions

Critical Thinking Questions

Answer the following questions:

1. What would happen if the water cycle were to stop?

2. How does the water cycle affect the environment?

3. What are some ways to conserve water in our daily lives?

Section 5: Problem-Solving Activity

Problem-Solving Activity

Group Task:

A city is experiencing a severe drought due to a lack of rainfall. The city's water supply is running low, and the residents are worried about their water usage. What are some possible solutions to this problem?

[Space for solution]

Section 6: Conclusion

Conclusion

In conclusion, the water cycle is an essential process that affects our daily lives and the environment. By understanding the water cycle and using visual thinking routines, we can develop our critical thinking and problem-solving skills. Remember to conserve water and protect the environment.

Assessment

Assessment Tasks

Complete the following tasks:

1. Draw a diagram to show the water cycle and label each stage.

2. Write a short essay on the importance of the water cycle and its impact on the environment.

   [Space for essay]

3. Create a poster to promote water conservation and explain its significance.

   [Space for poster]

Extension Activity

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Research and create a presentation on a real-life example of how the water cycle affects a specific ecosystem or community. Share your findings with the class and discuss the implications of the water cycle on the environment.

[Space for presentation notes]