This Lake Alive!

An Interdisciplinary Handbook for Teaching and Learning about the Lake Champlain Basin

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Getting Wet

Getting Wet

MAKING CONNECTIONS

This book is about connections. When building a strong interdisciplinary study, connections between community, school and home are critical. These connections are what will fuel your study and insure a meaningful learning experience for your students.

"It is a serious matter when the sense of inner connectedness with learning is weakened. Early and middle adolescence is an egocentric age. We should act as partners to that mood, not as adversaries."

Charity James
BEYOND CUSTOMS

BUILDING CONNECTIONS *to your* COMMUNITY

As with any local study, it is important to tap into what your students already know about Lake Champlain. Many, having lived near its shore most of their lives, will surprise you with a wealth of knowledge and associations. They will tell you how beautiful the lake is and where they took their favorite boat ride and how much fun it was. Letting your students express this enthusiasm and giving it a place in the classroom will give your study a charge that no finely tuned lesson plan can match.

The first year we started our Lake Champlain study, we were swamped with stories about old camps on the lake, fishing tales and Champ sightings. There is a whole generation of grandparents out there whose favorite teenage memories are from the S.S. *Ticonderoga*'s last voyages on the lake, when dances were held routinely on its decks.

Because the collection of these stories involves family members and neighbors, a local study will link your classwork to your neighborhood in many exciting ways. You can invite people in to tell stories, send kids out for formal interviews, and find ways for kids to share their findings with their community.

There are so many good reasons to connect kids to the people and things that are nearby including:

- making connections to the real world,
- recording soon-to-be-forgotten skills and stories,
- broadening your scope of support and understanding of what is happening in the classroom,
- practicing students' skills of interviewing and learning from people.

There are many ways for students to study their "neighborhood" and see how it is connected to the Lake Champlain Basin, whether you are asking them questions based on the social sciences or on ecology.

One way is to ask your students to uncover the connections that people in their town have to Lake Champlain. This is an interview conducted by a Milton seventh grader, Todd Archambault.

"The person I interviewed was Alta White at 3:00 to 4:30 p.m. on Oct. 12, 1986. The interview was held in her Colchester, Vt., home.

She had a lot of stories to tell, she knows a great deal about the lake, like how they used to cut ice off the lake.

They cut the ice off the lake originally with hand saws. The saw was used in the same way we cut wood. They took the ice out of the water and put it on the horse drawn wagon with ice tongs. They pulled it to the ice house to save for the summer. Later they used a power saw to cut the ice and a conveyer to get it from the water to the truck.

Alta's father built and used a ferry. He built the ferry by lantern light for two winters in his shop. In 1910 his 36 foot long and 9 foot wide boat the ***Frances Anne*** *was put in the water.*

The boat was used mainly as a ferry but with the use of a scow he hauled bricks, sand and gravel. The sand he hauled was used to help fill in Sunderland Hollow.

When her father was young he worked on the sailboat that brought the bricks that were used in the Catholic Church in St. Albans.

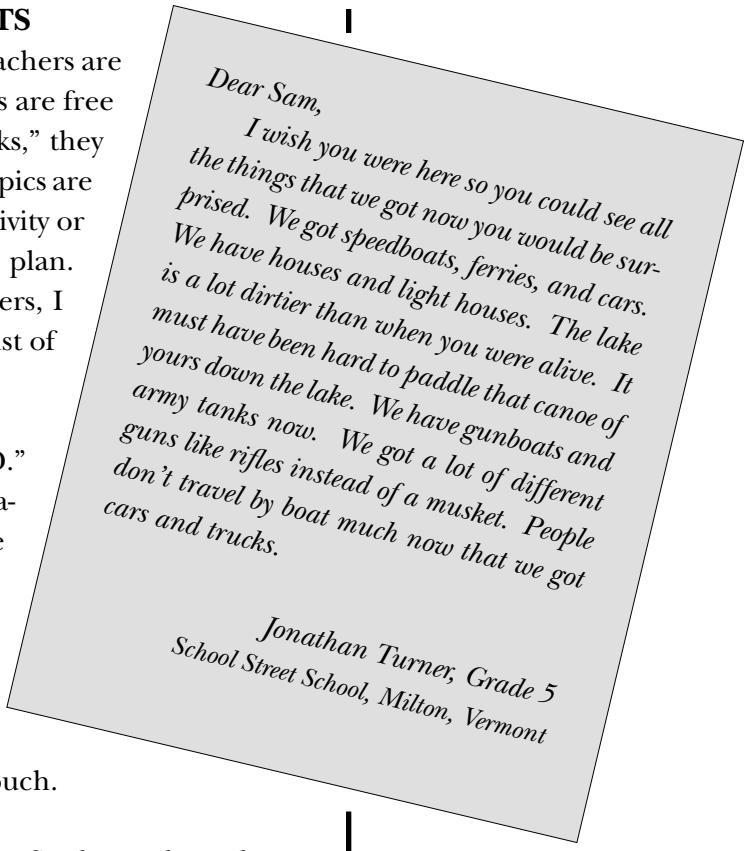
I felt the hardest part was asking the questions because my father and Miss White would get off the topic like they talked about the type of engine that was in the boat.

The most interesting part was actually after the interview when she let us see the scrapbook she was keeping."

BUILDING CONNECTIONS *to your* STUDENTS

One of the most useful techniques I'm sure many teachers are familiar with is a student journal. Although students are free to write anything they wish in what I call "thinkbooks," they are content-based, not personal, journals. Specific topics are given, usually designed to evoke a response to an activity or class discussion, or to give them an opportunity to plan. With fifth graders, less reflective than seventh graders, I use it more often for writing "five good facts" or a "list of ideas" vs. "what do you think..." or "explain why."

At key points, I ask students to write a "Dear Ms. D." entry. It might be at a time when I sense some frustration, or after a class discussion where I think I have cleared up an issue about a project or activity and I need to hear from each student before proceeding. Sometimes it is used to just "tell me how things are going." For me, this connection is very important, especially when the pace picks up in the frenzy of an interdisciplinary study and I run the risk of losing touch.



Dear Sam,

I wish you were here so you could see all the things that we got now you would be surprised. We got speedboats, ferries, and cars. We have houses and light houses. The lake is a lot dirtier than when you were alive. It must have been hard to paddle that canoe of yours down the lake. We have gunboats and army tanks now. We got a lot of different guns like rifles instead of a musket. People don't travel by boat much now that we got cars and trucks.

Jonathan Turner, Grade 5
School Street School, Milton, Vermont

This is a letter that a student wrote to Samuel de Champlain, explaining to him the things that have changed since Champlain's trip down the lake in 1609.

Most thinkbook entries are written silently in class. Students always have the option of finishing an entry on their own time. If the entry is more of a specific task, such as "use four 'fort words' in good Crown Point sentences," it might be given as homework.

I check thinkbooks daily for completion, but only collect them once a week to read and respond to entries. (See *Assessment*, p. 332.)

Thinkbook Entries

- Write all the things you know about Lake Champlain.
- Write all the things you'd like to learn.
- Write a description about a place on the lake that you have been to.
- Write a song, poem or fishing ditty.
- Write about how we learn about people in the past. (Following discussion of primary and secondary sources.)
- Write about a time in history that's most interesting to you. (After our trip to the Maritime Museum.)
- Write about how the Abenakis depend on Lake Champlain to live.
- Write me a letter titled: "Dear Ms. D."

• Use five really good "fort" words in five great sentences about Crown Point.
• Write about your idea for your research project.
• Imagine a wetland. What do you think of?
• What is your idea for the story "Trip Around the Lake?"
• Write a letter to Samuel de Champlain titled: "Dear Sam." (See *It's About Time*, p. 190.)
• What are you going to teach the class during your research presentation?
• Describe the "touch lake" experience. (See *Field Trips*, p. 281.)
• Comment on your classmates' research presentations. What did you learn?
• Write a letter at the end of your unit titled: "So Long, Sam" or "See Ya Later, Lake."
• Write about a problem that Lake Champlain has. Explain a good solution. (After Lake Champlain Committee's slide show "Ecology of Lake Champlain.")

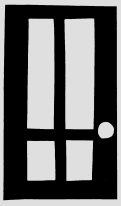
BUILDING CONNECTIONS *to your* FAMILIES

A key ingredient in a successful long-term interdisciplinary study is a strong connection between home and school. Send home a lot of information. This is critical if your study involves additional costs and schedule changes, but there are other reasons as well. As the unit evolves, your parents become part of it, thanking you for the opportunity to learn about the Lake Champlain Basin.

Throughout this book, there will be suggestions on how to send specific information home. Here are some general suggestions for successful parent involvement.

Be sure parents know early of:
- any additional costs for field trips and guest speakers (I usually include this information in a summer letter),
- any schedule changes that alter the regular school day,
- any special needs such as big boots for mud walks or help with an interview,
- the need for chaperones,
- the scope of the unit,
- any major research projects.

Cassie Steeves stands with her mother next to the Native American clay pot that Mrs. Sandra Steeves found while diving in Lake Champlain. The pot is on permanent loan to the Maritime Museum.



Taking It Home

This graphic appears throughout the book with a suggestion on how to build connections between the work you do in the classroom and the families of your students.

When undertaking a large unit of study, clarify student expectations in a handout sent home early in the unit. For example:

Each student will complete the following:

1. Geography map of Lake Champlain
2. Historical map of Native American peoples on Lake Champlain
3. Fact sheet of Lake Champlain
4. Creative writing: Trip Around Lake Champlain (historically and geographically correct)
5. Artistic contribution to timeline of person, place, artifact or event
6. Science paper on Lake Champlain animal or ecology issue
7. Contribution to lake glossary
8. Tests and quizzes

Each student will maintain the following:

1. Organization of notes in student notebook
2. "Thinkbook" journal entries in response to learning activities
3. Daily homework assignments

During your study, there are a lot of different ways to communicate the content of what you are doing.

• Have students write a letter home about an event that has just happened or is about to happen. Get the letter signed and returned.

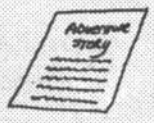
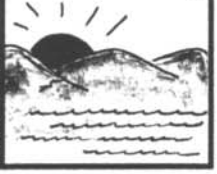
• Have students ask their parents what they know about a particular topic such as the value of wetlands or the preservation of wrecks in freshwater. Students delight in learning more than the "general public" and if parents are asked in a friendly manner, they often will communicate the views of "J.Q. Public," so students can share their knowledge. Do this as an informal inquiry (see "Preconceptions About Wetlands" in *Ecology*, p. 464) or as a formal interview (see *Research and Inquiry*).

• Encourage parents to be involved in fact-finding. Parents who have had some involvement through boating, fishing, or even diving are great resources for your classroom. Welcome this information! Newspapers are also good sources of information for family fact-finding.

• Send home a family reading assignment that you think will be of interest to parents or older siblings. Allow a few days for completion and ask homework or response sheet to be signed by the adult or adults who participated.

Lake Champlain

SEPT / OCTOBER / NOV

Mon.	Tues.	Wed.	Thu.	Fri.
19 Our Lake Champlain Study begins!	20 Geography & Fact Finding	21 	22 Guest Speaker Lisa Borre Geologic Time	23 Field Trip to Geology Museum & "Spirit of Ethan Allen"
26 Guest Speaker: Jon Eddy Waterfront Diving Ctr.	27 Timeline 1500 1600 1700 1800 1900	28 ★★★★★★★★ SSS Open House	29 Field Trip to Maritime Museum & Crown Point	30 Ft. St. Frederic 1740
3 Life in New France	4 	5 Settler Books Complete	6 	7 Field Trip to Sandbar Wildlife Refuge
10 Ecology of Lake Champlain New Reading Unit	11  Zebra Mussels	12 Field Trip to Lake Champlain Basin Program & Fish Hatchery	13 Guest Speaker: Colleen Hickey LCBP	14 Bake Sale Save Our Lake
17 	18 Guest Speaker Nick Staats Fish Biologist	19 Fish Facts	20 Teacher's Convention No School	21
24 Time Travel	25 	26 We're writing our Lake Champlain Adventure Stories	27 	28 Abenaki Bateau Canal Duck Decoy
31 Ecology Fort Glacier Hocquart	1 Project Completion ★★★★★	2 Presentation to Milton Historical Society	3 	4 

Parent's Night to be scheduled

Demarest 1994

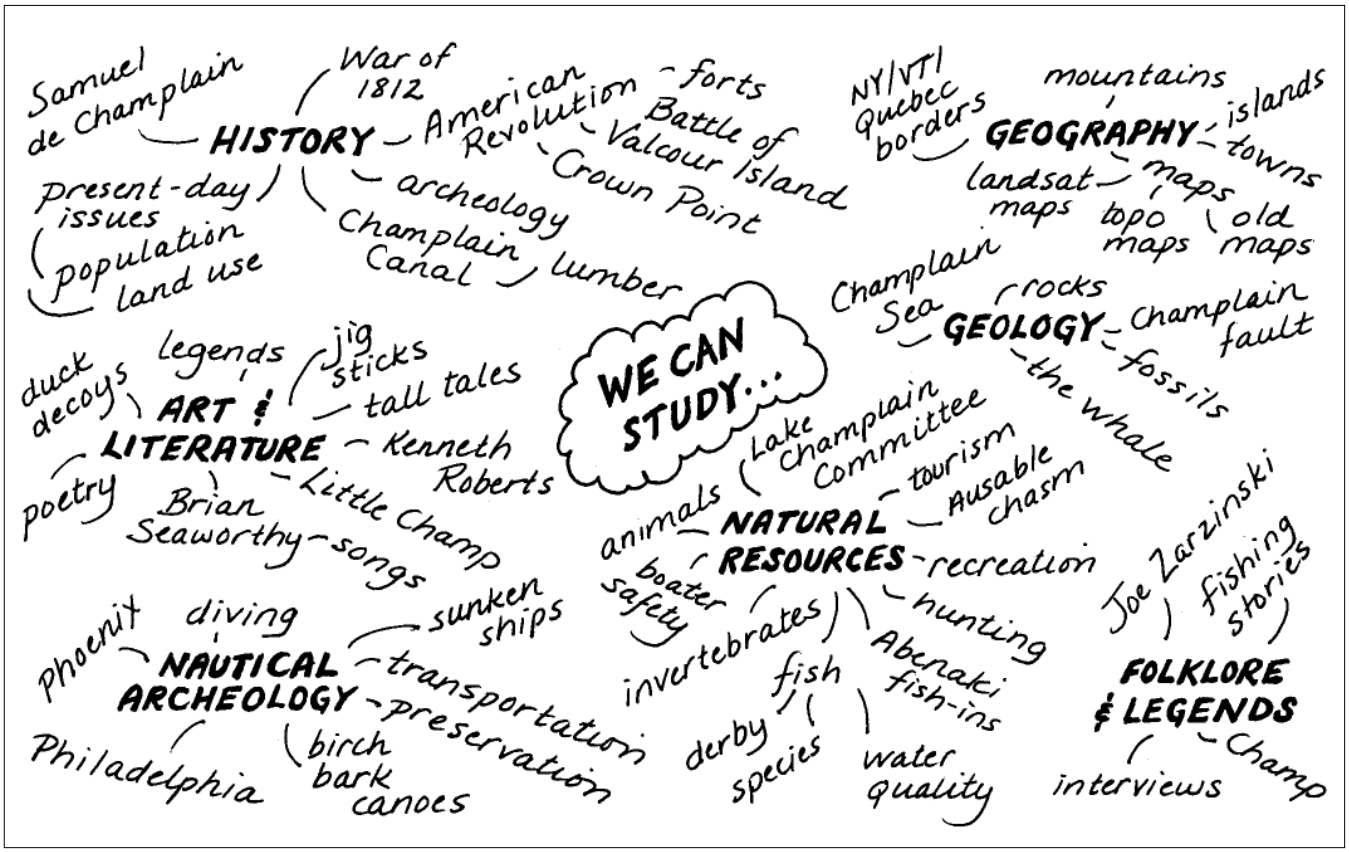
GETTING STARTED

FREEWRITE

Here's a great way to begin studying Lake Champlain with your students.

> *"Let's start by thinking of everything you know about Lake Champlain. Think of all the things you might have done there, places that you've seen, boat trips, swimming....Maybe you've been on the ferry. Maybe you know some facts about the geography of the lake or its history or some things about people who live or work on the lake. Or maybe you know about an animal that you think lives there. Write down anything at all. Remember that there are no right and wrong answers in a freewrite, just the challenge of getting the ideas in your brain on paper. Please write quietly for three minutes."*

On the blackboard or on a large piece of paper, cluster all the ideas that students wrote down. More ideas will come as you record.



THE WORLD'S QUICKEST BULLETIN BOARD IDEA

Record (in bright markers) all the freewrite ideas on a piece of paper large enough to cover your whole bulletin board. Acknowledge with students how much information they already know. A room full of experts!

In the weeks ahead, have students add illustrations, photographs, data and additional narrative to the cluster.

Next, ask students to think of all the questions they might have, things they may not know about Lake Champlain:

> *"You have shown us all the things that you know about Lake Champlain. Now, like good scientists, we should think about some of the things we don't know and how we could find out more. Perhaps you have a special interest in history and want to know more about underwater wrecks or you are an engineer interested in bridges, or an ecologist interested in wetlands, or you have a concern about cleaner beaches. Maybe you want to know how many islands there are or how deep the lake is. Start writing and write quietly for three minutes. Don't stop! There are a million great questions to think of."*

One student writes:
"I would like to know more about your history...I already know that you are fun to play in."

After they have had time to write, ask them to share the questions. If students in the room know the answers, add them to the cluster, or add questions. If there are topics for which you have activities planned, take the opportunity to tell them about upcoming events.

Another thing that will be apparent, and vary according to the age of your students, is how concrete most of their questions are. When I went from teaching seventh grade to teaching fifth grade, this was most striking and led me to include much more fact-finding into our study. I couldn't believe a ten-year-old's insatiable appetite for FACTS. This will lead you into the next day's fact-finding activity, but should be maintained as a constant throughout the unit (see "Ten Excellent Facts," p. 16).

- *How deep is it?*
- *How wide is it?*
- *How many islands are in it?*
- *How many fish live in it? (This is a fun one!)*
- *What is the longest tributary?*
- *Is Champ real?*
- *How many wrecks are at the bottom of the lake? Who found them?*
- *How many ferry crossings are there?*

Invariably at this time, questions and topics will arise that you have had no plans to incorporate into your lake study. At times this can be very exciting and interesting—it can also drive you crazy! It's hard trying to match a student's interest with an unknown source. If you have decided to turn your students loose on a local resource, be prepared to do some digging around for sources.

Other Ideas

• Develop a database on the computer to store facts as they accumulate.

• Assign students to be classroom experts on certain topics.

• Assign a news team to follow important lake issues in the news.

*• Use math class to process Lake Champlain data. Lots of possibilities with area, distance and volume. Ferry crossings provide lots of possibilities for computation and time problem solving (see **Math**).*

• Have a student or group of students write a "kick-off" news story about your study for the school or town newspaper.

• Make a big banner for outside your door announcing what your class is studying.

How you deal with this depends a lot on how you run your classroom. (See *Research and Inquiry*.) However you decide, I encourage you to use local sources and see if you might find a way for that student to pursue her interest. There will be many questions that emerge in local studies that you don't know the answers to and that is part of the fun. When I think of all the things that I didn't know about Lake Champlain when I started, it's sort of scary, but I also know that learning with my students, my first year, was one of the most exciting experiences of my professional life.

ASSIGNMENT

In your thinkbook, describe what you like best about the lake. It could be something that you know a lot about or something that you don't know much about.

OR

Write down five facts about Lake Champlain.

After your upbeat "kick-off," it's a good idea to share the nitty-gritty details of your upcoming unit. I usually hand them a list of expected classwork, a calendar (see p. 9), and a letter home.

"This week is incredible. A terrific tension has disappeared as the unit unfolds. Four months of work, dreaming and scheming. All that time I had been making it happen (arranging, scheduling, grants, memo, copying...). Now the unit is happening to me. Kids are writing songs, bringing in treasures, stories, planning research. There is an incredible amount of knowledge in this town about the lake. Art Cohn came and told us about the Champlain Canal and in class yesterday a kid explained to us how locks worked. He'd been through on his family's boat. I didn't even know there was a canal!"

ABD Teaching Journal

Activity: Get the Picture

Assemble a good collection of books related to Lake Champlain. Choose ones with pictures. It's okay to have duplicates for this activity, so borrow as many as you can. If you are short on books, tourist information is good, as is information on boating and fishing. Have the students sit in pairs and small groups. Explain that as we get older, adults encourage us to stop looking at the pictures in the books and only pay attention to the words! Say that today we are only going to look at pictures!

Take about a half hour to look at the pictures and encourage students to share what they have observed. Ask for students to share orally what they have observed or complete the "Source Search." (See *Research and Inquiry*, p. 308.)

It's great to have students start off with some concrete images of what they are going to be studying. We may refer to steamboats and assume that everyone knows what they look like, when that isn't the case at all!

Other Ideas

• If you have the time and the resources, a slide show at the beginning of your study is helpful, especially if you can get shots of different parts of the lake that your students might not have seen. I have taken many slides over the years and often show them at the beginning of a unit. Shots include different parts of the lake as well as field trip sites. You can also make slides of pictures in books, but that is a complicated venture. Better yet, find a camera buff in your community who might have slides or pictures to share. Check with your local historical society.

• The Lake Champlain Committee and the Lake Champlain Basin Program both have excellent slide shows and are willing to come to classrooms. State offices that manage specific natural areas also have people who will come and visit.

Activity: **Treasure Hunt**

All of this material is free and although it takes a while to assemble, the students love it. Check with your local Chamber of Commerce, town clerk's office, Fish and Wildlife offices, the Lake Champlain Committee and the Lake Champlain Basin Program and other local agencies.

Note: *The questions on the next page are based on one collection of brochures and you will need to adjust them to match the material that you use.*

Assemble a large collection of brochures and maps. I usually make a two-pocket folder for each student that includes some of the following:

- Vermont Road Map
- Lake Champlain Basin Program fact sheets
- tourist brochures on important sites, including the places you are going!
- ferry schedule
- Vermont Guide to Fishing
- any related newsletters or publications

Make a set of trivia and fact questions like those on the next page. Assemble the students into groups of three or four and give each group its own set of questions. Questions for each group are the same.

Students work in their group to find the answers to questions and write answers on the back of cards. When they think they have all the answers, check to make sure they are right. They are the "winners." Enlist help from all students until each group is done.

What is the telephone number for the Lake Champlain Ferries?	When was the zebra mussel first found in Lake Champlain?	How many square miles (area) is the lake?	What is the sum of the digits in the phone number of the "Friends of Fort Ticonderoga"?
What is the eastern border of Lake Champlain?	What town does the Charlotte ferry dock at in New York?	How many miles long is Lake Champlain?	How many years ago did glaciers move across this region?
What is the name of a tour boat that you can take to Fort Ticonderoga?	How many species of fish are in the lake?	What are the hours of the Lake Champlain Maritime Museum?	What state is the western border of Lake Champlain?
How many square miles is the Lake Champlain Basin?	What is the name of the river in Canada that "ends" Lake Champlain?	What is the cost of the Grand Isle ferry for a car and a driver round trip?	Is the Crown Point Historic Site open on Sundays?
When was the "Battle of Valcour Island"?	How many islands are in Lake Champlain?	Where is the original gunboat, the *Philadelphia*?	Where is the Ausable Chasm?
What is Fort Carillon called now?	How deep is the lake at its deepest point?	What time is the last tour of the Ethan Allen Homestead?	How wide is Lake Champlain at its widest point?

Activity: Ten Excellent Facts

Other Ideas

• Continue this activity by asking two pairs of students to come up with one list.

• There are many facts in the column notes of this book. They can be copied onto small cards and used as sources or information for students to explain.

During the first week, start fact-finding. Give the class a chunk of time to look through some of the sources related to Lake Champlain. Materials could be books, newspaper articles, maps and brochures. Ask kids to write what they think are ten excellent facts. Ask each student to compare his or her facts with a partner and come up with one list of important facts.

CLASS DISCUSSION *of* SIGNIFICANT FACTS

Discuss what makes a good fact, or what I call a "facty fact," rather than just a piece of information.

Example: The cost of a one-way ferry crossing from Grand Isle to Plattsburgh is a true piece of information; is it one of the ten most important facts about Lake Champlain that you want to include on the class list? Choosing these facts and rephrasing them is valuable class discussion as students become more confident experts on Lake Champlain.

Compile a list of ten "really good" facts. These can be copied over and posted in the classroom.

Facts About Lake Champlain

by Scott Payea, Grade 5, School Street School, Milton, Vermont

1. Lake Champlain is the sixth largest freshwater lake in the United States.
2. Lake Champlain is 400 feet deep at its deepest part.
3. The lake is 112 miles long.
4. Lake Champlain's widest part is 11 miles wide.
5. Ferry boats have been on the lake for 200 years.
6. Samuel de Champlain was the first white man to see the lake.
7. Lake Champlain used to be part of the Atlantic Ocean.
8. Thousands of years ago huge glaciers covered Vermont.
9. There are 80 species of fish in Lake Champlain.
10. There were many wars fought in the Champlain Valley.

Activity: Mystery Box

Assemble a box or a basket of artifacts or symbols relating to the lake.

Possibilities include:
- a plastic beluga whale
- a toy railroad car
- a piece of wood or lumber
- a sedimentary rock, or any kind!
- a French/English dictionary
- a beach hat, swimming goggles or bicycle helmet
- a piece of birch bark
- a bird's feather
- a dollar bill
- a box of laundry detergent
- a soda can
- a toy soldier or cannon
- a plastic cow
- an aquatic plant
- a Canadian dollar
- a fish hook
- a flipper
- a map, chart or tourist brochure
- any plastic animal found in the basin
- a zebra mussel (or picture)

Near the beginning of your study, after your students have some familiarity with the events and issues related to the lake, examine the "Mystery Box."

Ask each student to take an item and think of a way that this item is related to the lake. It could be a connection to an idea or an event, or something that might be true, but you're not sure! The relationships that students uncover will amaze you, as there are no "right answers." You may or may not choose to add information to the students' comments, depending upon your use of this activity. In other words, it can be used to teach, or it can be used to trigger the creative juices!

Other Ideas

• After your discussion, the items could be set up as a classroom museum with labels that explain their significance.

• This activity could be used as an introduction to poetry or essay writing or to the multitude of research topics.

• I have done this as an introductory and a closing activity. As a closing activity, it is fun for the students to show how much they have learned.

• It also can be used as a "pre" and "post" learning activity. Record your students as they guess connections during the first week of your study. Do it again after four or five weeks and amaze them as you play back their first observations!