

The Hudson River

Grade Level: 5

Designer: Eleanor Schuster, Librarian

Title of Unit: The Hudson River

Overview: *This project is an interdisciplinary study on the Hudson River's importance throughout American History, from pre-colonial times through present day efforts to preserve the river's rich biodiversity. Its history parallels the fifth grade Social Studies and Science curriculum. The river as a focal point serves to enrich students' understanding of local history and the importance of natural resources to our country's present and future quality of life.*

Grade Level: Fifth Grade

Time frame: School Year

Resources Needed: School Library Resources: books, periodicals, A/V, the Internet, professional organizations (e.g. government and civic) and qualified experts interview sources.

Related Internet Sites:

The Hudson River: An Internet Hotlist on the Hudson River

<http://www.kn.sbc.com/wired/fil/pages/listthehudsp.html>

Filamentality list of general resources. Created by Eleanor Schuster for fifth grade Hudson River Study. With links to information on pollution, fish, the Palisades, and the history of this region.

Additional Web Sites & Highlights

Best of History Web Sites-Independence

http://besthistorysites.net/USHistory_Independence.shtml

“Best of History Web Sites contains links to over 1000 history-related web sites that have been reviewed for quality, accuracy, and usefulness. Included are links to K-12 history lesson plans, teacher guides, activities, games, quizzes, and more.” Best of History’s “About” description.

The Department of Environmental Conservation

<http://www.dec.state.ny.us/website/hudson/>

The Hudson River: a river that flows both ways. A good introduction to the river with many valuable links to information about fish, river conservation, and the bridges that cross the river

Hudson River Home Page

<http://www.hhr.highlands.com/>

Click on the link, 'About this Site' for a wonderful introduction to the Hudson River and an overview of the resources on this site.

Hudson River Valley Institute

<http://www.hudsonrivervalley.net/>

A comprehensive sit with cultural, economic, historical, and environmental topics.

The Hudson River: An Internet Hotlist

<http://www.kn.sbc.com/wired/fil/pages/listthehudsp.html>

Extensive Filamentality hotlist of Hudson River sites.

Native Tech – Eastern Woodlands

<http://www.nativetech.org/scenes/index.html>

Native American Tribes of the Hudson River

<http://www.angelfire.com/ny3/cmsvrivervalley/native.html>

The Hudson River-The College of Mount Saint Vincent

<http://www.angelfire.com/ny3/cmsvrivervalley/index.html>

PBS-Liberty-The American Revolution

<http://www.pbs.org/ktca/liberty/>

The River Keeper

<http://www.riverkeeper.org/>

“For over 35 years, River Keeper and its predecessor organization have been watchdogs for the health and protection of the Hudson River.” (Web Site Description) With Links to events and opportunities.

Stage 1: Desired Results:

New York State Learning Standards:

Standard	Performance Indicators:
<p>Standard 1: Social Studies History of the United States and New York</p> <p>use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments, and turning points in the history of the United States and New York.</p>	<p>Performance indicators-Elementary know the roots of American culture, its development from many different traditions, and the ways many people from a variety of groups and backgrounds played a role in creating it</p> <ul style="list-style-type: none">• gather and organize information about the traditions transmitted by various groups living in their neighborhood and community• recognize how traditions and practices were passed from one generation to the next• distinguish between near and distant past and interpret simple timeline• gather and organize information about the important accomplishments of individuals and groups, including Native American Indians, living in their neighborhoods and communities• classify information by type of activity: social, political, economic, technological, scientific, cultural, or religious• explore different experiences, beliefs, motives, and traditions of people living in their neighborhoods, communities, and State• view historic events through the eyes of those who were there, as shown in their art, writings, music, and artifacts.
<p>Social Studies Standard 2 Geography</p> <p>use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth’s surface.</p>	<ul style="list-style-type: none">• study about how people live, work, and utilize natural resources• draw maps and diagrams that serve as representations of places, physical features, and objects• investigate how people depend on and modify the physical environment• Students locate places within the local community, state, and nation; locate the earth's continents in relation to each other and to principal parallels and meridians

<p>Social Studies Standard 4 - Economics Students will use a variety of intellectual skills to demonstrate their understanding of how the United States and other societies develop economic systems and associated institutions to allocate scarce resources, how major decision-making units function in the U.S. and other national economies, and how an economy solves the scarcity problem through market and nonmarket mechanisms.</p>	<p>Performance Indicators</p> <ul style="list-style-type: none">• Know some ways individuals and groups attempt to satisfy their basic needs and wants by utilizing scarce resources.• Explain how people's wants exceed their limited resources and that this condition defines scarcity.• know that scarcity requires individuals to make choices and that these choices involve costs.• study about how the availability and distribution of resources is important to a nation's economic growth.
<p>Social Studies Standard 5 - Civics, Citizenship, and Government Students will use a variety of intellectual skills to demonstrate their understanding of the necessity for establishing governments; the governmental system of the U.S. and other nations; the United States Constitution; the basic civic values of American constitutional democracy; and the roles, rights, and responsibilities of citizenship, including avenues of participation.</p>	<p>Performance Indicator - Elementary explain the probable consequences of the absence of government and rules.</p>
<p>ELA STANDARD 1 Students will read, write, listen, and speak for information and understanding.</p> <p>As listeners and readers, students will collect data, facts, and ideas, discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language to acquire, interpret, apply, and transmit information.</p>	<p>Performance Indicators</p> <ul style="list-style-type: none">• gather and interpret information from children's reference books, magazines, textbooks, electronic bulletin boards, audio and media presentations, oral interviews, and from such sources as charts, graphs, maps, and diagrams• select information appropriate to the purpose of their investigation and relate ideas from one text to another• select and use strategies that have been taught for notetaking, organizing, and categorizing information• ask specific questions to clarify and extend meaning• make appropriate and effective use of strategies to construct meaning from print, such as prior knowledge about a subject, structural and context clues, and an understanding of letter-sound relationships to decode difficult words• support inferences about information and ideas with reference to text features, such as vocabulary and organizational patterns• Students select a focus, organization, and point of view for oral and written presentations.

<p>MST Standard 5 - Technology Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.</p>	<p>Performance Indicator - Elementary understand that larger systems are made up of smaller component subsystems.</p>
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Stage 1: Desired Results:

Understandings:

By studying how three different river communities in three different time periods used the Hudson River, students will understand how “values, practices, and traditions” can affect our living environment, which in turn affects our daily lives.

Understand the dynamic relationship between a river and its surrounding communities.

Understand how the range of biodiversity affects local communities.

Essential Questions:

- How do the river’s living environment and topography affect the way “people live, work, and utilize natural resources?”
- How do social and economic structures, traditions, and events affect our living environment?
- What responsibilities are citizens and government accountable for in river stewardship?

Optional Extension

- How is a community’s perspective on its living environment (Hudson River) reflected in art and literature? How does this influence a community’s stewardship of its living environment?

Knowledge: What do you want students to know?

Students will:

- Learn about the Algonquian tribes that lived in the Hudson River Valley, including their foods, shelter, clothing, transportation, art and oral traditions (legends). Understand how the Indians used and cared for the Hudson River.
- Learn the route of the Hudson from source to mouth, and bordering regions from pre-Colonial through present day.
- Learn about the Hudson's indigenous fauna, flora, fish and other natural resources.
- Know how to read and draw a basic reference map including simple legends and scales.
- Learn about the impact of the American Revolution on the Hudson River, its forts and major battles.
- Students will learn about the communities that inhabit the Hudson River Valley today. They will learn about the problems of pollution and how it affects the surrounding communities.
- Students will understand the importance of biodiversity and how to protect it. They will know that social and economic practices affect our living environment, which in turn impacts quality of life.

Skills: What do you want students to be able to do?

- Search for information using the library catalog and the Internet to access a variety of resources, including books, encyclopedias, periodicals, and A/V materials.
- Use a table of contents and an index.
- Create a bibliography in simple format.
- Read for understanding.
- Create relevant research questions.
- Take meaningful notes.
- Organize notes into a meaningful presentation.
- Present information with clarity and depth.
- Present a convincing and credible argument.
- "Distinguish between near and distant past and interpret a simple timeline."
- Work effectively in groups
- Create a map including geographical and political features, a legend, and simple scale.
- Create a PowerPoint presentation.
- Design and publish a web page.

Stage 2: Evidence of Learning: Summary of Assessments

Performance Tasks, Projects

3 Lesson Plan Activities:

- Library Research: Hands-on searching using table of contents, indexes, encyclopedias, periodicals, and the Internet, including online subscription databases
- Mapmaking: Hudson River in pre-Colonial time period. Students will work in pairs to create a map showing the entire route of the river, from source to mouth. They will also choose one element of the living environment to represent in a map legend and present their research and map to the class.
- PowerPoint Group Activity: Research and develop an argument from assigned perspective (Britain or Colonies) on importance of controlling Hudson River to winning the American Revolution. Describe how this goal could be accomplished. Argument to be presented in a PowerPoint presentation.
- Web Page Class Project: Create a web page that describes the Hudson River's biodiversity, history, current usage, pollution, and what can be done to preserve the river's health for future generations. Each student has a role/responsibility, but will participate in all aspects of designing and building a web page.

Other Activities:

- Storytelling: Learn Algonquian and Colonial stories and legends. Storytelling performances of these or students' original stories modeled on Native American legends.
- Algonquian Feast and Storytelling Festival
- Hudson River Models: Comparative models from three different time periods: pre-colonial, American Revolution, and twenty-first century.
- Online Collaborative Projects: Journey North: A Global Study of Wildlife Migration and Seasonal Change (Learn the importance of 'greenways' for migration and biodiversity) <http://learner.org/jnorth> and Bucket Buddies <http://k12science.ati.stevens-tech.edu/curriculum/bucketproj/index.html> to learn about what lives in our local water.

Quizzes, Tests, Academic Prompts

- At the end of each time period research, assigned groups of 3 to 4 students will explain how the community viewed the river as represented through their usage, laws, economics, art, and literature.
- OR students write individual essays on similar topic
- Quiz on basic Hudson River facts. To be given as a reinforcement of knowledge after map making activity #1 and the reading of Echohawk. SAMPLE test attached to end of unit plan. A similar test may be given after each lesson as reinforcement.
- Quiz on strategic significance of Hudson River during the American Revolution-similar format.
- Final Essay Question: See SAMPLE attached to end of unit plan.
- Web Project Evaluation: See sample attached to end of unit plan.

Other Evidence

- Legible and relevant notes on index cards.
- In Groups of 3-4, students create maps from memory of the Hudson River after each time period. Maps should incorporate geography, names of communities, flora and fauna, and other relevant characteristics.
- Map Presentation (Activity #1)
- PowerPoint Presentation (Activity #2)
- Web Page Final Product (Activity #3)

Student Self Assessment

- Groups evaluate maps created by other students, and decide whether to revise their own maps upon receiving critique of their own map. Class discussion and map display reinforces learning. (Activity #1)
- Class votes on most persuasive PowerPoint and discusses what makes an effective presentation and argument. (Activity #2)
- Web Page: Self evaluate using web evaluation rubrics. (Activity #3)S

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Assessment Design (Major Lesson Plan/Activity #1)

Assessment/Lesson Plan: Mapping the Hudson in Pre-Colonial Times

Major Outcome/Understanding to be addressed by this assessment:

Please note that all of the Major Outcomes listed on page 4 are applicable to each lesson plan, but the following are particularly relevant for this time period:

- How did the river influence the daily life of the Indians living in the Hudson River Valley?
- Understand the symbiotic relationship between the river and its local communities.

Essential Question for focus of this assessment:

How is a community's perspective on its living environment (Hudson River) reflected in art and literature? How does this influence a community's stewardship of its living environment?

Knowledge to be assessed:	Skills to be assessed:
<ul style="list-style-type: none">• Students will know what kinds of fish, flora, and fauna lived in and around the Hudson River in pre-colonial times.• Students will know the route of the Hudson River and its borders, both historical and current.• Students will know some of the ways in which local Indian tribes used the river for sustenance.	<ul style="list-style-type: none">• Library research skills:• Search table of contents, indexes, encyclopedias• Navigate bookmarked Internet sites• Note taking/note cards• Mapping Skills
Task summary	Evidence to be collected
<p>Students draw maps of the Hudson River including the route from its source to mouth, and bordering regions. They research specific species that inhabit the river or river valley environment. These will be indicated by chart or symbols on their maps as a future reference source by classmates.</p>	<ul style="list-style-type: none">• Note Cards• Finished Maps

Task Prompt (directions for students): **Summary of Activity for students**

1. **Curriculum Goal:** We will study the Hudson River in three different time periods: Native American (Pre-Colonial), Colonial (American Revolution), and Present-Day. We will learn how “values, practices, traditions,” and political events can affect the River, which in turn affect our daily lives. We will learn how the river’s living environment and topography affect the way “people live, work, and utilize natural resources.” We will think about what responsibilities citizens and government should hold regarding care of the Hudson River.

Assignment Goal:

You and a partner will create a map of the Hudson River:

- You will research what kinds of flora (plants), fauna (animals), fish, or other natural resources flourished in the river’s living environment during pre-Colonial times. Your teacher will assign you and your partner one of these topics to research and represent on a map.
 - Draw a map of the Hudson River including the route from its source to mouth, and bordering regions. Indicate by charts or symbols one or more species that inhabit the river or river valley environment.
2. **Your Roles:** You will work in pairs. Decide how you will share responsibilities. You must each contribute to both the research and drawing components, but draw on your individual talents!
 3. **Audience:** You will present your map to the class. All the maps will be displayed on the classroom walls for a broad perspective of the Hudson River’s rich biodiversity.
 4. **Your success will be measured using these criteria:**
 - Accuracy
 - Neatness
 - Quality of research (List size or comprehensiveness of topic.)

Important! Your map is an important resource that your classmates will depend upon for future Hudson River projects. Make it clear, attractive, and accurate!

Assessment Design (Major Lesson Plan/Activity #2)

Assessment/Lesson Plan: The Hudson River's Strategic Importance during the American Revolution

Major Outcome/Understanding to be addressed by this assessment:

Students will understand the strategic importance of the Hudson River to both the British and the Colonies during the American Revolution. They will learn about significant events and actions that ultimately secured the River for the Colonies.

Essential Question for focus of this assessment:

- How do social and economic structures, traditions, and events (e.g. war) affect our living environment, in this case, the Hudson River?
- How do the river's living environment and topography affect the way "people live, work, and utilize natural resources?"
- How does a river affect communication, trade, and development?

Knowledge to be assessed:	Skills to be assessed:
<ul style="list-style-type: none">• The Hudson River was a key strategic element in the American Revolution• The Hudson River influenced development, trade, and communication in the Middle Atlantic and New England colonies• Britain attempted to break communication between the Middle Atlantic and New England colonies by gaining control of the Hudson.• Chains were stretched across the Hudson River in an attempt to thwart the British's advance.	Library research skills: <ul style="list-style-type: none">• Search table of contents, indexes, encyclopedias• Navigate bookmarked Internet sites• Note taking/note cards• Presentation/Speaking Skills• Students select a focus, organization, and point of view for oral and written presentations.• PowerPoint
Task summary	Evidence to be collected
Group Activity: <ul style="list-style-type: none">• Develop an argument from assigned perspective (Britain or Colonies) on why controlling the Hudson River is important to the outcome of the war and how you propose securing this control.• Arguments will be delivered via PowerPoint presentation.	<ul style="list-style-type: none">• Note Cards• Power Point Presentation

Task Prompt (directions for students): ***Summary of Activity for students***

- 1:** Your group's goal is to develop an argument on why controlling the Hudson River is crucial to winning the American Revolution. You will be assigned to present a case to the class representing either Britain or the Colonies in a PowerPoint presentation.
- 2:** You will work in groups of 2-4 students. Each student is responsible for at least one supervisory position in the following areas: Librarian/Research Director; Note Taker/Organizer; Writer; Production/Technical Manager. All students should participate in each area.
- 3:** The audience you will prepare your product/performance for is your class and teacher.
- 4:** Your success will be measured using these criteria:
 - Case clearly stated and persuasive arguments supported by documented research
 - PowerPoint presentation attractive and relevant to topic
 - Oral argument supports PowerPoint and is clearly presented

Assessment Design (Major Lesson Plan/Activity #3)

Assessment/Lesson Plan: Web Page: The Hudson River Today

Major Outcome/Understanding to be addressed by this assessment:

Students Will:

- Understand how “values, practices, and traditions” can affect our living environment, which in turn affects our daily lives (e.g. why the river became polluted)
- Understand how the range of a natural environment’s biodiversity affects local communities
- Understand the dynamic relationship between a river and its surrounding communities

Essential Question for focus of this assessment:

- How do social and economic structures, traditions, and events affect our living environment?
- What responsibilities are citizens and government accountable for in river stewardship?

<p>Knowledge to be assessed:</p> <ul style="list-style-type: none"> • History of the Hudson River • Local industry and populations • Timeline of River's pollution and clean-up • Reasons for pollution • How River was cleaned • Current plans for cleaning river • Predictions on River's continued health • Current wildlife and plant populations 	<p>Skills to be assessed:</p> <p>Library research skills:</p> <ul style="list-style-type: none"> • Search table of contents, indexes, encyclopedias • Navigate bookmarked Internet sites • Bibliography <p>Other</p> <ul style="list-style-type: none"> • Note taking/note cards • Presentation/Speaking Skills • Students select a focus, organization, and point of view for oral and written presentations.
<p>Task summary</p> <ul style="list-style-type: none"> • Students research the Hudson River's current plant and wildlife populations, as well as the history of its pollution and subsequent clean up. They will learn the elements necessary to preserve this natural resource. • Capstone Project: Create web page directed to general public, business owners, and political leaders that describes the Hudson River's history, current usage, pollution, and what can be done to preserve the river's biodiversity and health. Web page should also explain the importance of clean rivers and biodiversity. 	<p>Evidence to be collected</p> <p>Library Research Skills</p> <ul style="list-style-type: none"> • Search table of contents, indexes, encyclopedias • Navigate bookmarked Internet sites • Bibliography • Note taking/note cards <p>Web Page design and content</p>

Task Prompt (directions for students): **Summary of Activity for students**

1: The goal of this assignment is for the class to create a web page that describes the Hudson River's history, current usage, pollution, and what can be done to preserve the river's health for future generations. It should also explain the importance of clean rivers and biodiversity. This web page is the culmination of your research all year. You may incorporate your maps, PowerPoint projects, journals, and any other relevant work the class has produced.

For this web page, you will need to conduct research on:

River's current plant and wildlife population

History of pollution (Who were the key players? What industries, corporations-names, and practices contributed to the pollution?)

Who were the people who helped clean up the river?

How did they accomplish this?

What are good practices for healthy rivers?

Finally, put all of your knowledge together and tell the world how to keep our rivers clean. Keep in mind all the ways we use rivers. You must balance multiple needs: wildlife, recreational users, businesses, and the beauty of our own Hudson Valley.

2: You will work in groups of approximately 4 students. Each group is responsible for at least one supervisory position in the following areas: Librarian/Research Directors; Note Takers/Organizers; Writers; Web Design/Technical Directors. NOTE: All students should participate in each area.

3: The audience you will prepare your product/performance for is the general public (people like you, your friends and parents), schools, government agencies, corporations.

4: Your success will be measured by standard web evaluation rubrics:

Kathy Schrock's 5 W's of Evaluating Web Sites

<http://kathyschrock.net/abceval/5ws.htm>

Critical Evaluation of a Site: Elementary School Level

<http://school.discovery.com/schrockguide/evalelem.html>

Are you proud of the site?

Stage 3: Learning Experiences and Instruction:

Below, please list approximately 5-10 additional learning activities (lesson plans) that you will use during your unit. You simply need to title the activity and in a sentence or two in the “Notes” section of this chart describe the activity and explain when during the unit it would take place (i.e.- beginning, middle or end).

Learning Experiences	Notes
Class reading: <u>Echohawk</u> by Lynda Durrant. This is about a colonial boy who was captured and adopted by the Mahican Indian tribe during the late 1700's	Read at beginning of year/Hudson River Curriculum. Students keep reading journals.
Library Research Skills-Mandatory	Searching skills using table of contents, indexes, and encyclopedias. Begin before Algonquian research.
Algonquian's way of life in the Hudson River Valley-Necessary.	Conduct after reading Echohawk. Research using indexes, encyclopedias, Internet, and index cards. Students learn about the river's plants and wildlife.
Native American Art and Legends	Learn about the river as seen through Algonquian stories and visual arts. Students may memorize or write their own legends.
Algonquian Feast and Storytelling Festival - Optional	After Algonquian research, students will make Algonquian dishes and tell Algonquian legends in a celebratory feast.
Algonquian Village/River Model – Optional Extension Optional formats include clay models, poster board, power point, web pages, or video presentation.	Labeled natural resources that the River provided the tribes (e.g. fish, wildlife, and plants); transportation
American Revolution/River Model – Optional Extension See optional formats listed above.	Emphasis on the forts, river transportation, and strategic importance of the Hudson River to war's outcome
Present Day Hudson River Model – Optional Extension	Labeled natural resources that the River provides today (e.g. fish, wildlife, and plants); recreation, industry & transportation
Online Searching Skills - Mandatory	Begin after Algonquian research. Parallel and point of need instruction. Online Searching Skills unit may be found at: http://www.emslibrary.org/teacher_resources.htm
Online Collaborative Projects - Optional Journey North shows the importance of rivers for migratory species. Bucket Buddies compares water samples from ponds and rivers around the world.	Journey North: A Global Study of Wildlife Migration and Seasonal Change http://www.learner.org/jnorth/ Bucket Buddies http://k12science.ati.stevens-tech.edu/curriculum/bucketproj/index.html
Field Trip and Environmental Workshops - Optional	Hudson River Education Programs-Field Trips http://www.hudsonriver.org/education.htm Clearwater in the Classroom http://www.clearwater.org/classroom.html

SAMPLE TEST #1

The Hudson River: Some Basic Facts

1. What is the name of the Hudson River's source?
2. Where is the mouth?
3. Draw a simple picture of the Hudson River on the attached paper.
4. You have just read Echohawk by Lynda Durrant. What was the name Echohawk's Tribe?
5. What language did they speak?
6. What are some of the foods they ate?
7. Draw a picture of a "Long House" on the attached paper. Name one tribe who used these:

8. Name two or more kinds of fish that live in the Hudson River:

9. Name two or more kinds of birds that live in the Hudson River Valley:

10. Name two or more kinds of plants that grow in the Hudson River Valley:

10 questions, 10 points each = 100 points

BONUS QUESTION: (4 Points) What is brackish water? Where can you find it?

Answer below:

Hudson River Map

Include the following items:

- a. Source (beginning)
 - b. Mouth (end)
 - c. Atlantic Ocean
 - d. Palisades – location
 - e. Adirondack Mountains
 - f. Catskill Mountains
 - g. The boundary line between the states of New York and New Jersey.
 - h. Label New York State, New Jersey, and Connecticut
 - i. Mark the location of New York City
 - j. Draw a Compass Rose indicating North, South, East, and West
-

The Long House

Draw a picture of a Long House. You may add as many items and label them if you choose.

SAMPLE FINAL ESSAY – IN CLASS

PICK ONE QUESTION AND ANSWER IT AS AN ESSAY.

(Accommodations: Teacher may offer alternative choices:

Answer in pictures, diagrams, and labels for those students with writing processing difficulties.

Explain answer verbally to class

1. In what ways did the colonies affect the Hudson River?
2. What is biodiversity and why is it important?
3. What do the stories and art of the Native American's tell us about their lives?
4. What does stewardship mean? What does it have to do with the Hudson River?

5 W's for Evaluating Web Sites

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FOR SELF EVALUATION: HUDSON RIVER WEB PAGE

See also: <http://school.discovery.com/schrockguide/evalelem.html>
for another evaluation tool.

Who

Who wrote the pages and are they an expert?

Is a biography of the author included?

How can you find out more about the author?

What

What does the author say is the purpose of the site?

What else might the author have in mind for the site?

What makes the site easy to use?

When

When was the site created?

When was the site last updated?

Where

Where does the information come from?

Where can I look to find out more about the producer/sponsor?

Why

Why is this information useful for my purpose?

Why should I use this information?

Why is this page better than another?