

# A RIVER FOR COMMERCE

## Trail Mail

Remember that people can use the river as a resource in many different ways. One car company is said to have used sand from the banks to make glass for automobile windshields. Other people are happy to get their fish dinner from its waters.

## OVERVIEW

Students will:

- ✦ understand that there is a link between the Mississippi River and the U.S. economy.
- ✦ demonstrate knowledge of how businesses benefit from the river.
- ✦ create a persuasive presentation.

## TOPIC

We've agreed to produce a series of commercials for an upcoming chamber of commerce campaign. I want you to create the first one. You'll really need to use some of your persuasive savvy on this piece. Your commercial needs to convince business investors that the river is still an economic highway for commerce. The client wants investors to see the advantages of using the river for their businesses.

## INFORMATION

Many different kinds of businesses use the river. Throughout history, the river has transported people, goods, and raw materials. The river has also provided many advantages unrelated to transportation, such as energy production, recreation, and a source for raw materials (ex., water). Today, the river remains one of the most important economic influences on the central United States.

## REQUIREMENTS

Create a commercial that will persuade businesses to use the Mississippi River. Remember that this is a commercial—use sound and video where appropriate.

- ✦ Include a brief and informative introduction and then showcase just one economic use.
- ✦ Give examples of industries and businesses that can take advantage of this economic use.
- ✦ Explicitly state at least three benefits of using the river for commerce.
- ✦ Persuade these investors to spend their money on businesses tied to this great river.

## RUBRIC

A River for Commerce

Amateur	Apprentice	Practitioner	Authority	Expert
<p><input type="checkbox"/> Your commercial does not specify a commercial (business) use of the river.</p>	<p><input type="checkbox"/> Although a commercial (business) use is specified, your commercial does not explain its connection to the river.</p>	<p><input type="checkbox"/> Your persuasive commercial shows the link between the Mississippi River and business uses of the river. You provide three benefits of using the river for commerce and give examples of how businesses might take advantage of these.</p>	<p><input type="checkbox"/> Your presentation contains everything needed to convince the business investors that the Mississippi River is a commercial asset to the industry. Surely our clients will see results from your efforts.</p>	<p><input type="checkbox"/> Your use of outside research adds tremendous economic value to this presentation. Way to go!</p>

# A VISIT WITH ONE OF THE GREATS

## OVERVIEW

Students will:

- ✦ demonstrate recognition of the influence of one person's contribution to life on the Mississippi River.

## TOPIC

This is an exciting assignment for you to work on. It will offer a glimpse into the lives of the many great people who have made an impact along the river. We have an upcoming television special focusing on those people who have influenced the river. We would like you to research just one person and create a segment on this individual's contribution to life along the Mississippi.

## INFORMATION

There have been many individuals who have left behind a unique legacy on the river. Their contributions have been in music, literature, engineering, science, civil rights, and politics, just to name a few. Some showed their talents at an early age, while others had many different achievements. Every one of them was influenced by the river in some way.

## REQUIREMENTS

Explore the Mississippi and look for someone who has had an influence on life along the river. Produce a television segment of sights, sounds, and text to represent this influential person. Be sure to state who this person was, her/his contribution, and how she/he was connected to the river.

## Trail Mail

You will find useful information about Mississippi "greats" all along the river. I've seen displays on famous musicians, engineers, explorers, and many others. As you complete your research, think about the legacy of the person and what she/he left behind. How was her/his talent used? How was it improved upon by subsequent generations?

## RUBRIC

A Visit with one of the Greats

Amateur	Apprentice	Practitioner	Authority	Expert
<input type="checkbox"/> Your segment does not focus on one important individual.	<input type="checkbox"/> Your segment focuses on one individual, but does not adequately reveal the person's contribution.	<input type="checkbox"/> Your segment focuses on one individual's importance, show's his/her contribution, and connection to the river.	<input type="checkbox"/> Your segment introduces an important individual on the Mississippi, and clearly explains his or her importance and influence on the river in a manner that is compelling.	<input type="checkbox"/> Your outside research really helps this segment offer such an insightful look at this person that the viewer is left to feel that they now know this person.

# AMAZING ENGINEERING

## Trail Mail

There are plenty of amazing engineering marvels all along the river. For example, the Gateway Arch in St. Louis was designed to fit together exactly. And don't forget the bridges. Eads Bridge, built by 1874, still exists and had many engineering firsts. My favorite work of engineering is Monks Mound. Even though they probably had no "formal" training, the Mississippians at Cahokia had to be aware of engineering concepts in order to build this mound and most of their city.

## OVERVIEW

Students will:

- ✎ identify an example of engineering found along the Mississippi River.
- ✎ identify criteria on which to judge the importance of this invention.
- ✎ create a presentation that justifies the selection based upon their criteria.

## TOPIC

The Mississippi River Valley Association of Engineers hired us to produce a campaign to increase public awareness of American engineering marvels. The program, "Engineering Wonders of the Mississippi," will be devoted to exploring great engineering along the Mississippi River. We need you to find one amazing feat of engineering and produce a feature on it for our client.

## INFORMATION

By definition, engineering is the application of scientific and mathematical principles to practical ends such as the design, manufacture, and operation of efficient and economical structures, machines, processes, and systems. Engineering puts scientific knowledge to use. Engineers design, plan, construct, or manage such things as machinery, roads, bridges, and buildings.

## REQUIREMENTS

Your multimedia presentation should tell the story of just one amazing feat of engineering that you discover along the river. What makes it special? Who was the engineer behind it?

- ✎ Before you begin, select at least three criteria you think are important for your selection, such as complexity, aesthetics (attractiveness), economic benefits, and historical importance, among others.
- ✎ Your presentation must clearly present this criteria. Provide supporting details to justify the criteria's importance.
- ✎ Let your audience know why your selection is a worthy highlight of Mississippi River engineering.

## RUBRIC

Amazing Engineering

Amateur	Apprentice	Practitioner	Authority	Expert
<ul style="list-style-type: none"> <li><input type="checkbox"/> You have selected an example of engineering and identified one criterion, but do not provide supporting details to explain the criterion.</li> <li><input type="checkbox"/> You do not demonstrate an understanding of engineering.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> You have identified one criterion and provide at least one supporting detail to explain the criterion for your selection.</li> <li><input type="checkbox"/> You do not fully demonstrate an understanding of engineering and/or how it applies to one example along the river.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> You have selected an example of engineering and identified at least three criteria.</li> <li><input type="checkbox"/> Each criterion has at least one supporting detail.</li> <li><input type="checkbox"/> You understand engineering and how it applies to one example along the river.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> You have chosen an example of engineering and identified at least three criteria.</li> <li><input type="checkbox"/> Each criterion has at least two supporting details.</li> <li><input type="checkbox"/> You understand engineering and how it applies to one example along the river.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Your feature is a fitting tribute to a masterful application of science and math principles. You demonstrate an excellent understanding of engineering and how it applies to one example along the river.</li> </ul>

# BARGES TRAINS AND TRUCKS

## OVERVIEW

Students will:

- ↳ assess pros and cons of barge, train, and truck transportation.
- ↳ construct a logical argument that identifies the best method for transporting agricultural products.
- ↳ calculate data to determine the price of transportation for each method

## TOPIC

A local farming cooperative (co-op) needs some help. This co-op stores grain for local farmers (who also own the co-op). The co-op is interested in the economics of transporting corn. You need to research the best way for them to transport their corn to the Shipping Terminal. Your proposal needs to address whether to use barges, trains, or trucks for moving the grain. We don't usually give such challenging assignments to our assistant producers, but I am sure you will do well. Good luck.

## INFORMATION

Research each method of transportation: barges, trucks, and trains. Identify which method would be most cost effective for moving 1.5 million bushels of grain (22,500 tons are equal to 787,500 bushels).

The farms have access to both railroads and highways. Identify and investigate how different variables affect the choice of transportation method, such as the amount of cargo per unit, the rate of transportation (speed), mileage per unit, seasonal considerations, or the cost per unit of cargo.

## REQUIREMENTS

Present a proposal for the method(s) of transportation you think is best for this co-op. Your proposal might include the pros and cons of each method (trains, barges, trucks), and the situations under which each transportation method is best suited. Be sure to back up your findings with facts and figures.

## RUBRIC

Barges, Trains, and Trucks

Amateur	Apprentice	Practitioner	Authority	Expert
<p><input type="checkbox"/> Your proposal is not backed up by any facts and figures that will allow our clients to decide if this is the best choice for them.</p>	<p><input type="checkbox"/> Your proposal has some good facts and figures, but they aren't presented in a way that will make much sense to our client. You need to construct an argument that puts the facts and figures into context.</p>	<p><input type="checkbox"/> Your facts and figures are accurate and presented in a logical way.</p>	<p><input type="checkbox"/> Your presentation is going to allow the co-op to make a good decision for grain transport.</p> <p><input type="checkbox"/> Your calculations are accurate, your understanding of the pros and cons for each method is evident, and your argument for the best method is appropriate. A job well done!</p>	<p><input type="checkbox"/> Your outside research uncovered some important information that our clients probably never thought of. They are going to be grateful for your extra effort!</p>

## Trail Mail

One of my producers just came back from the shipping terminal in New Orleans. She said that its office has the current prices per ton for shipping for barges, trains, and trucks. You will need that information for this assignment. There are some good movies that I'll send you once you get to the Terminal.

# CAHOKIA MOUNDS

## Trail Mail

To see what life was like before the Mississippians were around, check out Effigy Mounds National Monument. The effigy mound builders were part of the Late Woodland Indian Culture, the culture group before the Mississippians, and their mounds were limited to a very specific geographical area in the country. They built their mounds into the shapes of birds, bears, and other animals.

## OVERVIEW

Students will:

- ✦ identify the Mississippian culture.
- ✦ identify the connection between the Mississippians and the river.
- ✦ hypothesize what a day in the life of the Mississippians might have been like.
- ✦ link the Mississippians to an extensive trade network.

## TOPIC

Archaeology is an organized recovery and study of material evidence, such as graves, buildings, tools, and pottery, remaining from past human life and culture. Along the Mississippi River, some of this evidence is in the form of impressive and mysterious mounds and hills rising from the landscape. Our client is a preservation group whose mission is to promote awareness of the great pre-historic Indian cultures of the Americas.

## INFORMATION

Archaeologists refer to the culture that existed approximately from 800 CE to 1400 CE in the central and southeastern U.S. as the Mississippian Culture. Based on what they left behind, we can infer much about the Mississippians and how they lived and died. For example, the mounds that they left behind indicate that the builders had a high level of mathematical sophistication.

## REQUIREMENTS

We want you to visit a Mississippian site, Cahokia Mounds, and create a presentation that explains what the daily life of a person from the Mississippian culture would have been like. In what ways was the river important to Mississippian daily life? How were the mounds used? What are the differences and similarities between their lives and ours?

- ✦ Make inferences about archaeological findings.
- ✦ Include information on the impact of trade.
- ✦ Explain how trade contributed to the economy and culture.

## RUBRIC

Cahokia Mounds

Amateur	Apprentice	Practitioner	Authority	Expert
<p><input type="checkbox"/> Your presentation needs to relate specifically to the Mississippians. The client gets no sense of who these people were, what they did, or how they are related to the river.</p>	<p><input type="checkbox"/> The presentation identifies the Mississippian culture but does not make inferences about trade and culture.</p>	<p><input type="checkbox"/> The presentation satisfactorily describes the daily lives of a Mississippian culture using clues from the past to make inferences about trade and culture.</p>	<p><input type="checkbox"/> The presentation successfully describes the daily life of a Mississippian culture using clues from the past to make inferences about trade and culture.</p> <p><input type="checkbox"/> You provide details on the important cornerstones of the society, including mounds, the river, trade, and culture.</p>	<p><input type="checkbox"/> Your outside research adds to an already excellent presentation.</p>

# CIVIL WAR ALONG THE RIVERBANK

## OVERVIEW

Students will:

- ↳ identify historical events that were related to the Civil War.
- ↳ infer how the outcome of the war might have changed if their chosen events had not taken place.
- ↳ identify the importance of the river to this event.

## TOPIC

The Civil War is an ugly part of our nation's past. You are visiting states that were once divided by a series of conflicts that ultimately led to war: states' rights, the Missouri Compromise, the Mexican War, the Fugitive Slave Act, and the Dred Scott Case. Find out how states bordering the Mississippi River were connected to the outcome—civil war. A historical society has asked us to put together a presentation that shows Civil War events that took place on and along the Mississippi River.

## INFORMATION

The Civil War (1861-1865) split the nation in half. The North was made up of 23 northern and border states (states which bordered southern states) and had a population of 22 million. The south consisted of 11 states and a population of nine million, 3.5 million of whom were slaves. The North also had the advantage of a balanced economy (industrial and agricultural), a developed railroad grid, and a naval force. The South had an inadequate railroad and an economy based on agriculture, but they also had wealthy landowners and the backing of England at the beginning of the war.

## REQUIREMENTS

Your presentation needs to focus on events that led up to the Civil War or took place during it. Make all connection to the river clear. You might find one event or person that deserves the entire presentation. The challenge of this assignment is for you to also help the viewer see how the Civil War could have been different had these events not taken place.

- ↳ Make sure that your presentation contains media that supports your event(s) and shows a link to the Mississippi River.
- ↳ Infer what would have happened during the Civil War if your event(s) had not taken place.

## RUBRIC

Civil War Along the Riverbank

Amateur	Apprentice	Practitioner	Authority	Expert
<p><input type="checkbox"/> Your presentation does not show how events that took place along the river relate to the Civil War in America.</p>	<p><input type="checkbox"/> You need to provide more support for your topic and/or you were not able to explain how the outcome of the war might have changed had the events not occurred.</p>	<p><input type="checkbox"/> You show how events that took place on the Mississippi River and its neighboring states relate to the Civil War.</p> <p><input type="checkbox"/> You provide support for your inference about how the outcome of the war might have changed had the events not occurred.</p>	<p><input type="checkbox"/> Your presentation does an excellent job tying the river's role to Civil War events. The State Historical Society will be amazed at the connections you found. The presentation will be a great addition to their research.</p>	<p><input type="checkbox"/> It is obvious that you did extra research. Your event(s) is interesting and relevant to the river.</p> <p><input type="checkbox"/> Your presentation will make people want to go learn more about this interesting past to the river's history.</p>

## Trail Mail

I was reading a book on the Civil War and came across something I thought you might be interested in. The Confederate tinclad *Mamora* fired the fatal torpedo on December 12, 1862, that sunk the Union's USS *Cairo*—an ironclad gunboat. It wasn't until a century later that studious Civil War buffs used a simple compass to pinpoint the wreck. After many failures, the last section of the boat was finally raised and then lowered to the deck of an awaiting barge 102 years to the day since the gunboat had sunk.

You might check out St. Louis, the USS *Cairo*, and even Fort Snelling for some interesting links of Civil War events to the river.

# DESIGN A DISPLAY FOR THE PRODUCTION HOUSE

## Trail Mail

A theme is a series of related topics that show up in several different ways and places. For example, we had a producer who was researching Paris. She focused on food as a theme and produced several features that show how French culture is related to food. There are regions in France that have control over how certain foods are produced. Certain types of cheese, mustard, and wine can only be produced in those specific regions in order to maintain their product label (ex., Dijon mustard, Champagne, Brie cheese). Thinking about this makes me very hungry.

## OVERVIEW

Students will:

- ↳ identify a theme related to the river.
- ↳ present an argument and support it with evidence.

## TOPIC

A theme is a subject with a distinctive quality or characteristic. For example, the River Room's theme is "river formation." Of course, there are many other important themes tied to the river. I want to create a new display at our Production House, but I'm not sure what would be most helpful to our staff. You're a new recruit traveling the riverbanks for the first time. I want you to identify another theme and then create a presentation that helps me understand how it is connected to the river.

## INFORMATION

A river system, just like our home office wall murals show, is complex. There are parts that have to work together in order to keep the river system healthy. It seems to me that rivers can be more than a system of environments that work together to funnel water. River systems can include all sorts of different parts. Who is to say that animals or people aren't as important? After all, every person and thing that uses the river becomes a part of the river's past, present, and/or future. What sorts of themes do you see as you travel along the river?

## REQUIREMENTS

Create a presentation on a river-related theme. Your very first screen needs to identify your theme and briefly identify its relationship to the river. The remaining four screens should develop your theme (use examples you find during your travels) and convince me that it deserves to be put in our Production House.

## RUBRIC

Design a Display for the Production House

Amateur	Apprentice	Practitioner	Authority	Expert
<input type="checkbox"/> You have not identified a theme or presented any reasons why your topic should be included in the Production House.	<input type="checkbox"/> You have identified a theme, but haven't presented any good reasons to include it in the Production House.	<input type="checkbox"/> You have identified a theme and given several good reasons to include it in the Production House.	<input type="checkbox"/> Your reasons for including this theme are solid. Your choice could really enhance the Production House.	<input type="checkbox"/> Your outside research really strengthens your proposed theme display for the Production House.

# ENDANGERED SPECIES

## OVERVIEW

Students will:

- 👉 understand what an organism or environment requires for survival (organism/ environment is selected by student).
- 👉 demonstrate understanding of endangerment.
- 👉 understand how a non-native species can out-compete a native species.

## TOPIC

A lot of changes have occurred along the Mississippi River. You may not realize it, but there used to be bears and bobcats all along the river valley. Some land areas along the river have eroded, destroying habitats that certain animals require for survival. And there is cause for alarm—what people and industry do upriver causes problems for the environment and water downriver. We've been asked to contribute to a multimedia "textbook." Our chapter is endangerment and what can cause it. You will choose some species or habitats and determine what is happening that could cause them to face endangerment.

## INFORMATION

A species can have endangered status. This means that its survival is threatened. If a species is so threatened that it is unable to produce any offspring, it is in danger of becoming extinct. When something is extinct, it is gone forever (unless we are able to clone extinct species some day). One type of threat that few people think about is a nuisance species. A nuisance species can destroy habitats making it impossible for native species to survive. Animals and plants might even consider humans a nuisance species.

## REQUIREMENTS

Research a species or ecosystem in a crisis situation. Create a presentation on your topic. You need to explain what your topic is (the species or ecosystem), why it is endangered, what it needs to remain healthy, how other organisms depend on it, and threats to its livelihood.

## Trail Mail

One very well-known example of an extinct species is the Dodo bird, a flightless bird of Mauritius (an island of the Indian Ocean). The birds were first seen by Portuguese sailors in 1507. The dodo was extinct by 1681.

The activity going on around or on the river will affect an environment or species. Make sure to look at the commerce of the river as part of your research.

## RUBRIC

Endangered Species

Amateur	Apprentice	Practitioner	Authority	Expert
<input type="checkbox"/> The species or environment you selected is not under a threat of endangerment. Try again.	<input type="checkbox"/> Your topic is appropriate, but your presentation doesn't provide reasons for its endangered status. <input type="checkbox"/> Your audience knows how other organisms or environments depend on your topic, but what does it need to survive?	<input type="checkbox"/> You have included several good points that show how your choice is threatened with endangerment.	<input type="checkbox"/> Everything is in order. You have a very concise presentation that will help the viewer understand the kinds of problems an endangered organism or environment must overcome for survival.	<input type="checkbox"/> Your extra research contains excellent information, helping everyone watching your piece have a good idea of what causes an environment or species to face endangerment.

# ENVIRONMENTAL AWARENESS CAMPAIGN

## Trail Mail

Make sure to include representative species of plants and animals for your chosen habitat. Field journals are a great resource. There is an interesting article about Christmas trees helping the estuaries in a Mississippi Matters magazine.

## OVERVIEW

Students will:

- ✦ demonstrate understand of habitats and their importance to a river system.
- ✦ demonstrate understanding of issues affecting the Mississippi River’s habitats.
- ✦ show how people can have a positive influence on a river habitat.

## TOPIC

People and industries can have a positive or negative impact on a river environment. We've been hired by a group of businesses that engage in positive conservation practices. They have decided to create an environmental awareness campaign as a public service. These businesses want to raise awareness of the river's relationship to habitats.

## INFORMATION

An endless variety of habitats can be found along the Mississippi River. From marshes to forests, each habitat features a different mix of plants and animals.

## REQUIREMENTS

Create a campaign (posters, commercials, advertisements, billboards) that increases public awareness of one river habitat. Use your brainstorming skills.

- ✦ Define the habitat.
- ✦ Explain why it is important.
- ✦ Present ways to protect it.

## RUBRIC

Environmental Awareness Campaign

Amateur	Apprentice	Practitioner	Authority	Expert
<input type="checkbox"/> You haven't identified and defined a single habitat, the most important first step.	<input type="checkbox"/> You have identified and defined a single habitat, but you haven't developed a campaign that shows reasons why it is important or what people can do to protect it.	<input type="checkbox"/> You have selected a river habitat and identified several issues that affect it. <input type="checkbox"/> You have done a good job linking the habitat to the river and proposing what people can do to protect it.	<input type="checkbox"/> Your campaign gives several compelling reasons for people to make an effort to take care of this habitat. <input type="checkbox"/> The clients are really going to like this as the starting point for their environmental campaign.	<input type="checkbox"/> You have really raised this presentation up a notch with your outside research. The clients are going to love this!

# ENVIRONMENTAL DEMANDS

## OVERVIEW

Students will:

- ↳ identify an organism that lives in a river habitat.
- ↳ demonstrate knowledge of the organism and how it interacts with its environment.
- ↳ demonstrate knowledge of a food web (or food chain).

## TOPIC

As part of a science fair seminar, we have offered to contribute our expertise. We are going to set up a multimedia display that shows why animals and plants have chosen to live along (or in) the Mississippi River. You'll select and research at least three animals or plants and put together a presentation that shows how they fit into the river environment.

## INFORMATION

Food webs are one of the most important parts of any environment. A food web is a diagram that shows the relationships among a predator, all of its prey, and its prey's prey. A food chain is a simplified web that shows only the predator and its prey, and the food its prey eats. If a food web is out of balance (ex., too many predators and not enough grazers) an entire ecosystem can collapse.

## REQUIREMENTS

Look through some of the field guides and visit some of the environments along the river. Select three or more organisms (birds, plants, trees, animals, insects, fish). Explain why they can be found along the Mississippi River. Make sure your presentation includes what the organism are (what they look like, what they do), where they can be found, what they need to survive, and how they fit into a food web (or at least a food chain).

## Trail Mail

A little bit more on a food web—a food web of the Alaskan wilderness' Polar bear would have to include plankton. Plankton is a type of algae that gets its energy from the sun through photosynthesis. Plankton is eaten by shrimp and fish. Fish also eat other fish. Whales may also eat shrimp. Shrimp may eat small fish. Seals eat fish. Killer whales eat seals. Polar bears eat fish, berries, and seals. There are overlapping diet requirements.

## RUBRIC

Environmental Demands

Amateur	Apprentice	Practitioner	Authority	Expert
<p><input type="checkbox"/> Although you have selected three animals or plants, your presentation does not tie them into a food web or the environment.</p>	<p><input type="checkbox"/> You need to provide at least two more ways your animals or plants interact with the environment; two more ways they fit into the food web; and, one more requirement for their survival.</p>	<p><input type="checkbox"/> Your presentation does a good job of showing why your animals or plants can be found along the Mississippi and their role in a food web.</p>	<p><input type="checkbox"/> Your presentation clearly demonstrates your animal or plant's role in the river environment.</p> <p><input type="checkbox"/> Your media highlight the most important pieces of information.</p> <p><input type="checkbox"/> The science fair students will learn a lot from this presentation.</p>	<p><input type="checkbox"/> Your presentation does a great job of showing the many different ways your animals or plants relate to the environment.</p> <p><input type="checkbox"/> Your outside research really helped you cover all the angles.</p>