

## **Lake Champlain Watershed Unit**

### **Essential Question:**

**How do living things interact and depend on each other in our watershed?**

#### **1. Introductory Lesson**

Let's Go to the Bathtub! What is a watershed?

(North Beach Exploration/Scavenger Hunt)

The goal of this lesson will be to focus and familiarize students with what a watershed is and showing the connectivity between different ecosystems.

**Pre-Assessment:** Ask students to answer the question, **“How do living things interact and depend on each other in our watershed?”**

#### **2. What is the water cycle?**

Students will learn/review the important steps of the water cycle. Students will be using water cycle diagrams and mini investigation to help them understand this cycle. There also is an extension activity where students can build terrariums.

#### **3. What is a Watershed? Two day activity**

Ask students the question; “What is a Watershed?” Have them make any predictions in their science notebook. Then tell students that you are going to demonstrate a watershed with them. Students build a classroom model (see lesson attached). After building and examining the model, students go back into their science notebooks and answer their question based on the claims and evidence they made during the demonstration.

#### **4. What Happens to our Watershed? Toxic Waste and Wetlands**

Students investigate what happens to a watershed when toxic waste is added to our land and rivers. They also see the impact of wetlands on our watersheds.

#### **5. Where are we in the Watershed?**

Create a topographic map of the Lake Champlain Watershed. Ask students to identify where they live. Show students the topographic and regular map of the Lake Champlain Basin. Students can use clay or watercolors. Once map is created it will be used throughout the unit to depict different places students have been.

#### **6. Explore our Watershed!**

Possible connection with Sailing Center to begin exploring our watershed from sail boats on Lake Champlain. Focused would be to build on to the question; What is a watershed?

**7. What do humans do everyday to live in their environment? How do they interact and depend on their environment?**

Students can interview teachers and other students in the school and ask them how they use their environment on a daily basis. For example, hiking, fishing, swimming, etc. Once data is collected, students can analyze how humans interact and depend on their watershed and create a visual to share with the class.

**8. How do humans use our watershed? Locate Businesses/industries along Lake Champlain.**

Before walk read the book, “A River Ran Wild.” Neighborhood walk/Waterfront walk and possible Sailing Center trip where students look at all the recreation and business development along the waterfront. Students will make and use a claims and evidence chart in their science notebooks.

**9. How do living things interact and depend on each other in this ecosystem?**

Read students the book, “Trout Are Made of Tree.” Students play a food chain game that stimulates what happens in a pond, using species that are specific to our local area.

**10. What creatures live in our local watershed?**

Create a class list of all the animals that live in our watershed. Visit ECHO and explore the various inhabitants of our watershed. Discuss food webs/ chains in our local watershed. Possible water sample collection, so students can examine any Phytoplankton at Rubenstein Lab.

**11. Who else swims in our Watershed?**

Students go onto the Winooski River on a fishing trip to examine, how fish travel in our rivers, the importance of catch and release and how the health of fish our indicators of the health of our watershed.

**12. Habitat Web**

In this activity students will have the opportunity to think about the different interactions within an ecosystem and the interconnections of all living things.

**13. How do various places in our watershed interact and depend on one another.**

Students hike Mt. Philo/Spruce Peak/Shelburne Farms and see our watershed from above. During the hike students will stop and discuss what they see, hear and feel as they work their way to the highest view point. This can be documented through pictures, recording, etc. Once students reach their observation point they once again will discuss what they see, hear and feel. Back in the classroom they will examine the similarities and differences of the forest ecosystem vs. their urban ecosystem and the role that each of them play in our watershed.

**Culminating Project:**

Once students have completed their unit of study on the Lake Champlain Watershed they will be sharing their new knowledge with the school community. They will be creating their own visual project sharing an aspect of our watershed that they found interesting and connecting it to our essential question, “How do living things interact and depend on each other in our watershed?” These projects will be displayed during a classroom celebration where parents and school community members are invited.

**Project Grade: See rubric**

**Culminating Unit Grade: The final grade of the unit will be given by combining the following:**

- Science notebook used throughout the unit
- Culminating Project
- Final reflection on essential question: How do living things interact and depend on each other in our watershed?