



## LESSON PLAN

**Level:** Grades 7 to 10  
**About the Author:** MediaSmarts

# Deconstructing Web Pages

## Overview

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In this lesson students apply the "5W's of Cyberspace" to sources of information they find online. Assuming the role of a student researching a science project, students must authenticate the information in an online article about the artificial sweetener, Aspartame.

## Learning Outcomes

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Students will:

- understand the importance of authenticating online resources
- recognize the signs of bias and omission in information
- use a template to authenticate Web sources based on site authorship or ownership, content and currency
- use meta-information search techniques to validate online information
- understand the structure of uniform resource locators (URL's) and how URLs can be used to determine authorship and credibility

## Preparation and Materials

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- students will need access to the Internet in order to complete their assignments

Photocopy:

- teaching backgrounder *Deconstructing Web Pages*
- student handouts *The Five W's of Cyberspace* and *Deconstructing Web Pages Work Sheet*

## Procedure

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Assign note-takers to tally student responses on the board. Ask students the following questions:

- How many of you use the Internet for research and homework?



- How would you rank the Internet as a homework resource, compared to the school library, and public library? (**Point for comparison:** In MediaSmarts' *Young Canadians In A Wired World (YCWW)* survey, 44% of students turned to the Internet first as a source for homework, compared to 19% who would choose a public library and 16% who would choose a school library.)
- What are the advantages of the Internet over more traditional resources?
- What are the disadvantages?
- What is the difference between publishing material on the Internet, and publishing material in books? (*Traditional publishing incorporates a series of "gatekeepers" such as editors, proofreaders and fact checkers. On the Internet, authors can bypass these gatekeepers. As long as you have the technical know-how to create a Web page, you can publish your thoughts online.*)
- How much of the information you find on the Internet do you think is true and can be trusted - all of it; most of it; some of it; none of it. (**Point for comparison:** In the YCWW survey, 3% of students believed that all the information was true, 37% believed most to be true, 48% believed some to be true, and 6% believed none of it to be true.)
- Do you ever do anything to confirm that the information you have found online is true and can be trusted?
- For those of you who answered "yes," what do you do to check that the information you find on the Internet is reliable? (**Point for comparison:** In the YCWW survey, the most common responses were: check the author or source, 51%; judge for myself, 50%; ask a teacher, 47%; look the information up in a book or magazine, 39%; or check with a friend, 38%.)

It's important that all of us - adults and young people - to learn how to tell whether online information is accurate and trustworthy.

Distribute the student handout *The Five W's of Cyberspace* and review the main points with students.

### Activity

- Individually or in pairs, have students complete the *Deconstructing Web Pages Work Sheet*.
- Once students have been graded and returned, take up the answers as a class. (The teaching backgrounder *Deconstructing Web Pages* contains the answers to this assignment.)

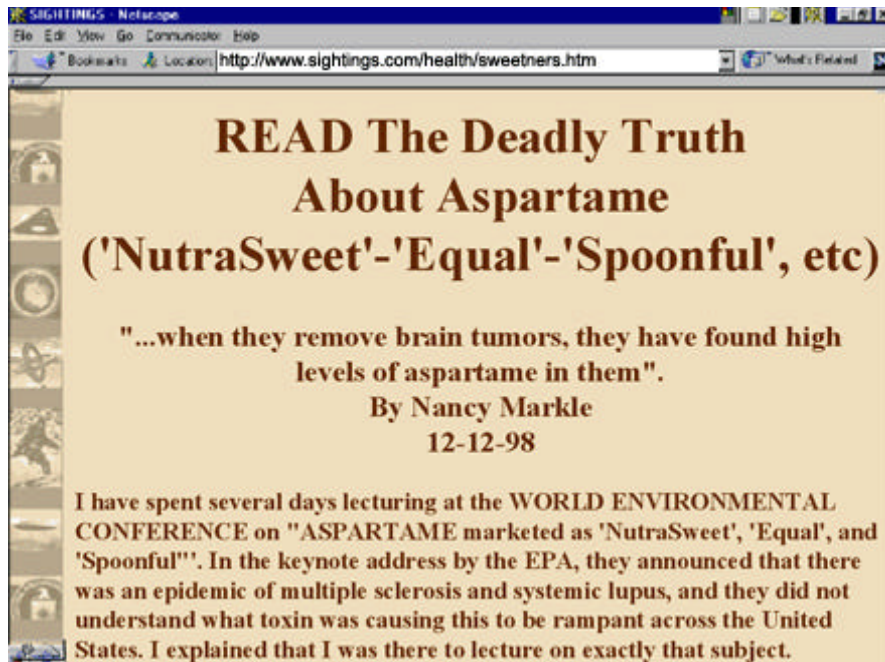
### Evaluation

Completed work sheets



## Deconstructing Web Pages

This exercise takes you step by step through the process of deconstructing a Web page in order to determine its credibility as a source of information. Imagine that you're a secondary student using the Internet to research a science project on the artificial sweetener, Aspartame. If the first response to your Web search is the page shown here, you might want to run to your kitchen and toss out that can of diet Coke.



[www.rense.com/health/sweetners.htm](http://www.rense.com/health/sweetners.htm)

This article is identified as a presentation made by a woman named Nancy Markle at the "World Environmental Conference and the Multiple Sclerosis Foundation F.D.A Issuing for Collusion with Monsanto on Aspartame." Ms. Markle quotes a number of experts who have discovered that:

- Aspartame is responsible for systemic lupus and methanol toxicity.
- Side effects include blindness, spasms, shooting pains, seizures, headaches, depression, anxiety, memory loss, birth defects.
- Many have died from Aspartame poisoning.
- A conspiracy between drug and chemical companies prevents this from being known.
- Government leaders and medical associations are oblivious to this danger.

Though these statements are passionate, further Web research is needed before accepting them as fact. Let's apply the *Five W's of Cyberspace*.



WHO

Who is Nancy Markle and WHO sponsored or attended the "World Environmental Conference on Aspartame?" Is information about the author and conference clearly stated or easy to access?



No contact or background information about the author or the conference she attended appears on this Web page. However, a Meta-Web information search can be used to dig a little deeper.



Using the search engine Google, a search for the name "Nancy Markle" brings up over 900 Web pages that refer to her.

From these results it becomes apparent that Nancy Markle is at the heart of an online Aspartame debate. The websites that turn up under a search for "Nancy Markle" either cite this article as proof that Aspartame is a health risk, or disagree with and refute Ms. Markle's claims.

The most surprising result of the search is that there is no Nancy Markle. It turns out that the original source of this "presentation" was actually a message posted to Usenet newsgroups by a woman named Betty Martini.

Betty Martini, who is not a medical professional, believes that there is a conspiracy between the industry creating Aspartame, and the American Food and Drug Administration. She has founded an organization called "Mission Possible International," whose website houses an archive of anti-Aspartame literature.

Information on the "World Environmental Conference on Aspartame" is also sketchy. If you search the Keynote Address archives of the American Environmental Protection Agency site — the organization that was supposed to have presented the keynote address at this conference — there is no reference to a conference by that name.



What are you getting? Is the information biased? Does the site use loaded language or make broad, unsubstantiated claims? Can the information be verified through other sources?

Let's check the statements made by Ms. Martini for bias.

*...people were jumping up during the lecture saying "I've got this [aspartame disease], is it reversible?"*

*...there are a lot of people out there who must be warned, \*please\* let them know this information.*

Betty Martini uses emotional language to persuade her audience and to create a sense of urgency about spreading this message to a largely unsuspecting public. She makes strong assertions, but does so using vague language and anonymous sources. She implies that:

Aspartame causes multiple sclerosis

*...During a visit to a hospice, a nurse said that six of her friends, who were heavy Diet Coke addicts, had all been diagnosed with MS. This is beyond coincidence.*

and that Aspartame causes diabetics to go into comas.



...People were telling us...that they had relatives that switched from saccharin to an aspartame product and how that relative had eventually gone into a coma.

It's important to note the information gaps in statements like these. This article contains an abundance of unsubstantiated, anecdotal information, but very little factual evidence to substantiate claims. Ms. Martini blames Aspartame for almost every illness known to mankind, including brain tumors, blindness and Alzheimer's disease. Yet she offers no links to medical studies that might support her claims.

A critical reader might wonder why, if Aspartame is responsible for so many serious health problems, the Canadian and American medical associations have not raised the alarm. Because she specifically mentions connections between Aspartame and multiple sclerosis, Alzheimer's disease and diabetes, it might be a good idea to see what these organizations have to say about this controversy.



CANADIAN  
DIABETES  
ASSOCIATION  
ASSOCIATION  
CANADIENNE  
DU DIABÈTE

The *Canadian Diabetes Association* says that "People with diabetes can use sweeteners available in Canada ... including Aspartame." They also make reference to Internet claims that "Aspartame is deadly for diabetics" and offer some "browser beware" tips for diabetics who are looking for information online.

The *Multiple Sclerosis Society of Canada* posts an alert on its site regarding this article, and asks visitors to note that:

- There has been no published, peer-reviewed research on Aspartame and multiple sclerosis which would support these claims, and
- There is no evidence of an MS "epidemic," as claimed in the document.



Multiple Sclerosis  
Society of Canada

Like the Canadian Diabetes Association, the Multiple Sclerosis Society also offers some pointers for judging if an Internet document or published article is credible. (The American Multiple Sclerosis Foundation goes one step further, and has posted a step-by-step rebuttal of Ms. Martini's allegations, written by their senior medical advisor.)



The *Alzheimer Society of Canada* makes no reference to Aspartame as a possible cause of Alzheimer's disease. When an email was sent to the Alzheimer site asking if they knew of any links between Aspartame and Alzheimer's a reply arrived the next day, saying that there were no known links between them.



When was this article posted? Is it current? Has it been updated?

Although the "What's" are certainly enough to make you question the information on this Web page, let's follow through on the other W's, to see what we come up with.

Questions surrounding the currency of this information also bring up some interesting points. The original Web page where this information was found was at, which dated the article December 12, 1998.



The Web page that attributes this document to Betty Martini, states that this document is "...a copy of an email Mrs. Martini had sent to a group of doctors following the 1995 World Environmental Conference," and that the original email had since been modified, and combined with other information.

This is confirmed by David Emery, from the Urban Legends and Folklore site, who includes a link to Betty Martini's original posting, on December 3, 1995.

This original email also solves part of the mystery surrounding the nature of the conference she attended. From this email, it appears that Ms. Markle was a presenter at a "World Environmental Conference," not a "World Environmental Conference on Aspartame and Multiple Sclerosis."



Where is this Web page located? What's the nature of the site? Is it a personal home page? Is it part of a medical site? The article talks about the link between Aspartame and Multiple Sclerosis, so is it part of the Multiple Sclerosis Foundation's website?

Where is this Web page located? The original page where we found this information about Aspartame was at [www.rense.com/health/sweetners.htm](http://www.rense.com/health/sweetners.htm). By paring this URL down to it's domain name, [www.rense.com/](http://www.rense.com/), we are able to learn more about the nature of the website hosting this information.



We discover that "rense.com" is the supporting Web page for the Jeff Rense radio show. Both the radio show and the website are dedicated to issues that don't make the mainstream news.

"From UFOs, ETs, abductions, alien implants, crop formations and the paranormal, to... the poisons in packaged food.... no interview program has a more consistently amazing content," says the website's introduction.

Interesting listening and reading to be sure, but not necessarily factual information.



Why would I use this site as a credible source of information? Can I verify the information I've found?



The question that remains to be asked, is WHY would we think this site is a credible source of information? In researching this topic, we've learned a number of things:

- First, there are individuals and organizations that believe Aspartame poses a health risk.
- Second, this belief is not shared by the medical profession at large and claims about the risks associated with Aspartame have not been clinically proven.

It's safe to assume that the individuals who believe that Aspartame is dangerous are sincere. It would also be accurate to use this website as an example of one side of the Aspartame debate. However, with no verifiable facts available to support the statements made by Ms. Martini, and a fair bit of confusion regarding the authorship and credibility of this article, it would be smart to pass on this Web page as an authoritative source of information.



## The Five W's of Cyberspace

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The old formula used by police, journalists, and researchers – Who, What, When, Where, Why, and How – can be applied in cyberspace to help identify credible online information sources.

KNOWING WHAT'S WHAT AND WHAT'S NOT  
THE 5 W'S (AND 1 H) OF CYBERSPACE

### Ask yourself:



**WHO** is the source of the information?

- Has someone taken responsibility for the content of this website?
- Is information about the author or organization clearly stated?
- Are there any links to in-depth information about the author or organization?
- Can you contact the company or author through a real world postal address or phone number?
- Can you confirm that the company or author is a credible, authoritative source of information?
- Can you verify the authority of any of the site's content that is attributed to other sources?
- Is the information biased in any way?
- Does the site rely on loaded language or broad, unsubstantiated statements?



**WHAT** are you getting?

- Is emotion used as a means of persuasion?
- Does the site offer more than one viewpoint?
- Are there links to other or alternative viewpoints?
- Does the site's information seem thorough and well organized?
- Does the site clearly state the topics it intends to address?
- Does it follow through on the information it has promised?
- Does the information seem complete and consistent?
- Is the information well written and easy to understand?
- Does the site offer a list of further in-depth resources or links to such resources?
- What is the copyright status of material found on the site?





## WHEN was the site created?

- Is it important that the information you're looking for be absolutely current?
- Is a reference date provided to show when the material was put online, or when it was last updated?
- Do the links work?



## WHERE are you?

Learn to deconstruct a Uniform Resource Locator (better known as a URL, or "site address"). Let's use the MediaSmarts URL as an example:

<http://www.mediasmarts.ca/teacher-resources/licensed-resources>

<http://www>.

The "http" notation indicates that this is a hypertext document (as most online documents are). The "www" is short form for "World Wide Web," where all websites reside.

[mediasmarts.ca](http://www.mediasmarts.ca)

The second part of a URL contains the domain name of the person or organization hosting the website – in this case, mediasmarts. The ".ca" which follows indicates that the site is hosted by a Canadian organization.

[teacher-resources/licensed-resources](http://www.mediasmarts.ca/teacher-resources/licensed-resources)

The last section maps out the pathway of directories and sub directories leading to the page you are on. For this particular page on the MediaSmarts site, "teacher-resources" indicates that you are in the section of the site that holds resources for teachers. The final URL entry ("licensed-resources") indicates the name of the page or document you have arrived at.

~ Sometimes you might see a "user" reference or tilde (~) symbol in a subdirectory, followed by a name. This indicates that you may be on a personal Web page that is hosted by an ISP (Internet Service Provider).



The type of organization behind a website can give some clues to its credibility.

- .gov** In the US, .gov applies to federal departments. In Canada, provincial governments use .gov followed by a provincial or territorial abbreviation and .ca.
- .gc** The federal government in Canada uses .gc in its domain name and in the domain names of many of its departments, such as Industry Canada and Canadian Heritage. However, some government websites, such as the Canadian Human Rights Commission ([www.chrc-ccdp.ca](http://www.chrc-ccdp.ca)), opt for just .ca.
- .ca** The Canadian Internet Registration Authority (CIRA) is the non-profit corporation responsible for overseeing and keeping a registry of the “.ca” Internet country code domain for Canada. Schools, educational organizations, libraries, museums, and some government departments may be registered under a 2-digit country-of-origin code, such as .ca, .uk or .au. However, it's important to remember that any Canadian organization can obtain a .ca domain.
- .edu** The United States originally created .edu to indicate American colleges and universities offering 4-year degree programs. Most Canadian universities tend to use .ca.

**.org   .com   .net**

Back in the early days of the Web, *.org* indicated a wide assortment of groups, including non-profit organizations; *.com* indicated commercial organizations; and *.net* was intended for organizations directly involved in Internet operations, such as Internet service providers.

Now, anyone can apply for and use these letters in their domain names. For example, the YWCA website in Oakville ends with *.com*, in Vancouver, it ends with *.org*; and in Montreal it ends with *.ca*.



**WHY** are you here?

Before you saddle up and ride out into cyberspace, it's a good idea to stop and consider whether or not the Internet is even the best place to go. Ask yourself:

- Can I get the information faster offline?
- Does the online material I'm finding suit



**HOW** can you tell what's what?

- When in doubt, doubt. Scepticism should be the rule of thumb on the Net.





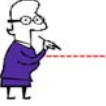

- Apply the *Five Ws* of cyberspace to the websites you visit.
- Double-check your facts and sources – and then check them some more!
- Use Meta-Web information searches to assess the credibility of websites. This can be done by entering the author's name into a search engine to conduct a quick background check. Or you can find which sites link to a specific site by going to a search engine and entering a "link": command in the "Search" box, followed by the page's URL.



## Deconstructing Web Pages Work Sheet

This exercise takes you step by step through the process of deconstructing a Web page in order to determine its credibility as a source of information.

Use these icons to guide your work:

	<b>Read and think about</b> what's being said
	<b>Search</b> for something on the World Wide Web
	<b>Record your findings.</b> Be specific!!
	<b>Stop, reflect and write!</b>



Imagine that you have to research a science project on the artificial sweetener, Aspartame. You come across an article identified as a presentation made by a woman named Nancy Markle at the "World Environmental Conference on Aspartame"



View the page at [www.rense.com/health/sweetners.htm](http://www.rense.com/health/sweetners.htm)



List 5 specific troubling effects of Aspartame mentioned by Ms. Markle:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_



What are you thinking about Aspartame right now?



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Though the statements by Ms. Markle are passionate, further Web research is needed before accepting them as fact...

Let's ask some questions...

Who?



*Who is Nancy Markle and who sponsored or attended the "World Environmental Conference on Aspartame?"*

*Is information about the author and conference clearly stated or easy to access?*

No contact or background information about the author or the conference she attended appears on this Web page. However, a web search can be used to dig a little deeper.



Using the search engine Google, **search** for the name "Nancy Markle."

**Visit** several of the resulting sites.



**List** several key points of information you discovered about Nancy Markle:

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Information on the 1995 "World Environmental Conference on Aspartame" is also sketchy.

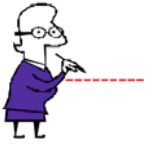


Search for information on where this 1995 conference took place.

Also, in the beginning of the speech, Nancy Markle says that "In the keynote address by the EPA..."

*Who delivered the EPA's [Environmental Protection Agency] Keynote address at this conference?*





What did you discover?

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## What?



*What are you getting?*

*Is the information biased?*

*Does the site use loaded language or make broad, unsubstantiated claims?*

*Can the information be verified through other sources?*

### Let's check the statements made by Ms. Markle for bias...

*"...there are a lot of people out there who must be warned, \*please\* let them know this information."*

*"...people were jumping up during the lecture saying "I've got this [aspartame disease], is it reversible?"*

**The speaker uses emotional language to persuade her audience and to create a sense of urgency about spreading this message to a largely unsuspecting public. She makes strong assertions, but does so using vague language and anonymous sources. She implies that:**

#### 1. Aspartame causes multiple sclerosis

*"...During a visit to a hospice, a nurse said that six of her friends, who were heavy Diet Coke addicts, had all been diagnosed with MS. This is beyond coincidence."*

#### 2. Aspartame causes diabetics to go into comas.

*"...People were telling us...that they had relatives that switched from saccharin to an aspartame product and how that relative had eventually gone into a coma."*

**It's important to note the information gaps in statements like these. This article contains an abundance of unsubstantiated, anecdotal information, but very little factual evidence to substantiate claims.**

**Ms. Martini blames Aspartame for almost every illness known to mankind, including brain tumors, blindness and Alzheimer's disease. Yet she offers no links to medical studies that might support her claims.**



*A critical reader might wonder why, if Aspartame is responsible for so many serious health problems, American medical associations have not raised the alarm.*

*Because she specifically mentions connections between Aspartame and Multiple Sclerosis, Alzheimer's disease and diabetes, it might be a good idea to see what these organizations have to say about this controversy.*





Visit these organization websites and **record** what they have to say about the aspartame connection.



<b>Alzheimer Association</b> <a href="http://www.alz.org/media/understanding/fact/myths.htm">http://www.alz.org/media/understanding/fact/myths.htm</a>	
<b>The American Diabetes Association</b> <a href="http://www.diabetes.org/main/community/forecast/pg23.jsp">http://www.diabetes.org/main/community/forecast/pg23.jsp</a>	
<b>Multiple Sclerosis Society</b> <a href="http://www.nationalmssociety.org/headlines-aspartame.asp">http://www.nationalmssociety.org/headlines-aspartame.asp</a>	
<b>Food and Drug Administration</b> <a href="http://www.cfsan.fda.gov/~dms/qa-adf9.html">http://www.cfsan.fda.gov/~dms/qa-adf9.html</a>	

**When?**



*When was this article posted?*

*Is it current?*

*Has it been updated?*

Although the “What’s” are certainly enough to make you question the information on this Web page, let’s follow through on the other W’s, to see what we come up with.

Questions surrounding the currency of this information also bring up some interesting points.



Visit the original Web page where this information was found was at <http://www.rense.com/health/sweetners.htm>



When was this message posted?

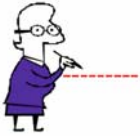
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Further investigation shows that this document is “...a copy of an email sent to a group of doctors following the 1995 World Environmental Conference,” and that the original email had since been modified, and combined with other information.

View the original email at <http://www.dorway.com/betty/environ.txt>



When was this message posted?

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Why is knowing the date of the information important?

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### Where?



*Where is this Web page located? What's the nature of the site? Is it a personal home page?*

*Is it part of a medical site?*

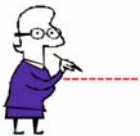
*The article talks about the link between Aspartame and Multiple Sclerosis, so is it part of the Multiple Sclerosis Foundation's website?*

**Where is this Web page located? The original page where we found this information about Aspartame was at <http://www.rense.com/health/sweetners.htm>**



Pare this URL down to its base: <http://www.rense.com/> to learn more about the nature of the website hosting this information.

What did you discover?




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### Why?



*Why would I use this site as a credible source of information?*

*Can I verify the information I've found?*

*The question that remains to be asked, is WHY would we think this site is a credible source of information?*



**In researching this topic, we've learned a number of things:**

- First, there are individuals and organizations that believe Aspartame poses a health risk.
- Second, this belief is not shared by the medical profession at large and, claims about the risks associated with Aspartame have not been clinically proven.

*Remember that your project was to research a science project on the artificial sweetener, Aspartame.*



**It's safe to assume that the individuals who believe that Aspartame is dangerous are sincere.**

**It would also be accurate to use this website as an example of one side of the Aspartame debate.**

**Look through this packet again. Summarize the main reasons this website might not be the 'best' source of information on the topic.**

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Adapted by Information Literacy teacher Heidi Erstad, of Eisenhower Middle School in New Berlin, WI, from MediaSmarts' "Getting the Goods: Deconstructing Web Pages" tip sheet.

