

Cecil County Public Schools

The Chesapeake Bay: Today and Tomorrow

Library Media

4th Grade Research Unit



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DRAFT:
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Unit Title: The Chesapeake Bay: Today and Tomorrow
Level: 4

Grade

Subject/Topic Area(s): Research Cycle

Time frame: 8 weeks

Objectives:

1.3 Identify a wide range of information sources.

- print and electronic: atlas
- television documentary
- database
- internet
- subject expert

1.4 Develop successful information seeking strategies.

- classify identified questions by broad categories and specific subtopics
- define hypertext links

4.3 Respect intellectual property rights.

- communicate the ideas of others in one's own words
- explain ways in which plagiarism can be avoided

4.4 Use information products and technology ethically.

- discuss Cecil County's Acceptable Use Policy (AUP)

7.2 Work cooperatively with others, in person or remotely to use information effectively when addressing identified information needs.

- proficient: work cooperatively to create and evaluate complex information products.

Theme:

In-depth knowledge of resources allows you to find information effectively and efficiently.

Focus:

Good research is required to locate, analyze and present factual information

Unit Overview:

In this unit, students will use the research process to learn about the Chesapeake Bay, understand why it is important to the region and create a class webpage addressing the most important issues they have discovered in their research and suggesting solutions.

Students will be presented with the following scenario:

Scientists from Maryland are worried that the Chesapeake Bay is not healthy. They are asking 4th graders in Cecil County to learn more about the Chesapeake Bay in order to create a web page that explains to students throughout the state what is happening to the bay and some possible solutions to the identified problems.

Desired Results

Students will understand the following concepts:

- Fact v. opinion
- Classification
- Accuracy of information
- Ethical use of information
- Audience

Students will understand the following generalizations:

- Research is a process that helps you connect resources with an information need.
- Questions can be classified by topic.
- Different resources serve different purposes.
- Factual information can be verified by using multiple resources.
- Researchers must use information and resources responsibly.

What essential questions will guide the unit and focus teaching/learning?

- Why must researchers use information responsibly?
- How can the steps of the research process lead you from your questions to your answers?
- How does audience for your message impact the form that you choose for your product?

Overview of Assessments

Assessment #1 – (In Lesson #2)

Indicators:

1.4 Develop successful information seeking strategies

- classify identified questions by broad categories and specific subtopics

Task Overview:

- The student will look at 10 questions and sort them into specific categories by topic

Scoring:

- One point for each question that is sorted correctly for a total of 10 points

Assessment #2: (In Lesson #3)

Indicators:

1.3 Identify sources

Task Overview:

- In the appropriate place within the research workbook, the student will determine and justify the resources for use in the project.

Scoring:

10 Point Scale, broken down as follows:

- points for identifying an appropriate resource
- points for explaining how that resource answers their assigned question

Assessment #3: (In Lesson #4)

Indicators:

4.3 Respect intellectual property rights.

- Communicate the ideas of others in one's own words
- Explain ways in which plagiarism can be avoided

4.4 Use information products and technology ethically

- Discuss Cecil County's Acceptable Use Policy (AUP)

Task Overview:

- The student will be given scenarios involving intellectual property rights and AUP and will determine the correct course of action.

Scoring:

- Point values listed on quiz next to each question, total of 24 points possible

Assessment #4: (In Lesson #7)

Indicators:

1.3 Define and differentiate among print, audio, visual, electronic, and community resources

Task Overview:

- The student will match a source to its definition and determine which resource to use in a given situation

Scoring:

- 1 point for each correct question for a total of 10 points

Student Content Knowledge

Declarative Knowledge (What students will learn)

- Students will learn that checking multiple sources ensures the accuracy of information.
- Students will learn that researchers follow ethical practices.
- Students will understand that questions can be categorized by topic.
- Students will learn that different resources are used for different purposes.

Procedural Knowledge (What students should be able to do)

- Students will be able to categorize questions by topic.
- Students will be able to match an information need to an appropriate resource.
- Students will be able to follow the district's Acceptable Use Policy.

Lesson One

Content Standards/Indicators:

1.3 Identify a wide range of information sources

- print and electronic: atlas
- glossary
- television documentary
- database
- internet
- subject expert

6.2 Develop listening strategies – note taking skills

Assessments:

- Exit card – On the flip side of exit card, students will write three facts from the video using note-taking skills.

Dimensions of Learning:

- Dimension 2: Acquire and Integrate Knowledge

Resources/Materials:

- video clip from Bayville.thinkport.org. Select “cinema” and select the video *The Bay Beautiful* or any other video clip that could introduce the topic of the Chesapeake Bay
- video clip from Discovery Education “Maryland and the Chesapeake Bay”
- class set of atlases
- class set of research workbooks - The Chesapeake Bay: Today and Tomorrow (appendix 1)

Activities:

Whole Group

- ◇ Introduce the project
- ◇ Define *Television Documentary*
- ◇ Set purpose for viewing video: to gather information about the Chesapeake Bay that will help us to understand how it is changing
- ◇ Watch the video clip and model taking a note. Then watch the clip again as students write down 3 facts about the Bay that they heard or saw on the video
- ◇ Introduce the atlas. Define what it is and model using it.

Individual or Small Groups:

- ◇ Allow time for students to explore the atlas
- ◇ Have students identify the Chesapeake Bay and states surrounding the Bay region. Identify rivers flowing into the Bay. Have them identify where they live.

Closure:

Whole Group:

- ◇ Hand out the Chesapeake Bay research packet and do the TAP-F page. Students only fill in the TAP.

Needs Groups:

Enrichment

- ◇ Students will explore waterways in other states and regions in the atlas

Correctives:

- ◇ Students select the correct TAPF answers from the given choices, (Multiple choice version)

Lesson Two

Content Standards/Indicators:

1.4 Develop successful information seeking strategies

- classify identified questions by broad categories and specific subtopics

Assessments:

- Sorting Questions by Topic (appendix 2)

Dimensions of Learning:

- Dimension 2: Acquire and Integrate Knowledge

Resources/Materials:

- Research Workbook – The Chesapeake Bay: Today and Tomorrow (appendix 1)
- Questioning Assessment Papers

Activities:

Whole Group:

- ◇ Explain how all research begins with questions, which will guide your research
- ◇ Discuss how questions can be sorted in many ways, purpose, topic, etc.
- ◇ Students can brainstorm questions about the bay and teacher records them on screen/SmartBoard
- ◇ Teacher models how to sort some questions by a topic or category.
- ◇ Students suggest label for the category created

Small Group:

- ◇ Students work together in small groups to discuss how they would sort the questions by topic. They share out, explaining their reasoning..

Individual:

- ◇ Assessment worksheet about questioning

Closure:

Remind students that developing good research questions and categorizing questions makes it easier to research. Assign each table/group one of the question categories that they will focus on throughout the unit.

Needs Groups:

Enrichment:

- ◇ Pair enrichment kids together and give them higher level questions to sort.

Correctives:

- ◇ Give students questions where topics are more easily identified for the sort.

Lesson Three

Content Standards/Indicators:

1.3 Identify a wide range of information sources

- print and electronic: atlas
- television documentary
- database
- internet
- subject expert

Assessments:

- BCR in Research Workbook - (The Chesapeake Bay: Today and Tomorrow) – Step 2

Dimensions of Learning:

- Dimension 2: Acquire and Integrate Knowledge

Resources/Materials:

- Research workbook – The Chesapeake Bay: Today and Tomorrow (appendix 1)

Activities:

Whole Group:

- ◇ Introduce the terms “Internet” and “computer.” Allow students to discuss similarities and differences in small groups/tables. Have students share out. Capture their understandings on a T-chart with the terms as headings. Lead students to understand that the Internet is an information resource and that the computer is merely the machine that can access the Internet. Compare the relationship between the computer and the Internet to that between a television set and a television program. The set is not the program. It is the tool which allows you to access the program.

Small Group:

- ◇ In small groups, students discuss which resources besides the Internet could be used to research the program of the Chesapeake Bay.

Whole Group:

- ◇ Small groups share out their answers and as teacher records their answers on the board/presenter, all students record the resources in their booklets.
- ◇ Using the Internet as a source, explain how it can answer at least some of the questions, modeling the thinking process behind the BCR students will write

Individual or Small Group:

- ◇ Students write a BCR in the appropriate place in their research booklet about how one of the resources other than the Internet can help answer their assigned question.

Closure:

Remind students that the Internet is not the only source of information available. Tell them that by the end of this unit, they will be able to list many more useful information resources. (Note to teachers: save the list so students can update it as you work through the unit)

Needs Groups:

Enrichment:

- ◇ Students select and then prioritize the resources they will use, justifying the order they select.

Correctives:

- ◇ Give students a BCR frame to assist in formulating their answer, allow them to verbalize their answer before writing, scribe for students if necessary. Alternate assessment could be to give students pictures of the different resources and identify them.

Lesson Four

Content Standards/Indicators:

- 4.4 Use information products and technology ethically,
- Discuss Cecil County's Acceptable Use Policy (AUP)

Assessments:

- Using Technology Ethically worksheet (appendix 3)

Dimensions of Learning:

- Dimension 5 – Habits of Mind

Resources/Materials:

- Using Technology Ethically worksheet (appendix 3)

Activities:

Whole Group:

- ◇ Discuss the term “ethical use.” What is ethics? What are some examples students already know. Why do we have to be ethical when we use information?
- ◇ Introduce the concept of an “Acceptable Use Policy” and connect it to ethical use.
- ◇ Explain the CCPS AUP policy, possibly displaying a bulleted list of highlights of the policy.

Small Group:

- ◇ Review several scenarios. Discuss in small groups and report out.

Independent:

- ◇ Students complete AUP assessment worksheet

Closure:

Researchers share their findings and show respect for each other by using information ethically.

Needs Groups:

Enrichment:

- ◇ The explanation component fulfills this need.

Correctives:

- ◇ Decrease the amount of required questions.

Lesson Five

Indicators:

- 1.3 Identify a wide range of information sources.
 - database
- 1.4 Develop successful information seeking strategies
 - classify identified questions by broad categories and specific subtopics
 - define hypertext links

Assessments:

- teacher observation

Dimensions of Learning:

- Dimension 2 – Acquire and Integrate Knowledge

Resources/Materials:

- computers with access to SIRS
- student research workbook – The Chesapeake Bay: Today and Tomorrow (appendix 1)

Activities:

Whole Group:

- ◇ Explain that today we are going to learn about another resource called a *database*. Explain to students that they will explore the database and, while searching for information about the Chesapeake Bay, they will try to come up with a definition for *database*.

Individual:

- ◇ In the computer lab, students explore SIRS Discoverer and search for answers to their assigned question.

Whole Group:

- ◇ Students take turns demonstrating how they used the database to locate information. As students are demonstrating, teacher takes the opportunity to point out how to broaden and narrow a search using the subject tree and the topics and subtopics. Point out also the definition of *hyperlink*.
- ◇ In small groups, students come up with a definition for database: *A collection of data or information organized for rapid search and retrieval* – Share answers. Prompt them by telling them to consider what is in the database, how is it arranged and how it can be used.

Closure:

Revisit the list of resources they brainstormed in lesson 2 so they can update the list.

Needs Groups:

Enrichment:

- ◇ Assign students to explore and give feedback about other databases, ie., Culturegrams

Correctives:

- ◇ Show students how to have the web browser read the selected text to them. This allows them to access the text that is above their reading level.

Lesson Six

Content Standards/Indicators:

1.3 Identify a wide range of information sources.

- print and electronic: atlas
- television documentary
- database
- internet
- subject expert

Assessments:

- teacher observation

Dimensions of Learning:

- Dimension 2: Acquire and Integrate Knowledge

Resources/Materials:

- Computers with access to the Internet

Activities:

Whole Groups:

- ◇ Take students into the computer lab
- ◇ As students launch the web browser, explain that they are now entering the Internet. Have students recall the definition of the Internet developed in previous lesson.
- ◇ Direct students to the chosen websites:
 - Chesapeake Bay Foundation – <http://www.cbf.org>
 - Bayville – <http://bayville.thinkport.org>
 - Baytrippers – <http://baytrippers.thinkport.org>
- ◇ Model ways to navigate the websites, using menus, titles, and subtitles

Individual:

- ◇ Students work individually to use the websites to get information to help answer their assigned question in the booklet.

Closure:

Have students verbalize the differences between what we call “The Internet” and the databases used in the previous lesson. Use a Venn diagram to capture the similarities and differences. Update the list of resources from Lesson 2.

Needs Groups:

Enrichment:

- ◇ Lead more advanced students to the Chesapeake Bay Foundation website due to the higher reading level.

Correctives:

- ◇ Show students how to have the web browser read the selected text to them. This allows them to access the text that is above their reading level.

Lesson Seven

Content Standards/Indicators:

1.3 Identify a wide range of information sources.

- print and electronic: atlas
- glossary
- television documentary
- database
- internet
- subject expert

Assessments:

- Identifying Sources and How To Use Them Quiz (appendix 4)

Dimensions of Learning:

- Dimension 2: Acquire and Integrate Knowledge

Resources/Materials:

- Identifying Sources and How To Use Them Quiz (appendix 4)

Activities:

Whole Group:

- ◇ Have students discuss the possible meaning of the term “*subject expert.*” Share responses and then give some examples
- ◇ Have a set of books that have a “consultant” on the title page. Explain how the consultant worked with the writers
- ◇ Discuss types of people who would be subject experts on the topics we are researching- marine biologist, people who work at the aquarium, natural resource management jobs at places like Fair Hill etc.
- ◇ Have students discuss the role that experts play in verifying the accuracy of information
- ◇ Review the different types of resources we’ve used throughout the project (Database, Internet, Atlas, Television Documentary, Subject Expert)

Individual Group:

- ◇ Students take assessment about resources and definitions

Needs Groups:

Enrichment:

- ◇ Take away the resource labels from the matching section – have students label the definitions from memory

Correctives:

- ◇ Provide pictures of each resource and read the questions aloud

Lesson Eight

Content Standards/Indicators:

7.2 Work cooperatively with others, in person or remotely to use information effectively when addressing identified information needs

- Proficient: Work cooperatively to create and evaluate complex information products

Assessments:

- Teacher observation

Dimensions of Learning:

- Dimension 4: Using Knowledge Meaningfully

Resources/Materials:

- Access to iWeb or other website creation program (could use Kidspiration or MS Word with text boxes if necessary)
- Research Workbook – The Chesapeake Bay: Today and Tomorrow (appendix 1)

Activities:

Whole Group:

- ◇ Direct students back to the original prompt for the research project and the TAP-F page. In this case, the scenario describes the format for communicating results. Discuss how researchers consider audience and purpose when deciding which format is best to use to communicate new understanding about a topic. Allow students to discuss and volunteer other possible formats for similar research projects.

Small Group:

- ◇ Each student should review their research findings and select two pieces of information they feel are important to share with the scientists. The groups will consider each student's contribution and then select one from each student that the group will share with the class.

Whole Group:

- ◇ As students/groups share their findings, teacher will record them on the website template.

Closure:

Discuss why the website is a logical format choice for communicating with scientists and others who are not at our location

Needs Groups:

Enrichment:

- ◇ Rather than just listing 2 facts, they should identify a problem the bay is experiencing and offer a solution based on the information they gathered

Correctives:

- ◇ Pair or group students

Cecil County Public Schools 4th Grade Research Unit

The Chesapeake Bay: Today and Tomorrow



Name _____

August 2009

Name _____ Class _____

Scientists from Maryland are worried that the Chesapeake Bay is not healthy. They are asking 4th graders to learn more about the Chesapeake Bay and to create a web page that explains what is happening to the bay and some possible solutions to the identified problems.

Step 1: Questioning

What will my final product be?

Topic: _____

Audience: _____

Purpose: _____

Therefore:

Format: _____

The first step as you begin to research is **Questioning**. Researchers think about the things they already know about the topic. Next, they form questions about what they need to discover in order to complete the project. These questions guide their research.

What do you need to learn about your topic to complete the assignment?
Read the questions below.

1. What variety of plants and animals live in and near the Chesapeake Bay?
2. What does this tell us about the importance of the Chesapeake Bay?
3. What pollution has occurred in the Chesapeake Bay?
4. How has pollution impacted the life in and near the Bay?
5. What steps are being taken to improve the health of the Chesapeake Bay area?
6. What can students at your school do to help improve the health of the Bay?

Step 2: Planning

- A. During **Planning**, you decide which resources will best answer your questions. List 4 resources you can use to answer your question.

1. _____
2. _____
3. _____
4. _____

Write a BCR in the space below explaining how one of the resources other than the Internet can help answer your question. (5 pts. for correctly identifying a resource, 5 points for explaining why it is a good resource.)

- B. During **Planning**, you also need to identify the keywords in your questions.

Your Keyword

Synonym(s)

Step 3 and 4 Gathering and Sorting

Sorting is where you decide what you need to include in your report. Remember to put information into your own words. Think about:

- What does my audience need to know?
- What is the best way to organize this information?
- How many facts do I need?
- TAP-F

My Question: _____

My Information:

Step 5: Synthesizing

When **Synthesizing**, you take the information that you have gathered from several different resources and you put that information into your own words.

Look at the information you have in Step 3. Select one or two facts that you think are the most important and should be on the website.

Step 6: Evaluating

During this step, researchers make sure that they have met their goal and have created a product that answers the questions formed in step one.

- Do I have all the information that I need? Yes No
- Did I use my own words to tell the information? Yes No
- Did I site my sources? Yes No

Use the lines below to explain how you did or did not meet the goal on this report.

Step 7: Producing

With your class, add your information to the class website. Share your website with your audience.

Name _____ Class _____

4th Grade Chesapeake Bay Unit – Lesson 2
Sorting Questions by Topic

Directions: Read the following questions about the Chesapeake Bay. The, sort the questions into the different categories by writing the **question number** in the correct box. Number one is done for you.

1. How many crabs are in the Chesapeake Bay?
2. How healthy is the Chesapeake Bay?
3. What causes pollution in the Chesapeake Bay?
4. Which rivers flow into the Chesapeake Bay?
5. What is the outlook for the Chesapeake Bay?
6. Where is the Chesapeake Bay located?
7. What kinds of grasses are found in the Chesapeake Bay?
8. What ways have people tried to keep the Chesapeake Bay healthy?
9. What kinds of fish live in the Chesapeake Bay?
10. What birds nest in the Chesapeake Bay's marchlands?

Categories

Animals and Plants of the Bay 1	Geography of the Bay
The Bay Today	The Future of the Bay

Name _____ Teacher _____ Date _____

Grade 4 The Chesapeake Bay: Today and Tomorrow – Lesson 4
Using Technology Ethically

1. What do the letters AUP stand for? (3 pts.)

_____ (A)

_____ (U)

_____ (P)

Read the following statements and circle the correct answer.

2. Isaiah is in the computer lab and decides to play a game when his teacher is not looking.

Acceptable

Not acceptable

Explain your answer.

3. Michael sees Joe’s project on cheetahs on the screen and copies it and saves it to turn in as his own project. (3 pts.)

Acceptable

Not acceptable

Explain your answer.

4. The class is studying natural disasters and Steven uses his recess time (with his teacher’s permission) to look up tornadoes on *Grolier Online* to get more information. (3pts.)

Acceptable

Not acceptable

Explain your answer.

5. Stephanie wants to look up information about horseback riding. She used the classroom computer at recess time and logs on to *Grolier Online*.

Acceptable

Not acceptable

Explain your answer.

6. Margaret did not finish her book report for her teacher so she finds one on the Internet and copies it and puts her name on it. (3 pts.)

Acceptable

Not acceptable

Explain your answer.

7. Jen can't remember her password so she logs on to the computer using her friend's password. (3 pts.)

Acceptable

Not acceptable

Explain your answer.

8. Schools, libraries, and businesses all have rules and expectations for their technology users. (1 pt.)

True

False

9. You can ignore AUP if you are finished with your work and want to play on the computer. (1 pt.)

True

False

11. Computer privileges can be revoked if AUP is not followed. (1 pt.)

True

False

Name _____ Class _____

Grade 4 The Chesapeake Bay: Today and Tomorrow – Lesson 7
Identifying Sources and How To Use Them Quiz

Part 1: Matching

Directions: Match the information sources to their descriptions.

- | | |
|---------------------------------|---|
| 1. _____ Subject Expert | A. Person who is very knowledgeable about a topic |
| 2. _____ Online Database | B. collection of maps and geographical information |
| 3. _____ Atlas | C. Worldwide system of computer |
| 4. _____ Television Documentary | D. Subscription website with reliable information such as newspaper and magazine articles |
| 5. _____ Internet | E. Non-fiction program for information seeking viewers |

Part 2: Using Resources

Directions: Next to each research situation, write the name of the resource that would best answer the question.

6. _____ You want to answer the question, “What states border Chesapeake Bay?”
7. _____ You’re looking for a current article about the Chesapeake.
8. _____ You want to find out how many web pages have information about the Chesapeake Bay.
9. _____ You want to learn information about the Chesapeake Bay by watching and listening at the same time.
10. _____ You want to interview a scientist who studies the Chesapeake Bay.