

GRADE 6 INTERDISCIPLINARY UNIT (INDIVIDUALS AND SOCIETIES & MATHEMATICS)



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OVERVIEW

Subject(s)	<ul style="list-style-type: none">• Maths• Social Sciences• Service Learning
Grade Level (s)	Middle School (ages 12- 13)
Systems Tool(s)	Systems Iceberg
Purpose of Using Tool	<ul style="list-style-type: none">• Critical Thinking• Discussion• Action Planning
Summary of Learning Plan	Students learn to engage with data visualization to analyze water scarcity and potential solutions locally and globally (interdisciplinary learning). Students then call for actions in the school community (service learning).

DETAILS

Learning Objectives

- Students learn disciplinary groundings in I&S and Mathematics respectively.
- Students synthesize disciplinary groundings and demonstrate their synthesis in process journals.
- Students learn to justify their observations from various perspectives with statistical evidence and water facts.
- Students demonstrate their justification through infographics, “Walk and Talk” and call for actions from the school community.
- Students reflect on how such justification may influence their future actions on preserving sustainability.

Materials and Settings

- Summative assessment criteria
- Blue Dragon Children’s Foundation
- Lesson videos on mathematical concepts and skills (pre-recorded by Mathematics teacher)

- Learning adventures (designed by I&S teachers)
- Water facts
- Tutorial on creating infographic (pre-recorded by I&S teachers)
- Blue Dragon virtual presentation (introducing their community involvement to students)

Learning Context

This interdisciplinary unit is designed for G6 students. The majority of students are ELL students. In this unit, students learn to use data interpretation/representation (descriptive statistics) and research skills (I&S) to analyze the cause and effect of water scarcity in Vietnam.

Purpose of Using the Systems Thinking Tools

I chose "The Systems Iceberg" to guide students to consider what information they intended to include in their infographics, in order to bring public awareness to water issues and solutions. Students were empowered to dig into structural issues and mental models in this discussion.

Learning Plan Step-by-step Description

As the iceberg visual is provided, students in groups are given these questions:

Events:

What are the predominant facts about water scarcity in and outside Vietnam?

What does Blue Dragon do to support children in need?

Patterns:

What human behaviors and/or natural phenomena might lead to water scarcity?

What impact has Blue Dragon created upon its supporters and children?

Systems and structures:

How is water used in Vietnam?

How has Blue Dragon been attempting to raise public awareness?

Mental models:

To what extent is water usage related to the culture and/or the economy of a nation?

Finding the leverage point:

Where do you place your infographic, Walk and Talk and call for actions in this Iceberg model?

What changes do you anticipate to see?

(Please see [attached PDF in Section 5](#) for a complete unit plan)

REFLECTION

This unit took place near the end of the school year, and this was an experimental interdisciplinary unit. Two I&S teachers and I chose to be open-minded and see how the unit would evolve.

My original plan was to use "The Systems Iceberg" to guide students to discuss what to include in their infographics (which was used to demonstrate their understanding of water scarcity in Vietnam and to call for communal actions).

As the discussion progressed, I noticed that some students struggled with vocabulary and examples to discuss the guiding questions (see [Step-by-step Description](#)). They had difficulties in digging into structural issues and mental models. Also, some did not have sufficient time to complete the discussion and documentation.

The highlight, though, was that students were more accustomed to sharing their conceptual thinking openly in class, after a whole year of intentionally cultivated sharing culture and inquiry culture.

In the future, I plan to use The Systems Iceberg multiple times, with different topics, prior to teaching this unit. Therefore, students are equipped to analyze issues more profoundly. Also, students will be provided with some relevant vocabulary to develop their English language skills.

EVIDENCE

Learning Plan



