



# Workshop Leader's Guide

## Week Six Workshop

### *Internet Searching Strategies and Resources*

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# The Savvy Cyber Teacher®

*Using the Internet Effectively in the K12 Classroom*



## Trainer's Checklist



### Training Responsibilities

As a Mentor Teacher in the Alliance+ Project your responsibilities include:

1. Registering and updating your own contact information in the DataFeed System 2.0.
2. Registering your course schedule in the DataFeed System 2.0.
3. Having your Mentee Teachers register with the DataFeed System 2.0.
4. Administering and collecting Baseline and Post Surveys as well as any other evaluation data that is requested.
5. Preparing for each workshop prior to the event. This includes reading the Trainer's Overview and preparing your Presentation Aides.
6. Monitoring the trainer's listserv for important updates and changes.
7. Attending all local training meetings.



### Training Rundown

Be sure to address the following prior to the first workshop:

- 1. You will need access to a computer training lab with the following:**
  - One computer for each participant with high speed Internet access.
  - Internet Explorer (3.0 or greater) or Netscape Navigator (3.0 or greater) software.
  - PowerPoint Software (if you do not want to use online PowerPoint slides).
  - Presentation Computer connected to projection device.
- 2. Be sure to complete the following prior to the Workshop:**
  - Spend **1 hour** prior to the workshop and review the Agenda and the Trainer's Overview.
  - Arrive at computer lab at least **30 minutes** prior to the workshop and prepare the presentation computer with the Week Six PowerPoint slides.
- 3. You should make sure you have the following materials:**
  - Workshop Leader's Guide
  - Sign-in sheet

**Contact Your Local Project Coordinator If You Need Assistance**

# The Savvy Cyber Teacher®

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## Trainer's Benchmarks

### Overall Workshop Objectives

As a result of this three-hour hands-on workshop, participants will be able to:

1. Conduct an effective search on the Internet choosing appropriately among search engines, meta search engines, directories, and subject guides to find resources, information, and data.
2. Determine when to use the Internet to search for information and when to use other more traditional research tools such as those available in a library.
3. Know how to evaluate and cite web resources and how to conduct "safe" searches with students.
4. Recognize issues of plagiarism and be able to select the tools and resources needed to address this issue.

### Getting Started

#### Introduction & Workshop Overview

After completing this portion of the workshop, participants should be able to:

1. Describe the results of Week Five's Reinforcement Activity.
2. Explain what will be covered in this workshop.

### Searching the Internet for Information

#### Activity 1: Surfing Searching Safari

After completing this portion of the workshop, participants should be able to:

1. Conduct a rudimentary search for information on the Internet.
2. Identify the basic differences among four different types of Internet searching tools; subject guides, directories, search engines, and meta-search engines.

#### Internet Search Tools Interactive Teacher Presentation

After completing this portion of the workshop, participants should be able to:

1. Describe the advantages and disadvantages of each searching tool.
2. Compare and contrast from first-hand experience the similarities and differences among the various Internet search tools.

## Formulating a Searching Strategy with Students

After completing this portion of the workshop, participants should be able to:

1. Explain when to use the Internet to search for information.
2. Describe how to conduct an effective search on the Internet using a series of recommended steps to narrow down a topic.

## Selecting the Best Informational Resources

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### Activity 2: Selecting the Best Informational Resource

After completing this portion of the workshop, participants should be able to:

1. Identify from first-hand experience when it is more appropriate to use traditional resources like those available from a library or those available from the Internet.
2. Describe how to use keywords to conduct a search on the Internet.
3. Select and use various Internet search tools depending on the type of information needed.

## Related Searching Concepts: Internet Pitfalls

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### Activity 3: Evaluating Web Resources

After completing this portion of the workshop, participants should be able to:

1. Describe various strategies to conduct safe searching in the classroom.
2. Explain how to evaluate the validity of a web page based on its content, and why it is necessary.

### Activity 4: Recognizing Plagiarism

After completing this portion of the workshop, participants should be able to:

1. Recognize plagiarized material on the Internet.
2. Explain how to cite a resource retrieved from the Internet, and why it is necessary.

## Week Six Reinforcement Activity

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After completing this portion of the workshop, participants should be able to:

1. Recognize quality ways to use and organize websites for the classroom.
2. Explain how students can use websites effectively in the classroom.

# The Savvy Cyber Teacher®

*Using the Internet Effectively in the K12 Classroom*



## Week Six Workshop Agenda

### *Internet Searching Strategies and Resources*

	TIME (min.)
<b>Getting Started</b>	
Introduction & Workshop Overview - <i>Slides</i> .....	10
<b>Searching the Internet for Information</b>	
Activity 1: Surfing Searching Safari – <i>Web</i> .....	35
Internet Search Tools Interactive Teacher Presentation – <i>Slides/Discussion</i> .....	30
Formulating a Searching Strategy with Students – <i>Slides/Discussion</i> .....	10
<b>BREAK</b> .....	10
<b>Selecting the Best Informational Resource</b>	
Activity 2: Selecting the Best Informational Resource – <i>Web/Slides</i> .....	35
<b>Related Searching Concepts: Internet Pitfalls</b>	
Activity 3: Evaluating Web Resources – <i>Slides/Web</i> .....	20
Activity 4: Recognizing Plagiarism – <i>Slides/Web</i> .....	15
<b>Week Six Workshop Evaluation</b> .....	5
<b>Week Six Reinforcement Activity</b> .....	10
<b><u>Savvy Cyber Teacher® Workshop Training Web Page</u></b> <b><u><a href="http://www.k12science.org/cyberteacher">http://www.k12science.org/cyberteacher</a></u></b>	

**Backup\* Workshop Training Web Page**  
**<http://www.k12science2.org/cyberteacher>**

\* Only use the backup web site if the primary site is unavailable or experiencing technical problems.

# The Savvy Cyber Teacher®

*Using the Internet Effectively in the K12 Classroom*



## Week Six Trainer's Overview Internet Searching Strategies and Resources

### Getting Started

As a general rule, you should plan on arriving to the training facility at least 30 minutes prior to the start of the workshop. When you arrive, turn on all of the computers, log into the network (if necessary) and open/run the web browser software (Internet Explorer or Netscape Navigator) you will be using. Then, put out your sign-in sheet and distribute any additional handouts.

#### **Introduction & Workshop Overview** (10 minutes)

You should begin the workshop by displaying the first PowerPoint slide (#1) and welcome the participants to Week Six of the Savvy Cyber Teacher® Course offered through the Alliance+ Project. Take about five minutes to review the Reinforcement Activity from Week Five which was for participants to select a project to use in their classrooms. Use this time to identify teachers who did not email this information or who need to choose a different project.

**Slide 1**

Using the next PowerPoint slide (#2), introduce the day's workshop, *Internet Searching Strategies and Resources*. This workshop will focus on using search engines and other Internet search tools to find resources, information and data on the Internet. Many of the participants may already feel quite comfortable with this topic since the majority of educators already use the Internet as an information retrieval and research tool. However, this workshop will introduce many Internet search tools that participants may not know of as well as some effective Internet searching strategies. Most importantly, this workshop includes activities and handouts that participants can use with their own students. Blank copies of the handouts are also linked on the workshop web page.

**Slide 2**

After introducing the workshop's topic, you should use the next PowerPoint slide (#3) to review the agenda. At this time, participants can open their Participant Handbook to Week Six and look at the agenda while you cover it using the slide. During the first half of the workshop, participants will learn about and explore a variety of searching tools, including search engines, meta-search engines, directories, and subject-guides. Participants will also be introduced to some searching strategies to help them narrow down or broaden their searches.

**Slide 3**

After a break, participants will engage in a critical thinking exercise to determine and discuss the best informational resource based on the type of information they need to look-up. The workshop will then conclude with activities covering classroom implementation issues, such as safe searching, Internet plagiarism, and evaluating and citing Internet resources. This section will be particularly relevant to teachers who are having students search and use Internet resources in classroom research projects. At the end of the workshop, participants will complete an online evaluation form and will be provided with a Reinforcement Activity to be completed outside of the workshop.

## Searching the Internet for Information

### **Activity 1: Surfing Searching Safari** (35 minutes)

Instead of beginning the workshop by describing the various Internet search tools in depth, participants will have the opportunity to jump on the Internet and use them first-hand in a cooperative group activity. After they have gained some experience with them, they will then be able to identify the advantages and disadvantages of each tool.

You should begin by having the participants take out **Handout 1: Surfing Searching Safari**. Explain to participants that this activity was designed to be a cooperative group activity that participants could take back and use with their students. In a classroom situation, ideally student groups would be engaged in a searching safari to help find Internet resources for an assigned group project. However, in this training environment, it is difficult to perfectly simulate that scenario, since cooperative groups of teachers are not going to be able to work together on a research assignment in real life. So, the cooperative groups formulated for this session will need to come to some consensus on what they will search for based on the interests or needs of one or several of the group members. **And they need to keep in mind that the hand-out was written with student teams in mind.**

Handout 1

Participants should access the Savvy Cyber Teacher® Week Six High School workshop web page (<http://www.k12science.org/cyberteacher/> and click on the High School Version and then “Week Six”). At this point, participants should break into their assigned cooperative groups and access the *eHat* program on the Week Six web page in order to obtain their roles. Once roles are assigned, have participants begin brainstorming and selecting a classroom lesson that a group member intends to teach in the near future. If the group is having a hard time thinking of a topic, have them refer to the topic suggestion table on the handout. Once selected, have the groups identify and write down in the space provided on the handout several resources they can use to enrich the lesson. They will have approximately 10 minutes to identify the resources they will search for.

Explain to participants that their groups will be responsible for searching and finding information on their chosen topic using four different types of search tools. In each team, there should be at least one surfer/recorder pair who will be primarily responsible for doing the research and writing down what they find. Ideally, there will be two surfer/reporter teams working in each group, and groups will be able to divide and conquer the different Internet search tools.

After they have identified the resources that they plan to look for, they will access the Week Six Workshop web page and click on *Activity 1: Surfing Searching Safari* (all of these instructions are also described in **Handout 1**). This web page contains links to four different Internet search tools: search engines, directories, meta-search engines, and a subject guide, along with back-up sites for each search tool.

From this page, surfer/reporter teams will have 20 minutes to use the links provided on the web site to search for information and resources about their selected topic. As they explore, they will also be responsible for writing down some of the pros and cons of each type of search tool. They will use the table in the participant workbook to take notes on their findings.

You should walk around the room while the participants are searching for information and answer any questions. While the participants search for information, it is important that you share with them that many people often get very frustrated when trying to search for specific pieces of information. Even "expert" searchers can get bogged down for hours searching for particular pieces of information, and sometimes come up empty-handed.

### **Internet Search Tools Interactive Teacher Presentation** (30 minutes)

Participants should now have a general idea about Internet Searching tools. You should return to the PowerPoint presentation and bring up slide (#4) to remind participants about the search tools they just used.

**Slide 4**

The next 30 minutes will be spent synthesizing the information that the groups found through an interactive discussion. Explain to the participants that each type of tool lends itself to a certain type of search so it is a good idea to thoroughly understand each category and to use several different tools to track down the information. Tell the group that they will now engage in an interactive discussion to further highlight how the types of tools differ, and the pros and cons of each one.

Have each group spend 10 minutes preparing for the interactive discussion by filling in their complete table on the four search engines. The reporter of each group should lead this group activity to make sure he/she knows and

understands what the surfing teams found in terms of resources, and the pros and cons of each tool.

After the teams have had 10 minutes to synthesize their findings, begin by mentioning that due to the ever-changing and dynamic nature of the Internet, different organizations, references, and experts use different terms to describe essentially the same searching tool. Therefore, participants should not be surprised to find another organization classify essentially the same tool using a different name. Additionally, mention that this problem is compounded by the fact that the various types of search tools that were once distinctly different from one another are beginning to merge together to form new hybrids that combine the best of both tools.

Explain to the participants that they will now share what they found about each type of search tool during the previous activity.

Show the slide for the first tool. These slides are set up so that only the name of the search tool and the words “Pro” and “Con” are listed on the slide when you launch it. The goal is to fill out the information on the slide by getting input from group reporters on the search tools’ functionality. If you do not feel comfortable typing in the participants’ suggestions on the blank slides or if you are using the online version of the slides, you can just use the blank slides as a cue for a short discussion based on the reporters’ feedback. Note that when you click the mouse button to go to the next slide, the information on the search tool will be filled in. So you should start by soliciting information, and then follow up by clicking the mouse to the filled in slide.

For each type of search tool, solicit information from one or two of the group reporters. Ask the group reporters to give you some background on what the group was searching for, what they found, and the problems and benefits they found with a search engine. Use the slides as a guide as you work your way through each search tool. After you solicit information, and enter comments on the blank slide, reveal the information on the follow-up slide as a wrap up.

### Subject Guides

Using the next PowerPoint slide (#5), solicit feedback from group reporters on Subject Guides – their experience with them and the pros and cons they found. After soliciting feedback from group reporters, you should reveal the next slide (#6) and comment on any points below that have not emerged through the discussion.

**Slides 5  
& 6**

Subject Guides are the hardest to define because they vary in size and scope. Humans select, evaluate, and catalog subject-related resources in a format similar to a library card catalog. Therefore, the user does not need to perform an open-ended search using a search engine. Subject Guides also tend to be focus

on one subject, as in the case of Exploratorium that categorizes science-related web sites and materials.

Explain that these tools can save a lot of searching time and should be used whenever they exist for a specific topic. For instance, the organization that produces Exploratorium has been searching the Internet for valuable educational web sites for several years now. Mention that anyone looking for valuable sites, particularly in the area of science, should start there. Another advantage of Subject Guides is that each site is selected, evaluated, and categorized by humans.

Explain that due to their nature, Subject Guides contain a limited number of web sites, albeit high quality web sites, which therefore can make it difficult to locate specific topics. Nevertheless, Subject Guides are a good place to begin a search on the Internet for information because if the information is there, you can be relatively sure that the information is of good quality.

### Directories

Using the next PowerPoint slide (#7), solicit feedback from group reporters on Directories – their experience with them and the pros and cons they found. After soliciting feedback from group reporters, reveal the next slide (#8) and comment on any points below that have not emerged through the discussion.

**Slides 7  
& 8**

Directories place websites into various subject-based categories for easy browsing. These search tools differ from subject guides in that they tend to index a variety of topics and subjects and are therefore much larger. For example, Yahoo!® contains links to virtually every topic available on the web, while Exploratorium selects only science-related sites.

Explain that a directory is not a search engine, although there is some overlap. Some directories, as in the case of Yahoo!® allow users to either surf through their topic categories or enter in a keyword to search all of the resources in the directory. Because of these search capabilities, many people confuse them with Search Engines. Also, some directories, like Yahoo!®, send any search it can't find to a search engine, so it often appears as if Yahoo!® is working as a search engine.

Explain to the participants that directories are best used when doing general searches or exploring a topic that you know little about. Since they are well organized, browsing through their categories rather than using their search function is a good place to start. They may also help to identify keywords for a search engine. You should also mention that they are not good for doing in-depth searches or if the participants are trying to find obscure resources (e.g. the flight speed of a North American swallow).

## Search Engines

Using the next slide (#9), solicit feedback from group reporters on Search Engines – their experience with them and the pros and cons they found. After soliciting feedback from group reporters, reveal the next slide (#10) and comment on any points below that have not emerged through the discussion.

**Slides 9  
& 10**

Perhaps the most popular Internet searching resources, search engines send out programs called "spiders" or "robots" (sometimes just called "bots") that read and catalog much of the web by scanning the various parts of web pages (e.g. title, URL, text, etc.). These programs then create large indexes of data that you can then search via the search engine's web page by entering keywords, much as you would with an electronic card catalog. The result of the search is a long list of web pages (sometimes several hundred thousand) that contain related resources of the desired information.

Search engines do NOT perform "live" searches of the entire Internet every time a keyword is entered. Instead, they only search the database they have created using the "spiders". Automated processes update these databases frequently so they contain the most current information. Therefore, just because a web page exists does not mean that a search engine will locate it; it must already be a part of the search engine's database.

Additionally, there are many different search engines available on the Internet today. Each is owned by a different company and set up in its own unique fashion. As a result, all search engines create their databases differently, conduct their searches differently, and display their search results differently. This means that the search results from one search engine may be completely different than the results from another engine, even when the same terms are used. This also means that the resources listed first in your search results may or may not be better resources than those listed further down in the results. Because of these differences, each person tends to prefer a different engine

The most significant difference between search engines and directories is that the "spider" programs rather than humans are responsible for selecting the web pages. As a result of this automated process, search engines are able to search hundreds of thousands more web sites than subject guides or directories, and contain information about a larger variety of topics. Therefore, search engines work best for specific questions or in-depth research. However, since the web pages are not selected and evaluated by actual humans, it may be difficult to narrow down a topic due to the large amount of search results. Also, the quality of the sites is not consistent.

You should briefly mention that search engines accept a range of different "search operators" (e.g. Boolean operators such as "OR", "AND", "NOT", etc.) to

narrow down a search. This topic will be covered more extensively later in the workshop.

### Meta-Search Engines

Using the next slide (#11), solicit feedback from group reporters on Meta-Search Engines – their experience with them and the pros and cons they found. After soliciting feedback from group reporters, reveal the next slide (#12) and comment on any points below that have not emerged through the discussion.

**Slides  
11 & 12**

Meta-Search Engines search the databases of many search engines at once in much the same way a search engine searches many web pages. They then compare the results of the various search engines and display them with a unique ranking system depending on the meta-search engine. It is similar to a search engine in that the user submits keywords and it displays a list of relevant web pages. However, unlike a regular search engine, meta-search engines do not own a database of web pages. Instead, they send the keywords to other search engines that maintain individual databases.

A meta-search engine's strength lies in the fact that it searches many search engines at once, often searching many overlooked search engines. Since they search many sources, they also tend to be good for first searches. Its strength is also its weakness. Because these engines only spend a short amount of time searching in each of the individual databases, they can often overlook many web pages. Therefore, while valuable for a first pass, they lack the power of the best search engines for more serious and in-depth research.

### Alternative Search Methods

As a wrap up to the search tool discussion, refer participants to **Handout 2: Alternative Search Tools** for a list of specialized search engines and alternative search methods that they may want to try when searching for something specific. You will not have time to review the hand-out in detail, but make sure you cover the key points.

**Handout 2**

As a final tip, you should tell the participants to return to the Savvy Cyber Teacher® Week Six Workshop web page and click on the *CIESE Recommended Internet Search Tools* link. This web page contains many examples of Internet searching tools selected and recommended by the CIESE staff at Stevens Institute of Technology and divided into the categories they just explored, so this is an excellent place to start a new search.

## Formulating a Searching Strategy with Students (10 minutes)

Slide 13

You should bring up the next PowerPoint slide (#13) and begin by explaining that 95% of classroom teachers who use the Internet with their students use it to have students search for information; but research has shown that this is one of the least effective ways to integrate the Internet into the classroom for reasons that have already been discussed: (1) searching is difficult; (2) searching is time consuming; and (3) searching can send students and teachers on a wild goose chase that eventually can lead to inappropriate and inaccurate information. The participants may be somewhat skeptical at first because most people think of the Internet as the world's largest library and thus see "information retrieval" as its primary function.

*One of the goals of the workshop is to dispel this myth and teach the participants when it is appropriate to search the Internet for information and when it is not. You may want to tie this into the underlying focus of the Savvy Cyber Teacher® course, which is a focus on the "unique and compelling" uses of the Internet. Clearly, using the Internet as a pure research tool is not one of its most "compelling" uses although there is value in searching for information on the Internet and there are times when the Internet can supply you with extremely valuable information which may be impossible to find elsewhere.*

Ask participants to consider the questions on the slide, and to have their students do so as well. before going to the Internet each time they need to search for information. You should review the questions with the participants and discuss the reasoning behind each question:

- *Is it important to get the most up-to-date information?* – You should really emphasize that getting up-to-date information and real time data is one of the strengths of the Internet, because that type of information is not typically available through traditional research channels. But sometimes it still helps to check the library first and then hit the Internet. For example, you may want to know the current cost of a plantain banana fruit from the Dominican Republic. If you first went to the library you might learn quickly that the Dominican Association of Plantain Banana Fruit Growers sets the price for the fruit. You could then go quickly to the Internet and find the web site for the association and get the current price.
- *What are some keywords or phrases associated with the topic?* - Often the key to a successful search on the Internet is knowing what keywords or phrases to use. You should mention that it can be very helpful to first research the topic using more traditional resources in order to develop a working vocabulary about the topic and create a detailed list of keywords.

- *Is there sufficient time to complete a search?* – You should tell the participants that searching on the Internet is a time-intensive task and often takes hours to find the information or resource you want. If you only have ten minutes to search for something, it can be a waste of time to try and use the Internet. Instead, try to set aside a reasonable block of time when you are doing Internet searches. Mention that it is wise to keep this in mind when having students use the Internet for research. Often one class period is not enough time to accomplish much.
- *Where might it be located on the Internet?* – Tell the participants that it is often helpful to have an idea where the resource or information might be located before beginning a search. For example, you might be looking for information on how long it took Shakespeare to write MacBeth. You also know of a site that is run by the American Shakespeare Lovers Association (ASLA), but you have never been to it. You could save a lot of time by going to the ASLA site first and surfing around it for the answers. Even if the site does not contain the information you are looking for, it might have links to other sites that do.
- *Is the information easier to locate in a library or other traditional resource?* - People often jump first to the Internet without thinking of using other resources that might be quicker and easier. For example, if you wanted to find the population of Mexico, it would probably be easier and faster to go to an Almanac than to the Internet. The Almanac will be easy and fast to use and the answer is reliable. The Internet, on the other hand, might take a while to find the answer and it would probably display several different answers that could be difficult to confirm.

As a follow-up, refer to **Handout 3: Six Steps to Successful Searching** which is designed to be used with students. The handout presents an overview of the steps involved when using the Internet as an Informational Resource.

**Handout 3**

Due to time, you will not be able to go through this handout thoroughly, but let participants know that there are some very important tips on the handout that may be particularly useful when searching with students. Particularly useful are the Boolean operators which can greatly help in narrowing down searches.

## **BREAK** (10 minutes)

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Participants should take a 10-minute break.

## Selecting the Best Informational Resource

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### Activity 2: Selecting the Best Informational Resource (35 minutes)

Have participants take out **Handout 4: Selecting the Best Informational Resource**. This cooperative group activity will give participants the opportunity to reflect on when it is best to use the Internet and when the library is a better research choice. It will also give them more practice using the various search tools. In this activity, participants will be given a list of factual questions. For each question, they will determine a typical library resource and a selected Internet search tool they could use to answer the question. Participants will also write several keywords to use for searching on the Internet.

Handout 4

By the end of this activity, participants will be able to identify when it is more appropriate to use traditional resources like those available from a library, and when using the Internet might be better when conducting research or looking for information. Participants will also gain first-hand experience searching the Internet for different types of information and using a variety of Internet search tools.

Participants should break into their assigned cooperative groups and access the eHat program on the Week Six Workshop web page in order to obtain their roles. Review the directions with participants.

**IMPORTANT:** The questions should be divided among the group members. Tell the participants to spend no more than a couple of minutes trying to answer any particular question, because the purpose of this activity is not necessarily to locate all of the answers, but rather to practice using a variety of search tools and to decide when using the Internet to search for information is the most appropriate tool.

After reviewing the directions, ask if anyone has any questions. You should then have them return to the Week Six Workshop web page and use the list of categorized web sites that they used earlier by clicking on the *CIESE Recommended Internet Search Tools* link. Give the participants approximately 15 minutes to surf for the answers in their cooperative groups.

**Answers** as well as the recommended search tools for each question are located at: [http://www.k12science.org/tutorials/safari/hs\\_handout4.htm](http://www.k12science.org/tutorials/safari/hs_handout4.htm) This site is NOT linked to the Week Six Workshop web page so participants will not look there for the answers. However, you could distribute this URL after the participants have completed this activity. You should review this site before the workshop and can use it after participants have completed this activity.

After the allotted surfing time, have participants work on answering the following questions in their cooperative groups. The questions are also located in the Participant Handbook. While discussing each of the questions, you can use the website to display the answers and the search tools used.

➔ [http://www.k12science.org/tutorials/safari/hs\\_handout4.htm](http://www.k12science.org/tutorials/safari/hs_handout4.htm)

- What type of searching was the easiest?
- What type of searching was the most frustrating?
- Were there certain types of information that seemed easier to find on the Internet? Were there some that *required* looking on the Internet?
- Did you question the source of information for any of the resources you found on the Internet?
- Were there certain types of information that seemed easier to find using traditional resources?
- As a teacher, how could you use what you just learned to facilitate student research with the Internet?

After participants have answered the questions in groups, time permitting, you can write down some of the conclusions that the group determines on a large piece of paper or in an open Word or PowerPoint document on the presentation computer in the front of the class and then distribute it either electronically via e-mail or on paper for the next workshop. The benefit of recording the comments from the presentation is that it will help the participants synthesize what has already been said, to reduce repetition, and so they can notice trends.

You can use the next PowerPoint slide (#14) to help wrap up the discussion. The following is information that should come out of discussion:

**Slide 14**

- The Internet is a good resource when looking for real-time, up-to-date information.
- The Internet is a good resource for finding information that isn't readily available in a standard school library (e.g. top grossing movie in past weekend).
- Resources from a library are evaluated by professionals and are therefore more trustworthy than those found on some web sites on the Internet.
- Library resources can often be faster and more reliable when it comes to finding information.
- Directories and Subject Guides are often more productive and effective ways of finding information on the Internet.
- Having students do Internet searches is a big drain on class time and is not always the most productive way to do research.

By the end of this discussion, participants should be able to explain in their own words how to conduct an effective search for information and where to look for information.

## Related Searching Concepts – Internet Pitfalls

This last section covers some related concepts to searching the Internet as an informational resource. These remaining topics are as important as the other material covered in this workshop but were saved until now to give participants sufficient experience using Internet search tools. You will have a total of 35 minutes to let the participants go through two surfing scenarios around these very important topics (which they can then take back and use with their students) and to cover the related slides. You will close the workshop by introducing the Reinforcement activity and having the participants complete the online evaluation.

### **Activity 3: Evaluating Web Resources** (20 minutes)

Bring up the next PowerPoint slide (#15). Explain to the participants that when students use the Internet for research and spend time performing open-ended searches, it can lead to potential problems concerning Internet Safety. Often students will simply accidentally access these materials by using a keyword that has several meanings. For example, students might type in "Oklahoma city bombing" and end up finding information on how to make a bomb or type in "teenage activities" and find adult materials. Even if students are using legitimate terms for their searches (e.g. Sexually Transmitted Disease), they might still find inappropriate material in their search results.

**Slide 15**

Explain to the participants that because of this, it is vital that they implement Internet safety measures when conducting research on the Internet. Perhaps the best strategy is to implement an appropriate use policy and to discuss appropriate and inappropriate web sites and uses of the Internet in school with the students at the beginning of year. Additionally, it is also highly recommended that there be adult supervision and/or Internet safety software when students are using the Internet, especially when performing open-ended research. For younger children, other strategies include restricting access to certain child-friendly search engines, like yahooligans (yahooligans.com) and Ask Jeeves for kids (ajkids.com). Mention that a new feature that several searching tools are beginning to make available are filters that block out inappropriate or adult-oriented sites, sometimes called a "family filter" in the case of Google. Tell the participants that when they refer to the help or advanced features file, they should investigate to see if the site offers a filter. Make sure to mention that filters are not perfect, and inappropriate sites can still slip through. Let participants know that there will be more information on safe searching in Week Seven.

Although it is very easy to find information on the Internet, it is not always very easy to find quality information. Using the next PowerPoint slide (#16), explain to the participants that they should be even more careful about

**Slide 16**

evaluating the results of the searches and the sources of the information. Since anyone can publish on the Internet, it is hard to know if the source is reliable. If the Internet is being used for an important project, each source should be carefully investigated. You should also mention that it is very important that students understand this point and be required to confirm the source of any information taken from the web. The following are questions listed on the slide for participants to use when evaluating a resource:

- Is an author listed? What are the credentials of the author?
- Is there bias or commercial interest?
- Is there an organization associated with the web site?
- How current is the information?

After presenting this slide, have participants click on the link to *Activity 3: Evaluating Web Resources* on the Week Six Workshop web page and take out **Handout 5: Evaluating Web Resources**. Have participants review the two websites in one row of the table, either the websites about animals or the websites about gasses. After reviewing the two websites, they should decide which is legitimate and which is phony and take some notes on the handout with how they made their assessment. They can use the criteria listed at the bottom of handout #5 to help them evaluate the sites. Follow up the activity with a brief discussion (have one or two people share their ideas) about what teachers and students can do to be more confident of the veracity of a website (Carbon Monoxide and Mountain Lion Sites are legitimate. The other two are phony).

**Handout 5**

#### **Activity 4: Recognizing Plagiarism** (15 minutes)

After completing this activity, present to the participants another pitfall of the Internet: plagiarism, by bringing up the next PowerPoint slide (#17). Explain that there are two different types of plagiarism that occur in classrooms: purposeful and non-purposeful. Purposeful plagiarism is when students intentionally “buy” term papers off the Internet at sites like *academictermpapers.com*. When students do this, they are knowingly violating copyright laws and should be punished for such behavior. The other type of plagiarism is when students copy directly from the Internet, because they do not realize it is wrong to do so. Such behavior is also a violation of copyright laws and should be handled by training students on how to do proper research.

**Slide 17**

Show the next slide (#18) and review the dead giveaways that may alert a teacher that plagiarism has taken place.

**Slide 18**

Then turn to the next slide (#19). In order to catch a student who is knowingly buying a paper, a teacher would want to use a tool, such as *turnitin.com* or *plagiarism.com*, to do a search for a paper. While referring to this slide, have participants refer back to Activity 4: Recognizing Plagiarism on the Week Six

**Slide 19**

Workshop web page. There they will see a link to the turnitin.com website that they can sign onto for a free trial if they are interested. These sites try to keep a database of all the sites that provide free term papers, thereby giving teachers a way to check whether or not students are doing original work.

In order to catch a student who is unknowingly plagiarizing, Google's exact match search works very well. From the website, have the participants click on the Google Advanced Search page to see the "exact match" search box. Have participants again refer to their Participant Handbook and take out **Handout 6: Recognizing Plagiarism**. Have participants read through the three passages in Handout 6 and use Google's exact match search to figure out which one is authentic and which two are plagiarized (the answer is that passage #2 is original (from a student English paper on Hemingway) and passages #1 and #3 are taken from Hemingway review sites on the Internet).

**Handout 6**

To counteract problems with student plagiarism, teachers can take many steps: One step would be to train students on how to do good research. The link to *An Antidote to Plagiarism* shows one lesson plan that a teacher used to show students how to take Internet material and re-write the passages in the student's own words.

Use the next slide (#20) to explain that another way to combat plagiarism is by insisting that students cite any web pages they use. Students should be told that the sites they list will be checked and that plagiarizing text from a web site is not allowed. Just like citing any other resource, the author's name, the title of the web page, the date the page was last updated and where the page was published should be cited whenever that information is available. Additional items to cite are the date when the page was last retrieved or visited as well as the URL. To cite a web page with no author listed using the American Psychological Association (APA) format, you would start with the title of the website, followed by the date it was retrieved and the URL from which the information was retrieved. Here is an example:

**Slide 20**

Earthquake Hazard Program: Northern California.  
Retrieved September 28, 2002, from the World Wide Web:  
<http://quake.wr.usgs.gov/recent/index.html>

You should also explain that there are various formats that different organizations use to cite web pages. There are also additional resources like information from an e-mail message or a newsgroup that require their own unique method of reference. You should tell the participants that links to additional web pages with more instructions are provided under "Citing Resources" in the Supplementary Resources section of the Week Six Workshop web page.

By the end of this presentation, participants will be able to implement a safe searching policy in their classroom, will understand how to evaluate a web page based on its content, and how to cite a resource retrieved from the Internet.

## Week Six Workshop Evaluation (5 minutes)

Participants should now return to the Savvy Cyber Teacher® Week Six Workshop web page. They should click the *Online Evaluation Form* and fill it out as they have in the prior five workshops. As mentioned before, it is very important that the participants take the time to fill out the entire online evaluation form as the information will be used to evaluate the project as well as track the different workshops in order to update and supplement the materials as needed.

## Week Six Reinforcement Activity (10 minutes)

As a wrap-up to the session, discuss with participants ways that they might organize resources on the Internet for and with their students to better utilize time.

Many studies have shown that open searching on the Internet in the classroom is a waste of classroom time. So, there are several popular ways that teachers have used to better organize search information for and with their students. Using the next PowerPoint slide (#21), you should present the following two different techniques: the first technique is to bookmark sites or create web pages of sites, much like what is done in the “References” sections of many of the CIESE Real-Time data and collaborative projects. The second very popular technique is to create WebQuests, which is an inquiry-oriented structured activity in which some or all of the information that learners interact with comes from pre-defined resources on the internet.

Slide 21

Next have participants click on the *Reinforcement Activity* link on the Week Six Workshop web page. From the link, have them click on the WebQuest example. As participants look at the main page of the example WebQuest, review the six (6) essential parts of a WebQuest, as espoused by Bernie Dodge, a professor of Education at the University of California, San Diego and the primary architect of WebQuests. These parts are:

1. an **introduction** that sets the stage
2. a **task** that defines what students will produce as evidence of learning
3. a **process** that outlines the individual steps that need to be taken to complete the task
4. a **list of resources**, usually Internet based with direct links that will help complete the task

5. an **evaluation** tool that will be used to judge the degree to which the task has been successfully completed
6. a **conclusion** that summarizes the objectives and brings closure

Note: in the WebQuest example, students will produce a web page as their final product but this is not necessarily the case for all WebQuests. The final product can be anything the WebQuest developer or teacher desires.

Using the next slide (#22), point out that while WebQuests are an excellent way to organize learning and minimize the need for students to do “cold” searches on the Internet, they often do not harness the whole power of the Internet. They were developed as a way to better use the Internet, since teachers were spending too much time having students surf for sites. However, they often have been used to organize Internet-based instruction on topics that could be as well done, or perhaps better covered, using outside resources. Explain that the best WebQuests will combine the power of the WebQuest process with the use of Internet resources that are “unique and compelling”. Two of the best types of resources to use for WebQuests are real-time data sites and primary resources that are difficult to find in a traditional classroom library.

**Slide 22**

Have participants take out **Handout 7: Week Six Reinforcement Activity** and review the assignment to be completed prior to Week Seven. Show them how to use the web page to review at least two WebQuests on the Week Six Workshop web page. Have participants review one from column A (the stronger examples of WebQuests that meet all the criteria and use unique and compelling resources); and one from column B (the weaker examples), and use the hand-out to check off the criteria that each of them meets.

**Handout 7**

Participants should review the websites before the next workshop and bring the completed worksheet to the next session.

# The Savvy Cyber Teacher®

*Using the Internet Effectively in the K12 Classroom*



# Presentation Aides

Support Materials for Presenting  
The Savvy Cyber Teacher® Course  
High School Level



Trainer's Information



Display



Locate



Instructor's Notes



Lead-In

# Getting Started

## Introduction & Workshop Overview

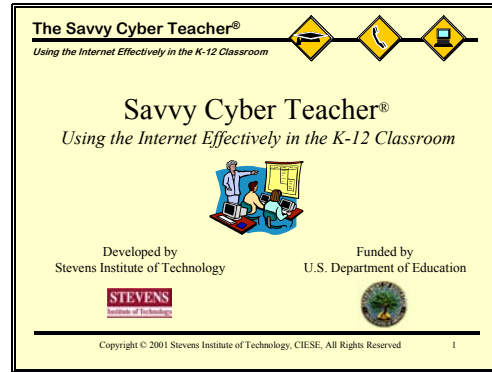
**Target Time: 5 Minutes**

**Prep Reminder: Read Trainer's Overview, page G 6-7**

**This page corresponds to PAGE 6-6 in the Participant Handbook**



**DISPLAY**  
**Slide #1: Savvy  
Cyber Teacher®**



## INSTRUCTOR'S NOTES

1. Put Out Your Sign-In Sheet & Distribute Any Necessary Handouts.
2. Welcome Back The Participants To Week Six Of The Alliance+ Savvy Cyber Teacher® Course.
3. Take About Five Minutes To Review The Reinforcement Activity From Week Five. Check With Participants Who Did Not E-mail A Project Selection To You. Also, Follow-up With People Who Need to Select A Different Project.



## LEAD IN...

**Let's Move On To The Next Slide & Introduce Today's Topic...**

# Getting Started

## Introduction & Workshop Overview

Target Time: 1 Minute

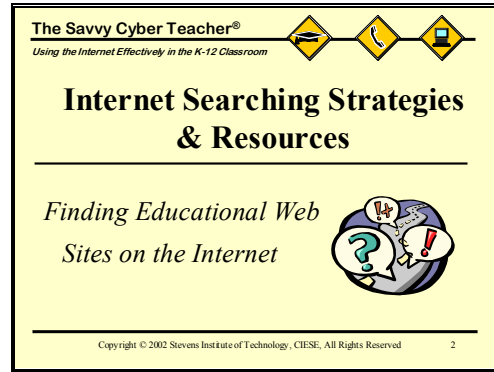
Prep Reminder: Read Trainer's Overview, page G 6-7

This page corresponds to **PAGE 6-7** in the Participant Handbook



### **DISPLAY**

**Slide #2: *Internet Searching Strategies & Resources***



### **INSTRUCTOR'S NOTES**

1. Introduce Today's Topic: Internet Searching Strategies And Resources.
2. This Workshop Will Cover Using Search Engines & Other Internet Search Tools To Find Resources, Information & Data On The Internet.
3. Participants Will Also Learn Effective Internet Searching Strategies & How To Decide When Using The Internet May Be The Most Appropriate Searching Tool.



### **LEAD IN...**

**Let's Review The Agenda For Today...**

# Getting Started

## Introduction & Workshop Overview

**Target Time: 4 Minutes**

**Prep Reminder:** Read Trainer's Overview, pages G 6-7 – G 6-8

This page corresponds to **PAGE 6-8** in the Participant Handbook



### **DISPLAY**

**Slide #3: Week Six  
Workshop Agenda**

A slide titled "Week Six Workshop Agenda" from "The Savvy Cyber Teacher®". The slide lists the following topics:

- Getting Started
- Searching the Internet for Information
- Selecting the Best Informational Resource
- Related Searching Concepts: Internet Pitfalls
- Workshop Evaluation and Reinforcement Activity

The slide also includes a small icon of a book and a footer with the copyright notice: "Copyright © 2002 Stevens Institute of Technology, CIESE, All Rights Reserved 3".

## **INSTRUCTOR'S NOTES**

1. This Workshop Is Split Into Two Halves.
  - I. Participants Will Learn About & Practice Using Various Internet Search Tools.
  - II. Participants Will Learn How & When To Effectively Search The Internet & Will Know How To Recognize & Avoid Internet Pitfalls.
2. At The Conclusion Of The Workshop, Participants Will Complete An Online Evaluation Form & Will Be Provided With A Reinforcement Activity.



## **LEAD IN...**

**We're Going To Start The Workshop With A Cooperative Group Exercise That You Can Take Back And Use With Your Students...**

# Searching the Internet for Information

## Activity 1: Surfing Searching Safari

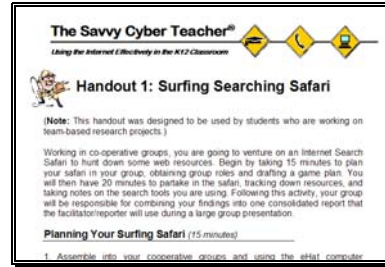
Target Time: **35 Minutes**

Prep Reminder: Read Trainer's Overview, page G 6-8

This page corresponds to **PAGE 6-9** in the Participant Handbook



**LOCATE**  
**Handout 1: Surfing Searching Safari**  
(Page 6-33 in the Participant Handbook)



**DISPLAY**  
**Web Browser:**  
**Surfing Searching Safari**



## INSTRUCTOR'S NOTES

1. Participants Should Take Out **Handout 1**. Break Participants Into Assigned Cooperative Groups. Refer Them To The *eHat* Program To Obtain Roles.
2. Use 10 Minutes To Identify Subject Area, Lesson Topic, & Several Resources.
3. Enter The Week Six Savvy Cyber Teacher® Web Page & Click On *Activity 1*.
4. Participants Should Use The Table in Their **Handout 1** To Make Sure They Cover All The Search Tools & Review Them In Their Teams.



## LEAD IN...

Let's Return Our Attention To The Front Of The Training Lab...

# Searching the Internet for Information

## Internet Search Tools Interactive Teacher Presentation

**Target Time: 7 Minutes**

**Prep Reminder: Read Trainer's Overview, page G 6-9**

**This page corresponds to PAGE 6-10 in the Participant Handbook**



### **DISPLAY**

**Slide #4: Internet Search Tools**

The Savvy Cyber Teacher®  
*Using the Internet Effectively in the K-12 Classroom*

**Internet Search Tools**

- Subject Guides (e.g. Exploratorium)
- Directories (e.g. Yahoo!)
- Search Engines (e.g. Google)
- Meta-Search Engines (e.g. Metacrawler)
- Alternative Search Methods (e.g. White Pages, Listservs, Specific Search Engines, etc.)

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## INSTRUCTOR'S NOTES

1. As A Wrap-Up To The Group Activity, Use This Slide To Clarify The Four Search Tools That Were Used.
2. Explain That You Will Now Lead An Interactive Presentation Where Group Reporters Will Present Their Pros and Cons For Each Tool.
3. Give Groups About Five Minutes To Complete Their Surfing Safari Table, So Reporters Are Prepared For Discussion.



## LEAD IN...

**Let's Begin Our Interactive Teacher Presentation...**

# Searching the Internet for Information

## Internet Search Tools Interactive Teacher Presentation

**Target Time: 5 Minutes**

**Prep Reminder:** Read Trainer's Overview, page G 6-10

This page corresponds to **PAGE 6-11** in the Participant Handbook



**DISPLAY**  
**Slides #5 & #6:**  
**Subject Guides**  
**(Exploratorium)**

The Savvy Cyber Teacher®  
*Using the Internet Effectively in the K-12 Classroom*

**Subject Guides (Exploratorium)**

- Similar to card catalog; web sites grouped into subject-based categories
- Sites are selected based on quality

**Pro:** Can save a lot of time when searching; Quality sites selected and evaluated by humans

**Con:** Limited selection of web sites; often difficult to locate specific topics

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## INSTRUCTOR'S NOTES

1. Please Note: First Slide Will Appear Blank With Only The Title. Second Slide Is All Filled In. Solicit Comments **FIRST**, Then Reveal Info On The Slide.
2. Get Feedback On Using Exploratorium Site From Participants. Ask Reporters What They Found And Pros & Cons Of The Tool. Have A Volunteer Record Comments.
3. Once Comments Have Been Made, Reveal Slide Points.



## LEAD IN...

**Let's Talk About Directories In More Detail...**

# Searching the Internet for Information

## Internet Search Tools Interactive Teacher Presentation

Target Time: 5 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-11

This page corresponds to **PAGE 6-12** in the Participant Handbook



**DISPLAY**  
**Slides #7 & #8:**  
**Directories (Yahoo!®)**

The Savvy Cyber Teacher®  
*Using the Internet Effectively in the K-12 Classroom*

**Directories (Yahoo!®)**

- Organized lists of web sites compiled & reviewed by humans
- Larger than subject guides, but still well organized (Trees – categories & sub-categories)

**Pro:** Content evaluated by humans; easy to narrow down a topic; good point to begin

**Con:** Not good for in-depth research or locating obscure resources

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## INSTRUCTOR'S NOTES

1. Please Note: First Slide Will Appear Blank With Only Title. Second Slide Is All Filled In. **Solicit Comments First.** Then Reveal Info On The Slide.
2. Get Feedback On Using Yahoo Site From Participants. Ask Reporters What They Found And Pros & Cons Of The Tool. Have A Volunteer Record Comments.
3. Once Comments Have Been Made, Reveal Slide Points.



## LEAD IN...

Let's Talk About Search Engines In More Detail...

# Searching the Internet for Information

## Internet Search Tools Interactive Teacher Presentation

**Target Time: 5 Minutes**

**Prep Reminder:** Read Trainer's Overview, page G 6-12

This page corresponds to **PAGE 6-13** in the Participant Handbook



### **DISPLAY**

**Slides #9 & #10:**  
**Search Engines**  
**(Google)**

The Savvy Cyber Teacher®  
*Using the Internet Effectively in the K-12 Classroom*

**Search Engines (Google)**

- Huge databases of web sites organized on massive computers (use "spiders" to search the web)
- Do not search the entire World Wide Web
- Different search engines give different results

**Pro:** Best for specific questions or in-depth research

**Con:** Difficult to narrow down topic; sites not evaluated by humans

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## **INSTRUCTOR'S NOTES**

1. Run Discussion As Before. Consider Adding These Points If They Don't Come Up.
2. Explain How Google Is An Example Of A Search Engine. Google Also Has A Directory, A Perfect Example Of How Internet Search Tools Merge.
3. Use Programs Called "Spiders" Or "Robots" That Read & Catalog Various Parts Of Web Pages (e.g. Title, URL, Text, Etc.) & Create A Huge Database.
4. Different Search Engines Read & Catalog Different Web Pages.



## **LEAD IN...**

**Let's Talk About Meta-Search Engines In More Detail...**

# Searching the Internet for Information

## Internet Search Tools Interactive Teacher Presentation

Target Time: 5 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-13

This page corresponds to **PAGE 6-14** in the Participant Handbook



### **DISPLAY**

**Slides #11 & #12:**  
**Meta-Search Engines**  
**(Metacrawler)**

The Savvy Cyber Teacher®  
*Using the Internet Effectively in the K-12 Classroom*

**Meta-Search Engines (Metacrawler)**

- Search many search engines at once and compare results
- Do not own databases

**Pro:** Very powerful; good for first searches; searches often overlooked search engines

**Con:** Lacks the power of the best search engines; only spends a short time in each database

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## INSTRUCTOR'S NOTES

1. Run Discussion As Before. Consider Adding These Points If They Don't Come Up In The Course Of Discussion:
2. Metacrawler Searches The Databases Of Many Search Engines At Once, & Therefore Do Not Own Databases.
3. Explain How A Meta-Search Engine's Strength (i.e. It's Power) Is Also its Weakness; Spends A Short Amount Of Time In Each Database.
4. Good For First Searches To Gain A Better Idea Of Where Resources Are Located.



## LEAD IN...

Let's Look At Handout 2 For Alternative Search Engines...

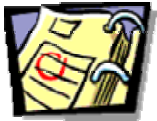
# Searching the Internet for Information

## Internet Search Tools Interactive Teacher Presentation

Target Time: 3 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-13

This page corresponds to **PAGE 6-15** in the Participant Handbook



**LOCATE**  
**Handout 2:**  
**Alternative Search**  
**Tools**  
(p. 6-37 of the  
Participant  
Handbook)

**The Savvy Cyber Teacher<sup>®</sup>**  
*Using the Internet Effectively in the K12 Classroom*

**Handout 2: Alternative Search Tools**

Specialized Search Engines:

Search Engine	Sample URL	Description
White Pages	<a href="http://people.yahoo.com/">http://people.yahoo.com/</a>	Find private citizens' addresses, phone numbers and email addresses
Yellow Pages	<a href="http://people.yahoo.com/">http://people.yahoo.com/</a>	Finds stores and businesses in cities throughout the U.S.
Photo Searches	<a href="http://www.dillo.com">www.dillo.com</a>	Find pictures online
Music Searches	<a href="http://www.musicsearch.com">www.musicsearch.com</a>	Find music online
Book Searches	<a href="http://www.amazon.com">www.amazon.com</a>	Find publishers and book titles
Children's Web sites	<a href="http://www.yahooligans.com">www.yahooligans.com</a>	Find kid-appropriate web sites



## INSTRUCTOR'S NOTES

1. Refer Participants To **Handout 2: Alternative Search Tools**.
2. Explain That Alternative Search Tools Can Be Used For Specific Needs And Those Search Tools Are Outlined In This Handout
3. Explain That In The Interest Of Time, You Will Not Be Covering These In Detail, But Make Sure Teachers Understand The Value of These Sites.
4. Close Out The Discussion By Showing The CIESE Recommended Searching Tools On The Week Six Web Page, An Excellent Place To Start A Search.



## LEAD IN...

Let's Focused On Some More Advanced Searching Strategies...

# Searching the Internet for Information

## Formulating a Searching Strategy with Students

Target Time: 5 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-14

This page corresponds to **PAGE 6-16** in the Participant Handbook



**DISPLAY**  
**Slide #13:**  
***Formulating a***  
***Searching Strategy***

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**Formulating a Searching Strategy**

- Is it important to get the most up-to-date information?
- What are some keywords or phrases associated with the topic?
- Is there sufficient time to complete a search?
- Where might it be located on the Internet?
- Is the information easier to locate in a library or other traditional resource?

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## INSTRUCTOR'S NOTES

1. Research Shows That Searching Is One Of The Least Effective Ways To Use Classroom Time.
2. Therefore, Before Searching, It Is Important To Formulate A Strategy.
3. Most People Think To Go To The Internet First. However, There Are Times When Other More Traditional Resources May Be More Appropriate.
4. Review The Questions On The Slide. Participants Should Consider These Each Time They Need To Search For Information.



## LEAD IN...

**Let's Take A Look At Handout 3 For Some Strategies For Doing More Effective Searches...**

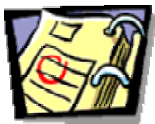
# Searching the Internet for Information

## Formulating a Searching Strategy with Students


**Target Time: 5 Minutes**


**Prep Reminder:** Read Trainer's Overview, page G 6-15

This page corresponds to **PAGE 6-17** in the Participant Handbook



**LOCATE**  
**Handout 3: Six Steps to Successful Searching**  
(Page 6-39 of the Participant Handbook)

**The Savvy Cyber Teacher®**   
*Using the Internet Effectively in the K12 Classroom*

**Handout 3: Six Steps to Successful Searching** 

**1. Know what you want to find:**

It is very important to consider exactly what you want to find. Are you looking for articles, discussion groups, people, companies, software, etc.? Are you looking for an overview of what is available online or more specific information about your topic? What key terms do you expect to find in a good source of information? Make sure to try different word choices.

What am I looking for?  
What keywords might I want to try?

**2. Choose an appropriate tool:**

There are a wide variety of search tools on the Internet (directories,



## INSTRUCTOR'S NOTES

1. Participants Should Take Out Handout 3. In The Interest Of Time, You Will Not Be Able To Go Over Hand-out In Detail.
2. Focus on Step #3 & Explain The Various Boolean Operators. Each Searching Tool Uses Its Own Syntax & Participants Should Read The Help File.
3. Links Are Provided For More Information Under The *Supplementary Section* → *Boolean Logic* of the Week Six Workshop Web Page. No Tool Is Perfect.



## LEAD IN...

Let's Take A Short Break. When We Get Back, We'll Practice Using These Search Tools... Please Be Back By \_\_\_\_\_

# Selecting the Best Informational Resource

## Activity 2: Selecting the Best Informational Resource

Target Time: 20 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-16

This page corresponds to **PAGE 6-18** in the Participant Handbook



**LOCATE**  
**Handout 4:**  
**Selecting the Best Informational Resource**  
(Page 6-43 of the Participant Handbook)

**The Savvy Cyber Teacher®**  
*Using the Internet Effectively in the K12 Classroom*

**Handout 4: Selecting the Best Informational Resource**

Looking for something in particular? Wondering what your best approach might be for getting the answer? The Internet is naturally the first resource that comes to mind. With its up-to-date and wide-ranging topics, it seems like the perfect answer to your need to know. However, depending upon what you are looking for, other resources may be faster, more relevant, and more direct. For example, searching for information in an almanac or encyclopedia at a library may be more time-efficient than spending hours on the Internet looking for the same thing.

The purpose of this exercise is to give you a chance to practice using the web as an informational resource and to decide when it may be more appropriate or time-efficient to look for something using another resource, such as a book.

To start, assemble into your cooperative groups and using the eHat computer program, obtain your role assignments for this activity. You may receive one or



## INSTRUCTOR'S NOTES

1. Read The Directions With The Participants. Participants Will Be Working In Cooperative Groups & Will Need To Go To The *eHat* Program On The Week Six Workshop Web Page To Find Out Their Roles.
2. Participants Should Fill In The Blanks As They Complete The Exercise.
3. Divide Questions Among Group Members. Participants Should Not Spend More Than A Couple Of Minutes Trying To Answer Any Particular Question.
4. Walk Around The Room As Participants Complete This Activity.



## LEAD IN...

**Let's Return Our Attention To The Front & Discuss The Results...**

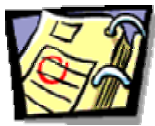
# Selecting the Best Informational Resource

## Activity 2: Selecting the Best Informational Resource


Target Time: 10 Minutes


Prep Reminder: Read Trainer's Overview, page G 6-17

This page corresponds to **PAGE 6-19** in the Participant Handbook



**LOCATE**  
**Handout 4:**  
**Selecting the Best**  
**Informational**  
**Resource**  
(Page 6-43 of the  
Participant Handbook)

**The Savvy Cyber Teacher®**   
*Using the Internet Effectively in the K12 Classroom*

**Handout 4: Selecting the Best Informational Resource** 

Looking for something in particular? Wondering what your best approach might be for getting the answer? The Internet is naturally the first resource that comes to mind. With its up-to-date and wide-ranging topics, it seems like the perfect answer to your need to know. However, depending upon what you are looking for, other resources may be faster, more relevant, and more direct. For example, searching for information in an almanac or encyclopedia at a library may be more time-efficient than spending hours on the Internet looking for the same thing.

The purpose of this exercise is to give you a chance to practice using the web as an informational resource and to decide when it may be more appropriate or time-efficient to look for something using another resource, such as a book.

To start, assemble into your cooperative groups and using the eHat computer program, obtain your role assignments for this activity. You may receive one or



## INSTRUCTOR'S NOTES

Answers: [http://www.k12science.org/tutorials/safari/hs\\_handout4.htm](http://www.k12science.org/tutorials/safari/hs_handout4.htm)

1. Ask The Participants To Work Through The Following Questions In Their Cooperative Groups (Also In Participant Handbook):
  - What Type Of Searching Was The Easiest?
  - What Type Of Searching Was The Most Frustrating?
  - Were There Certain Types Of Information That Seemed Easier To Find On The Internet?
  - Did You Question The Source Of Information For Any Of The Resources You Found On The Internet?
  - Were There Certain Types Of Information That Seemed Easier To Find Using Traditional Resources?
2. If Time Permits, Review Some Key Points Through Group Discussion.



## LEAD IN...

Let's Wrap Up Our Group Discussion With Some Final Thoughts

# Selecting the Best Informational Resource

## Activity 2: Selecting the Best Informational Resource

Target Time: 5 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-17

This page corresponds to **PAGE 6-20** in the Participant Handbook



**DISPLAY**  
**Slide #14: *The Internet vs. the Library***

**The Savvy Cyber Teacher®**  
*Using the Internet Effectively in the K-12 Classroom*

**The Internet vs. the Library**

Library	Internet
<ul style="list-style-type: none"><li>• Typical library has less than 10,000 books</li><li>• Books are selected and edited by professionals</li><li>• Library is well organized using standard system</li><li>• Resources and materials in the library change slowly</li></ul>	<ul style="list-style-type: none"><li>• Internet has over 1 billion web sites</li><li>• Anyone can create a web site and publish it</li><li>• Internet has little organization to how its information is stored</li><li>• Content on the Internet changes every day</li></ul>

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## INSTRUCTOR'S NOTES

1. Before Displaying Slide, Ask Participants To Compare Internet vs. Library Resources.
2. Explain Any Differences The Participants Did Not Identify.
3. The Most Important Thing To Consider Is When To Use The Internet To Find Information & When To Use Other Resources Like The Library.



## LEAD IN...

Now That We've Spent Time Searching, Let's Spend Some Time Looking At Some Pitfalls To Internet Searching...

# Related Searching Concepts: Internet Pitfalls

## Activity 3: Evaluating Web Resources

Target Time: 3 Minutes

Prep Reminder: Read Trainer's Overview, pages G 6-18

This page corresponds to **PAGE 6-21** in the Participant Handbook



### **DISPLAY** Slide #15: Safe Searching

The Savvy Cyber Teacher®  
Using the Internet Effectively in the K-12 Classroom

**Safe Searching**

- Critical when students use Internet in open-ended searches
- Easy to get inappropriate material in search results
- Strategies:
  - ✓ Implement appropriate use policy at beginning of year
  - ✓ Adult supervision and/or Internet safety software
  - ✓ Restrict access to child-friendly search engines
  - ✓ Access the "family filter" on some search engines

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## INSTRUCTOR'S NOTES

1. Internet Safety Is The Most Critical When Students Do Open-Ended Searches Because They Have Access To The Free Internet.
2. Students Will Often Access This Material Accidentally By Entering A Keyword.
3. Example: "Oklahoma City Bombing" Might Display Information On How To Make A Bomb Or Radical Fraction Groups.
4. Links Are Provided For More Information In The *Supplementary Section* > *Internet Safety Information Of The Week Six Workshop Web Page.*



## LEAD IN...

Let's Look At Some Ways To Evaluate Whether A Web Site Contains Reliable Material...

# Related Searching Concepts: Internet Pitfalls

## Activity 3: Evaluating Web Resources

Target Time: 3 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-18

This page corresponds to **PAGE 6-22** in the Participant Handbook



### DISPLAY

*Slide #16: Evaluating Internet Resources*

A slide titled "Evaluating Internet Resources" from "The Savvy Cyber Teacher®". The slide includes the following text:

**The Savvy Cyber Teacher®**  
*Using the Internet Effectively in the K-12 Classroom*

**Evaluating Internet Resources**

- Important to check the source of information (especially important for students)
- Sample Questions:
  - Is an author listed? What are the credentials of the author?
  - Is there bias or commercial interest?
  - Is there an organization associated with the web site?
  - How current is the information?

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## INSTRUCTOR'S NOTES

1. Tell The Participants That They Should Be Especially Careful When Using Information From The Internet. Each Source Should Be Carefully Investigated.
2. Just Like Any Other Information, Check The Source, Credentials, etc.
3. Review The Questions On The Slide & Discuss How They Relate To Evaluating A Source.



## LEAD IN...

Let's Try To Evaluate Some Real Internet Sites...

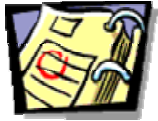
# Related Searching Concepts: Internet Pitfalls

## Activity 3: Evaluating Web Resources

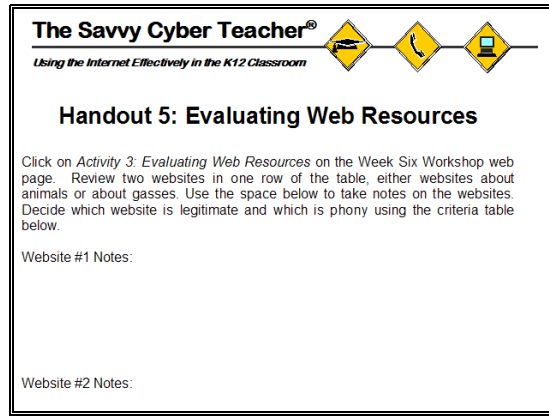
Target Time: 14 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-19

This page corresponds to **PAGE 6-23** in the Participant Handbook



**LOCATE**  
**Handout 5:**  
**Evaluating Web Resources**  
*(p. 6-47 of the Participant Handbook)*



## INSTRUCTOR'S NOTES

1. Ask Participants To Locate **Handout 5** And Click On *Activity 3: Evaluating Web Resources* On The Cyber Teacher Week Six Workshop Web Page.
2. From The Evaluating Resources Table, Have Them Select One Row Of Websites, Either Animals Or Gasses.
3. Have Them Review The Websites And Decide Which Is Legitimate, Using The Criteria On The Handout. Bring The Group Together And Discuss The Results (Mountain Lions And Carbon Monoxide Are Legitimate).



## LEAD IN...

Let's Look at One Last Serious Internet Pitfall: Plagiarism On The Web...

# Related Searching Concepts: Internet Pitfalls

## Activity 4: Recognizing Plagiarism

Target Time: 2 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-19

This page corresponds to **PAGE 6-24** in the Participant Handbook



### **DISPLAY** **Slide #17: Internet Pitfalls: Plagiarism**

A presentation slide with a yellow background. At the top left, it says "The Savvy Cyber Teacher®" and "Using the Internet Effectively in the K-12 Classroom". To the right are three icons: a graduation cap, a telephone, and a computer. The main title is "Internet Pitfalls: Plagiarism" with a small icon of people at a computer. Below the title is a bulleted list: "Two types of plagiarism" followed by two sub-points: "Non-purposeful (Students not understanding how to do research. Students being unclear about what constitutes plagiarism)" and "Purposeful (Students deliberately finding Internet sites where they can 'buy' pre-written papers)". A small number "17" is in the bottom right corner.

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### Internet Pitfalls: Plagiarism

- Two types of plagiarism
  - Non-purposeful (Students not understanding how to do research. Students being unclear about what constitutes plagiarism)
  - Purposeful (Students deliberately finding Internet sites where they can “buy” pre-written papers)

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## **INSTRUCTOR'S NOTES**

1. Explain To Participants That There Are Two Kinds Of Plagiarism.
2. Both Are Bad And Need To Be Addressed.
3. Non-purposeful Plagiarism Can Be Addressed Through Training Students On How To Do Research.
4. Purposeful Plagiarism Must Be Detected And Dealt With. In Order To Combat Either Kind Of Plagiarism, You Must Be Able to Recognize That It Is Happening.



## **LEAD IN...**

Let's Look At Some Plagiarism Dead Giveaways...

# Related Searching Concepts: Internet Pitfalls

## Activity 4: Recognizing Plagiarism

Target Time: 2 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-19

This page corresponds to **PAGE 6-25** in the Participant Handbook



### **DISPLAY**

**Slide #18:**

***Plagiarism: Dead Giveaways***

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**Plagiarism: Dead Giveaways**

- Essay does not reflect student's ability
- Essay is way off topic
- Essay has a strange lay-out (frequently happens when copying and pasting from browsers)
- Essay refers to something unusual that you did not cover in class (could be a great student, or it could be a plagiarizer)

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## INSTRUCTOR'S NOTES

1. Review The Dead Giveaways That Can Help Teachers Identify When Plagiarism Might Be Taking Place. Point Teachers To The Internet Pitfalls Page On The Week Six Workshop Web Page.
2. Show Them The Links To Places Where Students Can Purchase Papers & To Tools Teachers Can Use To Root Out Plagiarism.
3. Show Them How Google's Exact Match Functionality Can Root Out Many Instances Of Non-purposeful Plagiarism (And Some Purposeful Ones Too).



## LEAD IN...

**Let's Look At How Google's Exact Match Tool Works...**

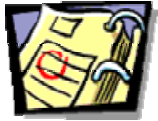
# Related Searching Concepts: Internet Pitfalls

## Activity 4: Recognizing Plagiarism


Target Time: 7 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-20

This page corresponds to **PAGE 6-26** in the Participant Handbook



**LOCATE**  
**Handout 6:**  
**Recognizing**  
**Plagiarism**  
(page 6-49 of the  
Participant Handbook)

**The Savvy Cyber Teacher®**   
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**Handout 6: Recognizing Plagiarism**

Review the three passages about Ernest Hemingway below. Access *Activity #4: Internet Pitfalls* on the Week Six Workshop web page. Click on Google's Advanced Search tool. In the "with the exact phrase" box, copy a string of words from each paragraph below. Review the results to determine which paragraph is legitimate and which two are plagiarized.

Passage #1:

Hemingway had often been close to death, he always felt death to be near, and his prose sought to make the ultimate experience come close. Death might yet be recorded in the flesh -- as intimate a sensation as eating, drinking, and lovemaking. But the "true sentence" could be recognized only if it had the right



## INSTRUCTOR'S NOTES

1. Have Participants Refer To **Handout 6: Recognizing Plagiarism**.
2. Have Participants Try To Do A Google Exact Match On A Piece Of Text From Each Of The Three Hemingway Pieces (Note: Piece #2 Is Original...The Other Two Are Plagiarized From The Web).
3. After The Exercise, Explain That Much Internet Plagiarism Is Non-Purposeful & Can Be Avoided By Teaching Students How To Do Internet Research.



## LEAD IN...

**One Good Way To Root Out Plagiarism Is To Require Students To Cite Resources...**

# Related Searching Concepts: Internet Pitfalls

## Activity 4: Recognizing Plagiarism

Target Time: 2 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-19

This page corresponds to **PAGE 6-27** in the Participant Handbook



**Display**  
**Slide #19:**  
***Internet Pitfalls:***  
***Plagiarism***

A slide titled "Internet Pitfalls: Plagiarism" from "The Savvy Cyber Teacher®". The slide lists two main categories of plagiarism: "Dealing with Non-Purposeful Plagiarism" and "Dealing with Purposeful Plagiarism". Each category has sub-points. The slide also includes a small graphic of a boat and a copyright notice at the bottom.

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### Internet Pitfalls: Plagiarism

- Dealing with Non-Purposeful Plagiarism
  - Check if it is occurring with Google Exact Match search
  - Teach students how to do good research and how to cite resources
- Dealing with Purposeful Plagiarism
  - Recognize it by using online plagiarism tools
  - Have a disciplinary policy in place for dealing with it. Make sure your students understand the consequences for their actions

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## INSTRUCTOR'S NOTES

1. Use Slide #19 To Wrap Up Discussion.
2. Discuss The Different Types of Plagiarism And How To Address Them.
3. Show the Antidote To Plagiarism Link As A Potential Place To Start.



## LEAD IN...

So, Let's Wrap Up Our Discussion Of Plagiarism By Talking About One Of The Best Ways To Avoid Having It Happen...

# Related Searching Concepts: Internet Pitfalls

## Activity 4: Recognizing Plagiarism

Target Time: 2 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-20

This page corresponds to **PAGE 6-28** in the Participant Handbook



**DISPLAY**  
**Slide #20:**  
***Citing Internet Resources***

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**Citing Internet Resources**

- Just like other resources. You should list:
  - The author's name (if available)
  - The title of the page, date & location published (if available)
  - The date you retrieved the page & the URL
- Example (APA format for un-authored site):
  - Earthquake Hazard Program: Northern California. Retrieved September 28, 2002, from the World Wide Web: <http://quake.wr.usgs.gov/recent/index.html>

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## INSTRUCTOR'S NOTES

1. Students Should Be Required To Cite Web Sites They Use In Reports, Just Like Any Other Resource.
2. There Are Other Formats Beside APA That Different Organizations Use To Cite Web Pages.
3. Links Are Provided For More Information Under The *Supplementary Section* > *Citing Internet Resources* of the Week Six Workshop Web Page.



## LEAD IN...

Please Complete The Online Evaluation Form...

# Week Six Reinforcement Activity

Target Time: 2 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-21

This page corresponds to **PAGE 6-29** in the Participant Handbook



## **DISPLAY** **Slide #21:** **Organizing Search Information**

The Savvy Cyber Teacher®  
*Using the Internet Effectively in the K-12 Classroom*

**Organizing Search Information**

- Two Popular Techniques
  1. Creating web pages or bookmarks of sites and having students use them.
  2. Creating WebQuests:  
*WebQuest*: an inquiry-oriented structured activity in which some or all of the information that learners interact with comes from pre-defined resources on the internet.

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## **INSTRUCTOR'S NOTES**

1. Because Open-ended Searching By Students Can So Often Be A Waste Of Time, Teachers Have Formulated Many Ways To Organize Internet Sites.
2. The CIESE Projects Reference Webpages Are Examples Of Webpages With A Guided Activity: All The Necessary Links Are On The Page.
3. WebQuests Are Another Popular Way To Organize Sites.
4. WebQuests Are An Inquiry-Based Process For Researching A Topic: They Have Six (6) Parts: (1) **Introduction**; (2) A **Task**; (3) A **Process**; (4) A **List Of Resources**; (5) An **Evaluation**; And (6) A **Conclusion**.



## **LEAD IN...**

**Let's Look At WebQuests In A Little More Detail.....**

# Week Six Reinforcement Activity

Target Time: 2 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-22

This page corresponds to **PAGE 6-30** in the Participant Handbook



## DISPLAY

Slide #22: Organizing Search Information

A slide titled "Organizing Search Information" from "The Savvy Cyber Teacher" series. The slide includes a sub-heading "WebQuests" and lists pros and cons. The pros section states it's an excellent process for presenting a topic and utilizing problem-based learning, with a five-step process: Introduction → Task → Process → Resources → Evaluation → Conclusion. The cons section notes that many WebQuests use the Internet just for the sake of using it and can be done without it. The slide footer includes copyright information for Stevens Institute of Technology, CIESE, All Rights Reserved, and the slide number 22.

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*Using the Internet Effectively in the K-12 Classroom*

### Organizing Search Information

- WebQuests
  - **Pros:** Excellent process for presenting a topic, utilizing the best features of problem based learning.
    - Introduction → Task → Process → Resources → Evaluation → Conclusion
  - **Cons:** Many WebQuests are using the Internet just for the sake of using it. Can be as easily done without the Internet.

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## INSTRUCTOR'S NOTES

1. Review the Pros of WebQuests & Make Sure Everyone Is Familiar With The Five Step Process.
2. Review the Cons of WebQuests & Emphasize That While WebQuests Are A Good Process For Organizing Student Thinking, If They Are Online Activities, They Should Take Advantage Of The “Unique And Compelling” Resources Available On The Internet.



## LEAD IN...

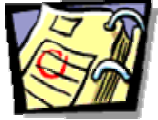
As A Reinforcement Activity, We Are Going To Do A Quick Evaluation Of Some WebQuests...

# Week Six Reinforcement Activity

Target Time: 6 Minutes

Prep Reminder: Read Trainer's Overview, page G 6-22

This page corresponds to **PAGE 6-31** in the Participant Handbook



**LOCATE**  
**Handout 7:**  
**Week Six**  
**Reinforcement**  
**Activity**  
*(p. 6-51 of the*  
*Participant Handbook)*

**The Savvy Cyber Teacher®**  
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**Handout 7: Week Six Reinforcement Activity**  
**Evaluating WebQuests**

Name of WebQuest

Criteria	Present?
1. WebQuest has all six required elements: introduction; task; process; resources; evaluation; conclusion	<input type="checkbox"/>
2. WebQuest utilizes real-time data resources	<input type="checkbox"/>



## INSTRUCTOR'S NOTES

1. Point Participants To The Week Six Workshop Web Page And The Link To Evaluating WebQuests.
2. Tell Them That They Should Use Reinforcement Activity Handout & The Week Six Workshop Web Page To Evaluate Two WebQuests.
3. They Should Complete The Review & Evaluation Of WebQuests & Bring The Evaluation Form To Week Seven.



## LEAD IN...

See You Next Week 😊

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## Handout 1: Surfing Searching Safari

**(Note:** This handout was designed to be used by students who are working on team-based research projects.)

Working in cooperative groups, you are going to venture on an Internet Search Safari to hunt down some web resources. Begin by taking 15 minutes to plan your safari in your group, obtaining group roles and drafting a game plan. You will then have 20 minutes to partake in the safari, tracking down resources, and taking notes on the search tools you are using. Following this activity, your group will be responsible for combining your findings into one consolidated report that the facilitator/reporter will use during a large group presentation.

### **Planning Your Surfing Safari** *(15 minutes)*

---

1. Assemble into your cooperative groups and using the eHat computer program, obtain your role assignments for this activity. You may receive one or more of these roles depending on your group size. The roles include:
  - **Group Facilitator** - Responsible for moderating the discussion about what subject, topic, and resources the group will search for. During surfing time, moves back and forth between surfing teams to keep the group on task.
  - **Reporter** – Responsible for restating the group’s conclusions to the rest of the class.
  - **Surfer #1** – Responsible for using search engines to find the target information.
  - **Recorder #1** – Responsible for supporting surfer #1 and taking notes on items found. Prepares written answers to each assigned question.
  - **Surfer #2** – Responsible for using search engines to find the target information.
  - **Recorder #2** – Responsible for supporting surfer #2 and taking notes on items found. Prepares written answers to each assigned question.

In this safari, everyone will have a chance to become an expert in one or more of the four types of search tools, and everyone will contribute to finding Internet resources and to the group report on the pros and cons of each search engine.

Begin as a team by selecting a subject for which you would like to search. If you are having a hard time deciding on a topic, use the suggested topics table to help select one:

**Suggested Topics:**

Subject	Topic	Resources to look for
Environmental Science	Water quality	Real-time data Background information Lesson plans
Physics	Fusion	Simulations Background information Lesson Plans
Biology	Biodiversity	Web cams Background information Photos
Earth/Space Science	Planets	Photos Background information Movies Lesson plans
Chemistry	pH	Simulations Background information Lesson plans

**Subject** (e.g. biology): \_\_\_\_\_

**Topic** (e.g. biodiversity): \_\_\_\_\_

**Resources to look for:** (e.g. web cams, background information on biodiversity, photos, web sites with descriptions of animals and sound clips to make available for students, etc.)

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## **Beginning Your Safari . . . (20 minutes)**

1. Go to the Alliance+ Savvy Cyber Teacher<sup>®</sup> Week Six web page. (Enter <http://www.k12science.org/cyberteacher/> and click on the high school version and then “Week Six”.)
2. From the Week Six web page, click *Activity 1: Surfing Searching Safari*.
3. Use the links provided on the web site to search for information and resources about your topic on the Internet. Your surfing teams should make sure you cover all four types of search tools, so divide them up as needed. The purpose of this activity is to (1) become familiar with the various searching tools by searching for information with them and (2) to evaluate the effectiveness of the tool. The four main searching tool links on the website are:
  - Google (<http://www.google.com/>)
  - Yahoo!<sup>®</sup> (<http://www.yahoo.com/>)
  - Metacrawler (<http://www.metacrawler.com/>)
  - Exploratorium (<http://www.exploratorium.edu/>)
4. Assign a surfing team to each type of search engine. If there is only one surfing team per group, that team will be responsible for looking at all four types of search tools. For each search tool, teams should use the table on the next page to take notes on 1) the resources they found; 2) the ease of use of the search tool; 3) the pros; and 4) the cons for each search tool.

**Surfing Safari Chart**

<b>Type of Search Engine</b>	<b>Search Engine: Google</b>	<b>Directory: Yahoo.com</b>	<b>Subject Guide: Exploratorium</b>	<b>Meta Search Engine: Metacrawler</b>
<b>Notes on the resources found</b> (URL's; quality of site)				
<b>Notes on the ease of use</b> (how fast were you able to find information)				
<b>Pros of Search tool</b>				
<b>Cons of Search tool</b>				

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## Handout 2: Alternative Search Tools



### Specialized Search Engines:

Search Engine	Sample URL	Description
White Pages	<a href="http://people.yahoo.com/">http://people.yahoo.com/</a>	Find private citizens' addresses, phone numbers and email addresses
Yellow Pages	<a href="http://people.yahoo.com/">http://people.yahoo.com/</a>	Finds stores and businesses in cities throughout the U.S.
Photo Searches	<a href="http://www.ditto.com">www.ditto.com</a>	Find pictures online
Music Searches	<a href="http://www.musicsearch.com">www.musicsearch.com</a>	Find music online
Book Searches	<a href="http://www.amazon.com">www.amazon.com</a>	Find publishers and book titles
Children's Web sites	<a href="http://www.yahooligans.com">www.yahooligans.com</a>	Find kid-appropriate web sites

### Other Search Techniques:

1. Ask an Expert: Find online experts to answer specific questions.  
[www.k12science.org/askanexpert.html](http://www.k12science.org/askanexpert.html)
2. Subject-related listservs: Join an online discussion and ask your question there.

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## Handout 3: Six Steps to Successful Searching



### 1. Know what you want to find:

It is very important to consider exactly what you want to find. Are you looking for articles, discussion groups, people, companies, software, etc.? Are you looking for an overview of what is available online or more specific information about your topic? What key terms do you expect to find in a good source of information? Make sure to try different word choices.

What am I looking for?

What keywords might I want to try?

### 2. Choose an appropriate tool:

There are a wide variety of search tools on the Internet (directories, search engines, meta-search engines, subject guides, etc.) as well as many other offline resources, such as books. Each of these tools has different uses, strengths, and rules that you need to learn. *Remember, no tool is perfect for every type of search.*

What search tools am I going to use?

### 3. Learn how to use the tool:

Each search tool has specific rules and syntax that you must follow. Read the *help* or *Power* or *Advanced Search Options* section to learn about these rules. The following are some examples of rules and syntax that some search engines permit. (Please note that these may differ for each search tool):

- Many searching tools permit the use of Boolean logic. Some Boolean operators include **AND**, **OR**, **NOT**, **NEAR**, and the use of parentheses ( ). Below are brief explanations of how these operators work:

- **AND**: will locate a web page that contains all of the keywords (e.g. education **AND** biodiversity – *only* pages that have both the words education and biodiversity)
  - **OR**: will locate a web page that contains either of the words (e.g. education **OR** biodiversity – all pages that have either of the words education or biodiversity)
  - **NOT**, or **AND NOT**: will locate a web page that contains one word and not the other (e.g. biodiversity **NOT** education – only pages that contain the word biodiversity and not the word education)
  - **NEAR**: will only locate web pages that contain both terms *and* they are located near each other. (e.g. biodiversity **NEAR** education – only pages where biodiversity and education are located near each other, like *the education of biodiversity*)
  - **Parentheses ( )**: The use of parentheses in Boolean logic is very similar to when it is used in mathematical and algebraic equations; they isolate and treat the terms in parentheses together. {e.g. biodiversity **AND** (education **NOT** university) – will first isolate web pages that contain the word education and not university and will then display only those web pages that also have the word biodiversity}
  - **+** and **-**: similar to **AND** and **NOT** (e.g. +education -university)
- Searching by Phrase
    - Using quotation marks will locate web pages that only contain what is between the quotation marks (e.g. “biodiversity of mammals” – will display all web pages that have the phrase *biodiversity of mammals*, and in that order)
  - Truncation
    - **bio\***: will identify all web pages that have words that begin with bio: e.g. biology, biosphere, biodiversity, etc.
  - Advanced search options: Most Internet searching tools contain advanced searching options sometimes called *Power Search*, *Advanced Search*, etc.)

Since there is no perfect search tool, try to find a few that you like and become very familiar with them.

Review the advanced search options. What are some key tips to keep in mind as you search?

#### **4. Understand the results:**

Each search tool also has a different way of listing the results. Make sure you understand how the relevancy of the results is displayed. Some tools also present key terms or summaries of the document. After each search, take a quick look at the top ten results and determine how relevant they are.

How are the results on my search tool being returned?

#### **5. Change your search keywords:**

Before browsing too deeply through the results (and possibly getting off track), alter your search and re-evaluate the results. Make sure that you have entered your search into the tool in the best way (terms you are using, spelling, syntax and search options). The more you practice with a specific search tool, the more successful your searches will become.

What are some alternative keywords that I could try?

#### **6. Try a new tool:**

After changing your search around, and browsing through a few of the top results, you may not have any relevant results. If this is true, try a second tool similar to the one you are using, or a completely different type of tool. Don't get stuck in the rut of always using the same tool no matter what you are searching for.

*Remember, no tool is perfect.*

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*Using the Internet Effectively in the K12 Classroom*



## Handout 4: Selecting the Best Informational Resource



Looking for something in particular? Wondering what your best approach might be for getting the answer? The Internet is naturally the first resource that comes to mind. With its up-to-date and wide-ranging topics, it seems like the perfect answer to your need to know. However, depending upon what you are looking for, other resources may be faster, more relevant, and more direct. For example, searching for information in an almanac or encyclopedia at a library may be more time-efficient than spending hours on the Internet looking for the same thing.

The purpose of this exercise is to give you a chance to practice using the web as an informational resource and to decide when it may be more appropriate or time-efficient to look for something using another resource, such as a book.

To start, assemble into your cooperative groups and using the eHat computer program, obtain your role assignments for this activity. You may receive one or more of these roles depending on your group size. The roles include:

- **Group Facilitator** - Responsible for moderating all discussions. During surfing time, moves back and forth between surfing teams to keep the group on task.
- **Reporter** – Responsible for restating the group’s conclusions to the rest of the class.
- **Surfer #1** – Responsible for using search engines to find the target information.
- **Recorder #1** – Responsible for supporting surfer #1 and taking notes on items found. Prepares written answers to each assigned question.
- **Surfer #2** – Responsible for using search engines to find the target information.
- **Recorder #2** – Responsible for supporting surfer #2 and taking notes on items found. Prepares written answers to each assigned question.

You will have 10 factual questions to research. For each question,

1. Identify traditional library reference resources that might answer each question. Consider the following library resources: encyclopedias, almanacs, newspapers, textbooks, journals, and the card catalog.

2. Select an Internet Search tool, like a directory (e.g. Yahoo!®), search engine, meta-search engine, or subject guide to begin your search.
3. Identify keywords for each question to use when you begin your search online. Don't forget to use words like *AND* or quotation marks to narrow down your search. Try to limit your keywords to no more than three.
4. Attempt to find the answer and write it down in the space provided.

**IMPORTANT:** Divide the questions among your group. If you're having difficulty with a question, skip it and continue onto the next question. Use the *CIESE Recommended Internet Search Tools* linked off of the Week 6 web page to select your Internet search tool.

**Example:** Who is the author of the book Infinite Jest?

Possible Library Resource: Library Card Catalog

Selected Internet Search Tool: Search Engine: Google

Keywords for Searching: "Infinite Jest" AND author

Answer: David Foster Wallace

## QUESTIONS

1. What is the current price of Microsoft stock MSFT on the NASDAQ right now?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

2. What is the population of the Dominican Republic?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

3. What capital city in the world has the highest elevation?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

4. What food does a wild boar eat?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

5. What is the current exchange rate between the American Dollar and the Euro?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

6. What is the temperature and relative humidity in Chicago, IL right now?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

7. What is the headline in today's Denver Post newspaper?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

8. Who is the first to speak in Act I, Scene I of William Shakespeare's play Hamlet?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

9. Who were the original members of the "Beach Boys?"

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

10. What was the top grossing movie last weekend?

Possible Library Resource: \_\_\_\_\_

Selected Internet Search Tool: \_\_\_\_\_

Keywords for Searching: \_\_\_\_\_

Answer: \_\_\_\_\_

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## Handout 5: Evaluating Web Resources

Click on *Activity 3: Evaluating Web Resources* on the Week Six Workshop Web Page. Review two websites in one row of the table, either websites about animals or about gasses. Use the space below to take notes on the websites. Decide which website is legitimate and which is phony using the criteria table below.

Website #1 Notes:

Website #2 Notes:

Criteria You're Looking For	Questions to Ask Yourself
<b>Accuracy</b>	Who wrote the page? Can you contact the author? What are the authors' credentials? Who is the sponsoring organization?
<b>Currency</b>	Is the page out of date? Are there dead links? Is there a date when the page was last updated? Is the posted Information old?
<b>Objectivity</b>	Does the author or organization have a point of view? What is the purpose of the page? Who is the audience?



## Handout 6: Recognizing Plagiarism

Review the three passages about Ernest Hemingway below. Access *Activity #4: Internet Pitfalls* on the Week Six Workshop web page. Click on Google's Advanced Search tool. In the "with the exact phrase" box, copy a string of words from each paragraph below. Review the results to determine which paragraph is legitimate and which two are plagiarized.

Passage #1:

Hemingway had often been close to death, he always felt death to be near, and his prose sought to make the ultimate experience come close. Death might yet be recorded in the flesh -- as intimate a sensation as eating, drinking, and lovemaking. But the "true sentence" could be recognized only if it had the right cadence and the tease of subtlety in some culminating word.

Passage #2:

Hemingway possessed a yearning for immortality that spawned perhaps from his very personal proximity to death at key points in his life. It was through his work that he was able to explore the existential choices that man had before him: the open razor, edge up in "Indian Camp; the silkworms in "Now I Lay Me" representing the ceremonial process of birth, life, reproduction, and death; and the dried and frozen leopard carcass In "the Snows of Kilimanjaro" were all enticing symbols for Hemingway, teasing in their way. Through his work, he explored his options, the power of death, and the choice he had in its inevitability.

Passage #3:

Throughout Hemingway's life, timing was to be a key factor in what happened to him and in how he reacted. Hemingway's timing was always very good, whether with regard to external events or to his own endeavors first at becoming a writer and then at promulgating his career as one. With regard to timing, war was one of the areas in which history accommodated Hemingway.

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## Handout 7: Week Six Reinforcement Activity

### Evaluating WebQuests

<b>Name of WebQuest</b>	
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Criteria	Present?
1. WebQuest has all six required elements: introduction; task; process; resources; evaluation; conclusion.	
2. WebQuest utilizes Real-Time data resources.	
3. WebQuest utilizes other unique and compelling Internet websites, such as current news articles, up-to-date medical information, or research tools that are difficult to find in a library.	

<b>Name of WebQuest</b>	
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Criteria	Present?
1. WebQuest has all six required elements: introduction; task; process; resources; evaluation; conclusion.	
2. WebQuest utilizes Real-Time data resources.	
3. WebQuest utilizes other unique and compelling Internet websites, such as current news articles, up-to-date medical information, or research tools that are difficult to find in a library.	