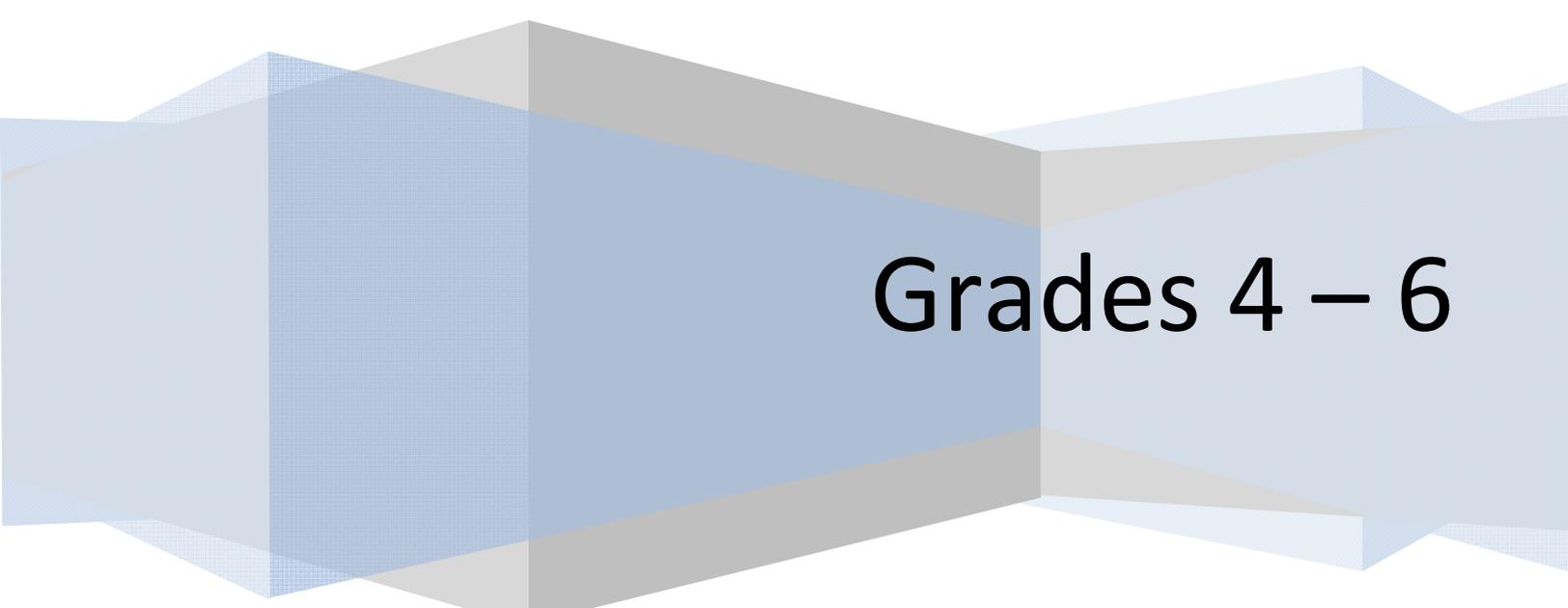


REZonate!

Ross Barnett Reservoir WaterFest Challenges



Grades 4 – 6

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TEACHER NOTES

The WaterFest Challenge activity is designed to allow students to apply the material that they learned in *REZonate! Ross Barnett Reservoir Watershed Unit*. In this unit, your students will be divided into groups of six, and each student will study material on one of the following six specialists groups:

- o Sedimentation and Stormwater
- o Bacteria and Disease
- o Nutrient Runoff and Algae Growth
- o Pesticides
- o Litter
- o Invasive Species

As a culminating activity for the unit, your students will have the opportunity to solve one of the three challenge problems. The three challenge problems are as follows:

- o Technical Team Problem
- o Media Team Problem
- o Scenario Writing Problem

Your students should remain in their groups, in which one student is a “specialist” in each area, to develop solutions to the technical team problem or media team problem. Each team will develop their own solution the problem. Each group of students will develop materials in written, oral, and visual format to present their solution. As an alternative, students may choose to work as a team or individually to develop a written solution to the scenario writing problem.

The students should present their solutions to the classroom. It will be up to the individual participating schools to select the student team with the best solution for each challenge from each school. Each school participating in the *REZonate! Ross Barnett Reservoir*

Watershed Unit may send one team per challenge (for a total of three teams per school) to present their solution at WaterFest and compete for the prize and trophy.

The students should apply the information learned in the Watershed Unit to devise their solutions. You may want to have the students explore on the Internet and in other resource materials to locate additional information. There is a list of references and suggested websites on pages 13 and 14 of the Watershed Unit. You and your students may use these for additional information.

CHALLENGE 1 – TECHNICAL TEAM PROBLEM

Yes, believe it or not, the water you drink in the City of Jackson comes from the Ross Barnett Reservoir. The City of Jackson pumps water from the Reservoir, cleans and disinfects the water at the City's water treatment plant, and distributes the water to residents, businesses, and industries in the City. However, the Reservoir is much more than just a source of drinking water. It provides important habitat for many plants and animals in our area. Fish, frogs, and aquatic insects live in its waters. Birds make nests in the trees near the water. Even Bald Eagles are occasionally spotted soaring near the water. Plants and flowers grow in the wetland areas that border the Reservoir. Deer and other mammals live in the forests surrounding the waters. People also build houses on the shores of the Reservoir so that they can see beautiful sunsets over the water. Other people come from all over the state to enjoy a relaxing afternoon of boating, fishing, or swimming in the water. Because the Reservoir is used for so many things, it is important that we all work together to keep this aquatic resource clean.

Below is a technical problem for your team to solve. The best solution from your school will be entered in the WaterFest competition, sponsored by the Mississippi Department of Environmental Quality and the Pearl River Valley Water Supply District, on April 17, 2010 at Lakeshore Park on the Reservoir. The team will defend their problem solution to the judges at WaterFest. Winners at WaterFest will receive cash prizes and a trophy.



Photo courtesy of Brian Broom

Situation

The importance of clean surface water was once a concern primarily of state and federal agencies. Recently it has attracted the attention of local communities. Community members are turning to environmental consulting companies such as yours for advice. Your company, Earth, Wind, and Water, Inc., has helped many public agencies and private businesses in the towns of Brandon, Ridgeland, Madison, Jackson, Flowood, and in the Ross Barnett Reservoir area. Earth, Wind, and Water,

Inc. monitors environmental quality. It develops practices that environmentally and economically benefit the greater Jackson Metropolitan area and neighborhoods within the Pearl River Valley Water Supply District.

Your newest client, Mr. Herrington, owns Reservoir Bass and Bait Shop. The shop is a business that sells fishing supplies and offers sites to launch boats into the Reservoir. The shop also provides land-based fishing spots for use by the public. Mr. Herrington is very concerned because there are now fewer fish in that part of the Reservoir. This has caused his business to slow down. Here are some things that Mr. Herrington has noticed going on near his Bass and Bait Shop.

- o More roads and neighborhoods are being built nearby. People are putting a lot of fertilizer and pesticides on their yards. Their lawns are green and free of bugs. Also, some people are walking their dogs near the Reservoir and not cleaning up after them.
- o There are lots of new homes and shopping malls under construction. At some of these new buildings, all the trees have been cut down. When it rains, soil and dirt is washed off these areas into storm drains and nearby creeks. Water in the Reservoir is a cloudy, brown color after a good rain.
- o The water in the Reservoir sometimes looks green on sunny days. There are also more plants growing in the water near the shop, making it hard for boats to come and go.
- o People are leaving trash behind when they come to picnic and play on the sandbars.
- o Fewer fish are being caught by people fishing near the shop.

Business at the Reservoir Bass and Bait Shop is slowing down. He has called on your firm to figure out what is keeping the fish away from that section of the Reservoir and why the water quality has diminished recently. He wants you to write a plan to address the water quality issues and hopefully bring the fish back to the area.

Your job is to develop a plan to improve the water in the Reservoir. You should notice all of the activities of people who are living, working, and playing in areas near the water. Think of ways that you could tell the people what they could do to improve the water quality. Then prepare a creative presentation for your client in three formats (see below) that contains recommendations on how to make changes near the Reservoir Bass and Bait Shop.

PRESENTATION: Your report can be presented to the judges in a variety of formats but must include one visual, one oral and one written piece. Examples are listed below. **REMEMBER** – the judges will be looking for an original and creative presentation of your ideas.

TIME REQUIREMENTS: Your presentation must be 10 minutes long but no longer than 15 minutes. Going over or under the limit will decrease your score.

PRESENTATION FORMAT IDEAS: You are not limited to the following ideas but you must have one oral, one visual and one written product within your presentation.

- o **ORAL**
 - ❖ Video or audio tapes (commercial/creative drama/editorial/documentary)
 - ❖ Oral presentations (speech/debates/games/interviews/panel discussions/plays or skits/simulations/songs or raps/newscast)
- o **WRITTEN**
 - ❖ Computer presentations (Power Point/Web Page)
 - ❖ Team portfolio (can include visual and written documents)
 - ❖ Writings (articles for newsletters or newspapers, radio and TV scripts)
- o **VISUAL**
 - ❖ Art projects (wall chart/poster/mural/map/creative art project)
 - ❖ Display of scientific information (bulletin board/memorandum to stakeholders)
 - ❖ Working model

RUBRIC for Technical Team Presentation at WaterFest:

| | |
|----------------|----------|
| Group: | Teacher: |
| Title of Work: | School: |

| Category | Criteria | | | | Points |
|------------------------|--|---|---|--|--------|
| | 1 | 2 | 3 | 4 | |
| Organization | Audience cannot understand presentation because there is no sequence of information. | Audience has difficulty following presentation because presenter jumps around. | Information presented in logical sequence which audience can follow. | Information presented in logical, interesting sequence which audience can follow. | |
| Content Knowledge | Group does not have grasp of information; cannot answer questions about subject. | Group is uncomfortable with information and is able to answer only rudimentary questions. | Presenters are at ease with content, but fail to elaborate. | Presenters demonstrate full knowledge (more than required) with explanations and elaboration. | |
| Scientific Conclusions | Analyses are not based soundly on scientific information. | Products show evidence that the group reached some valid conclusions but did not voice the analysis clearly or in a compelling way in the products. | Products show evidence that the group reached valid conclusions based on data analysis but did not voice the evidence clearly or in a compelling way in the products. | Products show evidence the group reached valid conclusions based on data analysis and displayed the results of the analysis in a clear and compelling way. | |

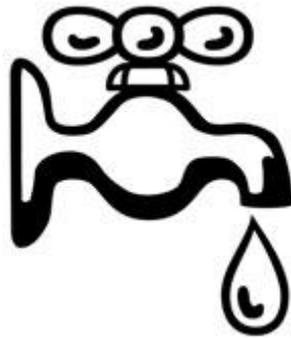
| Category | Criteria | | | | Points |
|-------------------|---|--|--|---|--------|
| | 1 | 2 | 3 | 4 | |
| Problem Solution | The material presented does not address the problem statement. | Material presented addresses only one or two parts of the problem statement -- where, when and how to monitor water quality, scientific rationale to support the methodology, and how to increase fish population. | Material presented addresses most of the problem statement -- a plan to improve water quality, scientific rationale to support the methodology, and how to increase fish population. | Material presented addresses a plan to improve water quality, offers scientific rationale to support the methodology, and address increasing fish population. | |
| Visuals | Student used no visuals. | Group had a visual but it did not fully support the purpose of the presentation. | Visuals related to the presentation. | Visuals used by presenters to reinforce the presentation in an effective manner. | |
| Oral Presentation | Presentation hard to hear or follow; some terms pronounced or used incorrectly. | Presentation somewhat hard to hear and follow; pronunciation and use of terms are inaccurate at times; presentation is disjointed. | Presentation can be heard but may be hard to follow; pronunciation and use of terms are generally accurate; format of presentation is interesting. | Presentation easy to hear and follow; pronunciation and use of terms are precise; format of presentation is interesting, compelling. | |
| Written Product | No written product was presented. | Written product was presented but lacked quality. | Written product was used in presentation in a manner that enhanced the overall effect. | Written product was used in presentation in a manner that enhanced the overall effect; product was well written. | |

| Category | Criteria | | | | Points |
|---------------------------|--|---|--|---|--------|
| | 1 | 2 | 3 | 4 | |
| Mechanics in all Products | Presentation materials had multiple spelling and/or grammatical errors, to the point of being distracting. | Presentation had some misspellings and/or grammatical errors. | Presentation had few misspellings and/or grammatical errors, none of which distracted from the meaning of the project. | Presentation had no misspellings or grammatical errors. | |
| Total | | | | | _____ |

Judge's Notes:

CHALLENGE 2 – MEDIA TEAM PROBLEM

Thirty Seconds to Spread the Word A WaterFest Contest



Breaking News!

The water coming out of your faucet starts in the Ross Barnett Reservoir!

What will you do differently now that you know where the water coming out of your faucet originates? If more people knew they were drinking water from the Reservoir – how would they guard and nurture it more carefully?

If you had thirty seconds to enlighten people about the water they are drinking – what would you say?

Create a multi-pronged advertisement campaign that informs people about the Ross Barnett Reservoir, the water they drink from it, and what residents in Hinds,

Madison, and Rankin counties can do to improve water quality! Your campaign should use radio, TV, billboards, flyers, Internet sites, and any other means of communication.

Requirements

Submissions should be appropriate for general audiences (people of all ages). Teams are limited to no more than 6 members. A minimum of 4 members **MUST** participate in the live presentation.

Radio Ad Length: 15 seconds – 30 seconds

Radio commercials are to be submitted in recorded format.

Television Ad Length: 15 seconds – 1 minute

TV commercials are to be submitted in video format.

Print Ads: Appropriate to the media

Total Ad Campaign Presentation: 12 minutes

You will present your entire ad campaign at WaterFest, April 17, 2010. The radio and/or television ad (team choice) will be presented **LIVE** by team members. Judges are looking for a combination of creativity, presentation skills, and effectiveness.

Winning entries will receive prizes.

Ideas may be incorporated into the official Ross Barnett Reservoir campaign.

Thirty Seconds to Spread the Word A WaterFest Contest Scoring Rubric

Project Title:

Student Names:

| | Level 4 (5 points) | Level 3 (2 points) | Level 2 (1 point) | Level 1 (0 points) |
|---------------------|--|--|---|--|
| Length | Commercial is presented within the time frame. | Commercial is presented slightly outside the time frame. (+/- 5 seconds) | Commercial is presented outside the time frame. (+/- 10 seconds) | Commercial is presented significantly outside the time frame. (+/- 15 seconds) |
| Purpose | Campaign message clearly informs and educates audience about the drinking water from the Ross Barnett Reservoir. | Campaign message informs audience about the drinking water from the Ross Barnett Reservoir. | Campaign message vaguely informs audience about the drinking water from the Ross Barnett Reservoir. | Campaign message does not inform audience about the drinking water from the Ross Barnett Reservoir. |
| Creativity | Campaign demonstrated a high level of creativity. It was exciting and interesting. All ideas were unique. | Campaign demonstrated a moderate level of creativity. It was fairly interesting and most of the ideas were unique. | Campaign demonstrated some creativity. It was almost interesting and a few of the ideas were unique. | Campaign demonstrated little or no level of creativity and lacked any originality. |
| Presentation | All campaign elements are so clearly written, labeled, drawn, or presented that the campaign could be easily recreated if necessary. | Most campaign elements are clearly written, labeled, drawn, or presented that the campaign could be recreated with some explanation. | Some campaign elements are clearly written, labeled, drawn, or presented. The project would be difficult to recreate. | Campaign elements are not clearly written, labeled, drawn, or presented. The project would be almost impossible to recreate. |

Total Points:

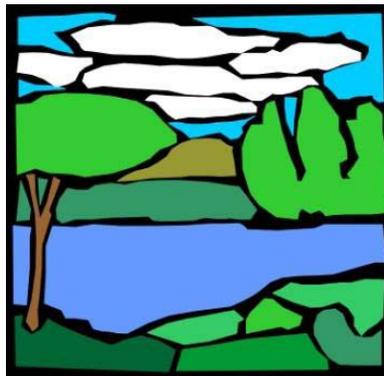
CHALLENGE 3 – WRITING SCENARIO

Glances into the Future A WaterFest Scenario Contest

The Ross Barnett Reservoir is the center of life for the people who live near it. It provides recreation opportunities with its parks, camp grounds, boat launches, trails, baseball and soccer fields, and golf courses. Since the area is convenient to both urban and suburban areas, many business owners have chosen to make it their home, creating new jobs every day. There are also several large shopping centers in close proximity to the Ross Barnett Reservoir where you can buy anything you need or want. Even if residents choose not to take advantage of the amenities that “The Rez” offers, it is the water source for the homes and businesses in the surrounding area.

Just as the reservoir enhances the quality of life for the people who live, work, and play around it, its quality is determined by how the residents care for it in return.

Imagine yourself standing on the banks of the Ross Barnett Reservoir with your children or grandchildren. Consider these questions: How has life changed in the area? What steps have been taken to assure the reservoir has continued to be a safe place to live, work, and play? How has the Reservoir continued to provide opportunities for the people around it? Have the people taken care of the Reservoir in return? How is the quality of the water, and how does it affect life in the area? What steps have been taken to protect the reservoir environment? What problems, if any, plague the area that could have been prevented?



Compose a scenario that depicts life around the Ross Barnett Reservoir thirty to fifty years in the future. The focus of your scenario should be one of the following:

1. A concern you have about life in and around the reservoir
2. Problems that the reservoir environment faces in the future that could have been prevented

3. The progress and development of the reservoir area over the next fifty years

4. The protection of the reservoir environment as a benefit to the people that make it their home

Scenarios should be no more than 1,500 words and written in the first or third person perspective. Submissions should be typed, double spaced, in Arial or New Times Roman font size 12, and error free. The cover page of the scenario should note the title, name and age or grade of the author, and sponsoring teacher and school.

Winning entries will receive prizes.

Glances into the Future A WaterFest Contest Scoring Rubric

Project Title:

Student Name:

| | Level 4 (5 points) | Level 3 (2 points) | Level 2 (1 point) | Level 1 (0 points) |
|--|---|---|--|---|
| Purpose | Purpose is clear throughout. | Purpose is mostly clear. | Purpose is somewhat clear. | Purpose is not clear. |
| Content theme details | Ideas are clear and concise throughout with numerous, strong supporting details | Ideas are mostly clear and concise with some supporting details. | Ideas are somewhat clear and concise with few or weak supporting details | Ideas are vague and repetitive with no or weak supporting details. |
| Organization structure introduction conclusion | Writing is effectively organized in logical and creative manner, and a creative and engaging introduction and conclusion. | Writing has strong order and structure, and a satisfying introduction and conclusion. | Writing has some organization, but is confusing. Introduction and conclusion are underdeveloped. | Writing has a lack of organization, and is hard to follow. Introduction and conclusion are very weak. |
| Style word choice precision | Writing consistently demonstrates a variety of word choice and use of descriptive language. | Writing often demonstrates a variety of word choice and use of descriptive language. | Writing demonstrates some variety of word choice and use of descriptive language. | Writing does not demonstrate a variety of word choice and use of descriptive language. |
| Conventions spelling, punctuation, and grammar | Writing has no errors. | Writing has few errors. | Writing has some errors. | Writing has many errors. |
| Requirements | Writing meets all requirements. | Writing meets all but one requirement. | Writing meets all but two requirements. | Writing is missing three or more requirements. |

Total Points:

Comments: