

THE OCQUEOC CELEBRATION PROJECT

Onaway Elementary 5th Grade

Mrs. Horn

Mrs. James

Mr. Mix

THE Ocqueoc Celebration Project is an initiative of the Ocqueoc River Watershed Commission designed to educate our youth and the adult citizens involved in the project to be good stewards of one of our most precious resources: our lakes and streams.

This project has students taking their 5th grade science content and applying it through field experiences. Students will be assigned to one of twelve teams as follows. Each team will have a minimum of two field experiences with one field experience involving a community expert. The community expert will give further application to the students understanding of the posed essential questions and classroom content.

Ultimately, students will translate their understanding of the essential questions into a PowerPoint presentation to be given during the Ocqueoc Watershed Celebration on Friday, May 5, 2006 at the Ocqueoc Outdoor Center. Student presentations will also include a minimum of two exhibition components that students will create. Exhibition components can range from posters, collections, samples, or any other visual to help the audience understand their message.

What follows are the teams of students will be assigned to along with ideas to help the teams complete their part of the overall project. In addition, essential questions are listed to help guide the team's learning experience.

1. Sea Lamprey Team

- Visit Biological Station – take pictures and get answers to the following questions.
 - What is the life cycle of sea lamprey?
 - Why do they like the Ocqueoc River?
 - How are they harmful?
 - Are they helpful?
 - What types of things can be done to control them (list at least 3)?
 - What is the Hammond Bay Biological station all about (list at least three things they do there)?
- Visit the Ocqueoc weir.
- Get photos of likely spawning spots on the river.
-

2. Salmon/Steelhead Team

- How long have salmon and steelhead been in the great lakes? Who brought them here and why?
- What are the life cycles of salmon and steelhead?
- Why is the Ocqueoc River such a great salmon and steelhead stream?

- What things are threatening the salmon and steelhead populations in the Great Lakes?
 - Take pictures of the Ocqueoc River that will help answer the above questions.
3. Erosion Team
- What is erosion and what causes it?
 - How can erosion be stopped?
 - How bad is the erosion on the Ocqueoc River?
 - How does erosion impact things that live in the river?
 - Take pictures of areas of erosion. Show natural erosion and erosion caused by man.
4. Man's Interaction with the Ocqueoc River Team
- How long have humans been living along the Ocqueoc River? Who were they?
 - How have humans used the Ocqueoc River over time?
 - How have humans impacted the river?
 - What are some things humans should do to protect the river for future generations (list and explain 3 things)?
5. Geology of the Ocqueoc Team
- What is the geological history of the Ocqueoc River?
 - What types of geology does the Ocqueoc River pass through?
 - What is the rock found by the Ocqueoc Falls? What can you tell us about it (list and explain 4 things)?
6. Water Temperature Team
- How does water temperature impact the health of the Ocqueoc River?
 - How does man impact water temperature of the river?
 - How does nature impact water temperature of the Ocqueoc?
 - Create a map showing the sites where you took temperature readings. The map should contain illustrations of the things along the river that impact the temperature of the water.
7. River Insects Team
- List 5 of the major insects that live at least part of their life in the Ocqueoc.
 - At different stretches along the river do you find different insects in different quantities living in the river?
 - Explain the life cycles of both mayflies and caddis flies.
 - How do the types of insects you find tell you how healthy the stream is?
 - How do these insects benefit other life?
 - Create a collection of insects, and a poster detailing the life cycles of mayflies and caddis flies.

8. Fish Team
 - List all the fish species found in the river.
 - Explain why you find certain fish in certain stretches of the river.
 - What do these fish eat?
 - Show the life cycle of one of these species of fish other than salmon or steelhead. What role does the river play with respect to fish reproduction?
 - Develop a poster showing the various fish found in the Ocqueoc, and make a map showing where you would find in the watershed the various species of fish.

9. Trees Team
 - List the major tree species found along the banks of the Ocqueoc (list at least 15 species).
 - Describe what types of trees seem to live near one another. Is there a term for this?
 - Fires have gone through the Ocqueoc Watershed over the years. After a fire, which trees grow back first followed by which others?
 - How does soil impact which trees grow where?
 - Which trees seem to be able to live right on the banks of the river? Note that some trees never seem to live right on the bank, but can be seen a stone's throw away. Which trees are these? Why do you think this happens?
 - Take pictures of the different types of trees you learned about. Also make an identification key for how you determine which species of tree you might be looking at.

10. Water Cycle Team
 - Where does the water come from that flows through the Ocqueoc?
 - Describe the entire water cycle of northeastern Michigan and show the role the Ocqueoc plays.
 - Show the connection between the water cycle and karst topography.
 - Find a way to show how ground water accumulates under the surface of the earth. Show how ground water travels differently through dense soil, sand, limestone, etc.
 - How does the ground help to “purify” water that dumps on the ground in the form of rain?
 - Create a demonstration that illustrates some of the things you learned about water and how it interacts with the ground. Also make a poster that details the water cycle of the Ocqueoc Watershed.

11. Animals Team
 - Create a representative list of animals that live along and within the Ocqueoc River.
 - Identify at least 2 adaptations per animal that allow them to successfully live along the Ocqueoc.
 - How do animals impact the watershed in both positive and negative ways (list at least 4 ways)?

12. Politics Team

- What are the governmental units that might have something to do with the Ocqueoc River Watershed? Make a contact with each to see what their role is with respect to the Watershed.
- Attend at least one meeting of a governmental unit that deals with the Watershed.
- What governmental unit has the most influence over the Watershed? What is their role?
- What are the biggest political issues facing the Watershed (list at least 3)? What do you think about these issues?

THE OCQUEOC CELEBRATION PROJECT

Onaway Elementary 5th Grade

Mrs. Horn

Mrs. James

Mr. Mix

Dear Student:

You are now the member of a very important team that will take the things you learn in class and apply them to learning in the “real world”. You should take this responsibility seriously as you will be working with very important adults who care very much about what you are studying. It is important that you don’t let them down. It is also important that you don’t let your team or your school down. Each of you will be a very important part of this overall project.

The goals of our project are as follows:

- Apply classroom learning in the real world.
- Work with community experts to further your understanding of classroom learning.
- Learn skills that will help you be successful in life.
- Educate our community on how to be good stewards of our local lakes and streams.
- Protect the Ocqueoc Watershed for future generations to enjoy.

Each team should meet with Mr. Szymoniak at least twice before the May Celebration. At least one of these meetings is to get the team organized with each team member having one of the following roles:

- Team Leader – Will be responsible for the team meeting deadlines and completing every aspect of the project.
- Researcher – Will be responsible for collecting information to help further the teams understanding of the essential questions.
- Photographer – Will be responsible for taking digital photos of the work of the team. These photos are to be used in the PowerPoint that is shown during the May Celebration.
- Recorder/Writer/Photographer – Will take care of team correspondence with the expert and any other adult involved in the project.
- Technology (PowerPoint) – Will lead the team through the development of the PowerPoint. Also will be responsible for taking digital photos of the work of the team. These photos are to be used in the PowerPoint that is shown during the May Celebration.
- Exhibition Components – Will be responsible for the creation of the exhibition components to be used during the exhibition.

Teams are to develop a motto that is both fun and reflective of the message they want to convey as part of their exhibition on May 5.

An expert will need to be selected by the team to help them develop their exhibition. The expert should join the team during at least one field experience. The expert will also be on hand at the May Celebration to help grade the exhibitions.

Each team will also need to take at least one field trip to study their topic by actually being out of school to see first hand what they have learned in the classroom. Team topics are created so you develop a wide understanding of the Watershed that includes biology, chemistry, social studies, politics, reading, writing, research, technology, among others.

After all the research is done and the trips are made, each team will do two things to prepare for the May 5 Celebration. They are:

Powerpoint Exhibition – each team will develop a PowerPoint exhibition that should last at least 5 minutes in length. The presentation should include references to classroom content, essential questions, and have pictures showing field research taking place. Every member of the team is to speak during the exhibition.

2 Exhibition Components – each team will create two exhibition components aside from the PowerPoint. An exhibition component is simply something that you create to show the audience that helps you make your point. Exhibition Components could be drawings, maps that you create, collections, samples, or a variety of other things.

When you give your exhibition on May 5, a panel of judges will grade your work. You will be graded on the following:

1. Were the essential questions answered?
2. Were classroom concepts included in the project?
3. Was the PowerPoint of quality?
4. Were the exhibition components of quality and a help to further understand the message of the overall exhibition?
5. Did each student participate in the exhibition?
6. Is there evidence that each student participated in the overall project from start to finish?
7. Is there evidence to show that a community expert helped guide students through their project?
8. Was the team motto reflective of the exhibition message?

Good luck!!

PROJECT TEAMS WITH PROJECT IDEAS AND ESSENTIAL QUESTIONS

1. Sea Lamprey Team – Katelyn Gagnon, Chet Winfield, Samantha Brausseau, Matthew Peters, Lisa Tulgetske
 - Visit Biological Station – take pictures and get answers to the following questions.
 - What is the life cycle of sea lamprey?
 - Why do they like the Ocqueoc River?
 - How are they harmful?
 - Are they helpful?
 - What types of things can be done to control them (list at least 3)?
 - What is the Hammond Bay Biological station all about (list at least three things they do there)?
 - Visit the Ocqueoc weir.
 - Get photos of likely spawning spots on the river.
2. Salmon/Steelhead Team – Andrew Perry, Dylan Kimball, JC Kolasa, Chrissy Merchant, Megan Self
 - How long have salmon and steelhead been in the Great Lakes? Who brought them here and why?
 - What are the life cycles of salmon and steelhead?
 - Why is the Ocqueoc River such a great salmon and steelhead stream?
 - What things are threatening the salmon and steelhead populations in the Great Lakes?
 - Take pictures of the Ocqueoc River that will help answer the above questions.
3. Erosion Team – AJ Bischer, Sarah Enos, Temara Lupu, Chase Klann, Tyler Sayers
 - What is erosion and what causes it?
 - How can erosion be stopped?
 - How bad is the erosion on the Ocqueoc River?
 - How does erosion impact things that live in the river?
 - Take pictures of areas of erosion. Show natural erosion and erosion caused by man.
4. Man's Interaction with the Ocqueoc River Team – Kenneth Crawford, Katie Thornton, Bethany Collins, Ryan Hyde, Mason Lietart
 - How long have humans been living along the Ocqueoc River? Who were they?
 - How have humans used the Ocqueoc River over time?
 - How have humans impacted the river?
 - What are some things humans should do to protect the river for future generations (list and explain 3 things)?

5. Geology of the Ocqueoc Team – Christine Brenner, Emily Estep, Jasmine Scully, John Hickson
 - What is the geological history of the Ocqueoc River?
 - What types of geology does the Ocqueoc River pass through?
 - What is the rock found by the Ocqueoc Falls? What can you tell us about it (list and explain 4 things)?

6. Water Temperature Team – Amy Buckner, Briana Domke, Shelby Rasper, Chae Whitsitt, Molly Mason
 - How does water temperature impact the health of the Ocqueoc River?
 - How does man impact water temperature of the river?
 - How does nature impact water temperature of the Ocqueoc?
 - Create a map showing the sites where you took temperature readings. The map should contain illustrations of the things along the river that impact the temperature of the water.

7. River Insects Team – Robbie Peterman, Wyatt Chapman, Becky Bischer, Ashley Wilton, Bobby Moran
 - List 5 of the major insects that live at least part of their life in the Ocqueoc.
 - At different stretches along the river do you find different insects in different quantities living in the river?
 - Explain the life cycles of both mayflies and caddis flies.
 - How do the types of insects you find tell you how healthy the stream is?
 - How do these insects benefit other life?
 - Create a collection of insects, and a poster detailing the life cycles of mayflies and caddis flies.

8. Fish Team – Justin Gedda, Kallie Schimel, Alyssa Willey, Lance Miller, Zac Nelund
 - List all the fish species found in the river.
 - Explain why you find certain fish in certain stretches of the river.
 - What do these fish eat?
 - Show the life cycle of one of these species of fish other than salmon or steelhead. What role does the river play with respect to fish reproduction?
 - Develop a poster showing the various fish found in the Ocqueoc, and make a map showing where in the watershed you would find the various species of fish.

9. Trees Team – Sierra Lung, Tyler Thornton, Nicloe Zinke, Joey Heltsley
 - List the major tree species found along the banks of the Ocqueoc (list at least 15 species).
 - Describe what types of trees seem to live near one another. Is there a term for this?
 - Fires have gone through the Ocqueoc Watershed over the years. After a fire, which trees grow back first followed by which others?

- How does soil impact which trees grow where?
 - Which trees seem to be able to live right on the banks of the river? Note that some trees never seem to live right on the bank, but can be seen a stone's throw away. Which trees are these? Why do you think this happens?
 - Take pictures of the different types of trees you learned about. Also make an identification key for how you determine which species of tree you might be looking at.
10. Water Cycle Team – Breanna Crooks, Timothy Moran, Justin Pochmara, Brooke Beneke
- Where does the water come from that flows through the Ocqueoc?
 - Describe the entire water cycle of northeastern Michigan and show the role the Ocqueoc plays.
 - Show the connection between the water cycle and karst topography.
 - Find a way to show how ground water accumulates under the surface of the earth. Show how ground water travels differently through dense soil, sand, limestone, etc.
 - How does the ground help to “purify” water that dumps on the ground in the form of rain?
 - Create a demonstration that illustrates some of the things you learned about water and how it interacts with the ground. Also make a poster that details the water cycle of the Ocqueoc Watershed.
11. Animals Team – Madison Nash, Ellie McLellan, Jonny Morrell, Daniel Wood, Paul Wolgast
- Create a representative list of animals that live along and within the Ocqueoc River.
 - Identify at least 2 adaptations per animal that allow them to successfully live along the Ocqueoc.
 - How do animals impact the watershed in both positive and negative ways (list at least 4 ways)?
12. Politics Team – Megan Estep, Cassidy Hyde, Morgan Robins, Jason Sigsby, Ashley LeCureux
- What are the governmental units that might have something to do with the Ocqueoc River Watershed? Make a contact with each to see what their role is with respect to the Watershed.
 - Attend at least one meeting of a governmental unit that deals with the Watershed.
 - What governmental unit has the most influence over the Watershed? What is their role?
 - What are the biggest political issues facing the Watershed (list at least 3)? What do you think about these issues?