Use of INFOhio as a Research Tool for Elementary School Students

By: Denise Goble, Errol Savage, Jamie Klintworth
Kent State University, Fall 2008

INSTRUCTOR’S GUIDE

Welcome to the Instructor’s Guide for INFOhio! This guide will walk you through the process for teaching your students how to effectively use INFOhio. This guide includes directions for teaching the lesson, as well as checklists for pre-requisite skills, pre-test skills and post lesson skills. In this guide you will also find worksheets for formulating key words, directions on navigating INFOhio, and evaluations for search results. Lastly you will find a chart for directing the searches, and a table for evaluating search results.

In order to complete this instruction, students and instructor must have access to computers with internet access. In addition, ensure that you have a current INFOhio username and password and have familiarized yourself with the basic search features of the site.

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Pre-test: Directions & Assessment

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- Unit #1: Directions, “Keyword & Word Association” Worksheet, “Questions?” Worksheet
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- Unit #3: Directions, Scavenger Hunt
- Unit #4: Directions, “Sources” Worksheet
- Unit #5: Directions, Informational Outline and Citation Templates

Post-test: Directions & Assessment

Additional Materials: Evaluation Table & Search Type Chart
Assessment of Pre-requisite Skills

Use the table below to determine if the students possess the skills necessary to participate in this instruction. Discuss basic computer use with the students and ask them about their previous experiences with computers and complete the table. If necessary, review these skills with students before proceeding to the next section.

<table>
<thead>
<tr>
<th>Tasks/Skills</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is student able to turn on a computer?</td>
<td></td>
</tr>
<tr>
<td>Is student able to use a keyboard and a mouse?</td>
<td></td>
</tr>
<tr>
<td>Has student ever conducted an internet search using keywords?</td>
<td></td>
</tr>
<tr>
<td>Is student familiar with the following terms:</td>
<td></td>
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<tr>
<td>Internet browser</td>
<td></td>
</tr>
<tr>
<td>Address Bar</td>
<td></td>
</tr>
<tr>
<td>URL</td>
<td></td>
</tr>
<tr>
<td>Keyword search</td>
<td></td>
</tr>
<tr>
<td>Does student have access to a valid INFOhio username and password?</td>
<td></td>
</tr>
</tbody>
</table>
**Pre-test**

Bring the students to the computer lab and ask them to turn on the computers. Ask students to search the internet and find information on a specified topic (For example: George Washington). Observe students’ progress and record their comments. Complete the following checklist.

**Pre-test Directions:** Students will complete the following tasks. Teacher will use the following checklist to evaluate completion of skills. Due to time constraints, students will not be required to complete a full outline during the pre-assessment phase.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Task/Skills</th>
<th>Task Completed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Define Task</td>
<td>1. Identify topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Read assignment</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>B. Write topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. Write 10 questions about topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D. Compile list of keywords about topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Access INFOhio</td>
<td>2. Successfully log-in to INFOhio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Locate and power button and turn on computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. Locate and open internet browser</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. Locate address bar and type in the URL for INFOhio</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D. Accurately enter username and password to gain access to INFOhio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Conduct Search</td>
<td>3. Conduct a search for relevant information</td>
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<td>---</td>
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<td>---</td>
<td></td>
</tr>
<tr>
<td>A. Access &quot;Resources for grades K-5&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Conduct either a general search or a source-specific search on INFOhio using previously identified keywords</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. Identify at least 2, but fewer than 20, relevant sources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Modify search parameter and keywords until more than 2 but fewer than 20 sources are identified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Evaluate the search results to identify most relevant sources and eliminate those that do not meet criteria</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Determine whether the information found is enough to answer all the identified questions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Instruction

All instruction should take place in the computer lab. Instruction has been divided into 5 units. Allow for approximately 30 minutes for each unit. Use the worksheets provided.

Unit #1

Use the keyword and questions worksheets during this unit of instruction.

1. Play a word association game with students to illustrate techniques for formulating keyword lists.
2. Demonstrate the importance of relevant keywords and well-worded topic questions by modeling an INFOhio search 2 ways: A.) using an inappropriate keyword and B.) using a relevant keyword.
3. Lead a discussion about internet searches, including topics such as how to conduct a basic search, why keywords are important and why some of the students' previous search attempts were unsuccessful.
4. Introduce and model use of Boolean operators. Ask students to access and explore the website http://www.boolify.org/index.php
5. Lead a question and answer session about a specific age-appropriate topic. Model the development of topic questions and keyword lists based on students' responses.
6. Observe and comment on student progress.
7. Provide each group of students with a topic and ask them to formulate 10 questions about their topic and a list of keywords.
8. Instructor and peers will provide feedback throughout the discussion.
9. Evaluate the questions and keyword lists formulated by the students.
10. Model a successful keyword search based on topics suggested by students to link instruction to day-to-day life.
Unit #1

KEYWORDS and
WORD ASSOCIATION

Topic: Tigers
Now write down 5 WORDS that describe the topic. For example: types or colors of tigers.
1.___________________________________________________
2.___________________________________________________
3.___________________________________________________
4.___________________________________________________
5.___________________________________________________

You’ve just created keywords! Share your keywords with your teacher and your class. Did anyone list the same words as you did?

Now write down 5 WORDS that do not describe the topic. (Hint: are there any tigers that are not animals?)
1.___________________________________________________
2.___________________________________________________
3.___________________________________________________
4.___________________________________________________
5.___________________________________________________

Share your keywords with your teacher and your class. Did anyone list the same words as you did?
Now let’s practice using the topic and the keywords with the Boolean Operators. First use your computer and go to the website www.boolify.org. Fill out the blanks below. Then see what happens when you try them out on www.boolify.org.

**AND:** Combine your topic with your keywords.
1. ______________________ AND __________________________
   (Topic)                                              (Keyword)
2. ______________________ AND __________________________
   (Topic)                                              (Keyword)

When you used **AND** to combine the topic and a keyword, did you get more matches or fewer matches?____________________________________

**OR:** Combine your topic with your keywords.
1. ______________________ OR __________________________
   (Topic)                                              (Keyword)
2. ______________________ OR __________________________
   (Topic)                                              (Keyword)

When you used **OR** to combine the topic and a keyword, did you get more matches or fewer matches?____________________________________

**NOT:** Combine your topic with some of the words that do not describe your topic.
1. ______________________ NOT __________________________
   (Topic)                                              (Keyword)
2. ______________________ NOT __________________________
   (Topic)                                              (Keyword)

When you used **NOT** to combine the topic and a keyword, did you get more matches or fewer matches?____________________________________
Unit #1

QUESTIONS?

You’ve all heard of the game 20 questions, right? Well, for this exercise we’re going to play a game called **10 Questions**. To play, simply think about your topic and then come up with a list of 10 things you think everyone should know about that topic.

**Topic: Tigers**

Questions:

1. _______________________________________________________

2. _______________________________________________________

3. _______________________________________________________

4. _______________________________________________________

5. _______________________________________________________

6. _______________________________________________________

7. _______________________________________________________

8. _______________________________________________________

9. _______________________________________________________

10. _______________________________________________________

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Unit #2

1. Using a computer and projector, show students what the INFOhio site looks like and demonstrate some of its features.
2. Show students how to locate the appropriate internet browser, access INFOhio and successfully log-in. Also, demonstrate how to navigate the site and where to find the resources for Grades K-5.
3. Explain the difference between a specific search engine like INFOhio as compared to Google. Elicit responses from students regarding effectiveness of prior searches using other search engines.
4. Ask students to log-in to INFOhio and introduce a simple exercise that will lead them through site navigation.
5. Observe and assist as necessary while students attempt to complete the exercise.
6. Students will work in groups to complete the exercise.
7. Instructor and peers will provide feedback throughout the exercise.
8. Check that each student has successfully completed all portions of the exercise.
9. Have students show you they can access site again and again. With remaining class time, allow students to explore INFOhio independently and conduct searches based on their individual interests.

Comments:
Unit #2

HOW DO I USE INFOHIO?

Today, you’ll log-on to INFOhio, explore the site, and try some simple searches.

1. Turn on your computer and open the internet browser. Type www.infohio.org into the address bar at the top of your screen.

2. In the box labeled username, type think. In the box labeled password, type infohio.

3. Find and click on the button for Resources for Grades K-5.

4. The first box is a search box where you can use your keywords and Boolean operators.
   - In the blank space, type tigers.
   - Click on Go Infohio search.

   What is the name of the first article? ________________________
   What is the name of the the publication it is from? ________________________

   - Click on the word view to see the article.
   What does the first line of the article tell you about tigers?
   ____________________________________________________________________

   - Close the window to return to the results page.
   - Use the back button on your internet browser to return to INFOhio’s main search screen.

5. Now try again, this time using the Advanced Search Feature.
   - Find and click on the Advanced Search button on the top of your screen.
   - In the first box type tigers.
   - Click the circle next to AND
   - In the second box type golf.
   - Click the circle next to NOT
• In the third box type animals.
• Click on the box next to the word General.
• Click on the Search button.

What is the name of the first article?______________________________
What is the name of the publication it is from?______________________

By using Boolean operators and the same topic, you’ve now found articles about the golf pro Tiger Woods!

6. Below search box is a list of resources. Try clicking on some of the resources. Notice that each time, you will have to enter in keywords and conduct a search. (Use the back arrow at the top of your internet browser to return the main INFOhio search page.)

7. Take the remainder of the class period to practice searching on INFOhio.
Today, you’ll log-on to INFOhio, explore the site, and try some simple searches.

1. Turn on your computer and open the internet browser. Type www.infohio.org into the address bar at the top of your screen.

2. In the box labeled username, type think.
In the box labeled password, type infohio.

3. Find and click on the button for Resources for Grades K-5.

4. The first box is a search box where you can use your keywords and Boolean operators.
   - In the blank space, type tigers.
   - Click on Go Infohio search.

What is the name of the first article? Tiger
What is the name of the the publication it is from? World Book Kids

   - Click on the view to see the article.
What does the first line of the article tell you about tigers?
Tigers are the largest members of the cat family.

   - Close the window to return to the results page.
   - Use the back button on your internet browser to return to INFOhio’s main search screen.

5. Now try again, this time using the Advanced Search Feature.
   - Find and click on the Advanced Search button on the top of your screen.
   - In the first box type tigers.
   - Click the circle next to AND
   - In the second box type golf.
• Click the circle next to NOT
• In the third box type animals.
• Click on the box next to the word General.
• Click on the Search button.

What is the name of the first article? **Golf’s Positive Strokes**
What is the name of the the publication it is from? **SIRS Discoverer**

By using Boolean operators and the same topic, you’ve now found articles about the golf pro Tiger Woods!

6. Below search box is a list of resources. Try clicking on some of the resources. Notice that each time, you will have to enter in keywords and conduct a search. (Use the back arrow at the top of your internet browser to return the main INFOhio search page.)

7. Take the remainder of the class period to practice searching on INFOhio.
Unit #3

1. Inform students that the day’s lesson will be a scavenger hunt.
2. Demonstrate a simple INFOhio search using 2 methods: A.) a general search and B.) a source specific search.
3. Remind students of the questions and keywords that were formulated in Unit #1 and discuss elements of effective internet searches.
4. Students will be given a chart to aid in determining the appropriate type of search and a scavenger hunt.
5. Students will be given an opportunity to ask each other and teacher questions.
6. Students will work in groups to complete the scavenger hunt.
7. Instructor and peers will provide feedback throughout the scavenger hunt exercise.
8. Check that each student has successfully completed the scavenger hunt.
9. Inform students that finding information to complete a research assignment is similar to the scavenger hunt they just completed.
10. Students will be asked to create their own scavenger hunt as an extra credit, homework assignment.

Each group of students will complete the following internet scavenger hunt. The goal of the hunt is to familiarize the students with INFOhio and using it to find research subjects. Using elements discussed in UNIT 3 the students will receive feedback during the instruction from both peers and the instructor. The students will complete the scavenger hunt, then make their own for homework. Results of the hunts will be discussed during class.

This scavenger hunt should lead students to an article about James Garfield, titled "At Home With President Garfield". Clicking on this article and reading through it they will find out about President Garfield's White house China and his Great Grandson Jimmy cutting the grass. Note: Jimmy Garfield died nearly two years ago at the age of 86 he was a personal friend to one of the developers of this lesson and used to speak at, and give presentations to the developer's classes.

Comments:
Unit #3

SCAVENGER HUNT

**Topic:** Which local born President had his great grandchildren eating off his own dishes? *(Note: No one eats off these dishes anymore but the great grandchild did as a child.)*

1.) Using INFOhio, find the names of all US Presidents who were born in November.

List them.

2.) Using INFOhio, find the names of all US Presidents who were from Ohio, born in Cleveland and born in November.

How many did you find?

What was his name?

3.) Using INFOhio, conduct a search using this President’s name.

Did you find an article titled “At Home With President ...”? 

Click on this article to read about this President and Jimmy, his great grandson.
Unit #4

1. Students will share the scavenger hunts that they created in the homework assignment.
2. Lead a discussion about evaluating search results and determining the right amount of information for a research project.
3. Reiterate skills used in Unit #3’s scavenger hunt activity.
4. Students will be given a table guiding them through the source evaluation process.
5. Allow students to ask questions about the evaluation process.
6. Students will use INFOhio searches to complete a search result evaluation worksheet.
7. Instructor and peers will provide feedback throughout this exercise.
8. Check completed worksheets to ensure that the appropriate number of sources were identified and that all questions were answered.
9. Discuss with students the importance of evaluating search results when completing research assignments.

Comments:
Unit #4

HOW DO I KNOW WHICH SOURCES TO USE?

So far we’ve learned how to create a keyword list and use Boolean operators (AND, OR, NOT). We’ve also made a list of 10 Questions that identify the most important details everyone should know about our topic. Now it’s time to get on the internet and try it out!

1. Use the topic, keywords and questions that you put together in class this week. Try a general search in INFOhio. Look at the titles and pictures of your results.

How many “Hits” did you get? _______________________________
Look at the titles and pictures for your “Hits”. Are there any that don’t match your topic? _______________________________

2. Now try again, this time using the Advanced Search Feature.
   - Find and click on the Advanced Search button on the top of your screen.
   - Fill in your topic.
   - Then choose some keywords and use AND, OR and NOT.
   - Click on the box next to the words General Search.
   - Click Search.

How many “Hits” did you get this time? _______________________
Look at the titles and pictures for your “Hits”. Are there still some that don’t match your topic? _______________________________

3. Keep trying using different keywords and Boolean operators until you have between 2 and 20 “Hits”.

4. Look at the titles and pictures of your results. Which ones sound like they might have the information you need to answer most of your questions?

5. Pick one that seems to be a good match. Read it and answer the following questions.
   - Can you find any of your keyword in the title of the article? _______
   - Can you read and understand most of the words in the article? _______
• Do the pictures on the page help you learn?____________________
• Are there several pieces of information you can use from this source to answer your questions?_______________________________
• Can you find the date that the article was written to verify that the information is current?______________________________
• Did you learn something new from this article?______________

If you answered yes to most of these questions, you've found a good source of information. If you answered no to most of these questions, choose another source and try again!
Unit #5

1. Inform students that this unit represents the final stage of a research project.
2. Discuss the basics of informational outlines.
3. Remind students of the questions formulated in Unit #1.
4. Model the creation of an informational outline using an example from one of the scavenger hunts created by a student.
5. Observe and assist as necessary while students complete their outlines.
6. Students will be given a worksheet that will involve transferring the information gathered during the scavenger hunt to an outline.
7. Instructor and peers will provide feedback throughout the exercise.
8. Check student created outline to ensure that all questions were answered and that the information is relevant and appropriate.
9. Discuss how all of the units in this instruction are vital to the completion of an internet-based research assignment. At the end of this unit of instruction, students will be required to use INFOhio to complete an independent research project resulting in an information outline. This will serve as the post-test.

Comments:
Unit #5

INFORMATIONAL OUTLINE

Use this worksheet to organize the information you’ve found. Don’t forget to cite your sources!

Topic: __________________________________________________________

1) (Question #1)____________________________________________________
   a) (Answer to Question #1)________________________________________
       _____________________________________________________________
       _____________________________________________________________
       _____________________________________________________________
       _____________________________________________________________

2) (Question #2)____________________________________________________
   a) (Answer to Question #2)________________________________________
       _____________________________________________________________
       _____________________________________________________________
       _____________________________________________________________

3) (Question #3)____________________________________________________
   a) (Answer to Question #3)________________________________________
       _____________________________________________________________
       _____________________________________________________________
       _____________________________________________________________

4) (Question #4)____________________________________________________
   a) (Answer to Question #4)________________________________________
       _____________________________________________________________
       _____________________________________________________________

5) (Question #5)____________________________________________________
   a) (Answer to Question #5)________________________________________
       _____________________________________________________________
       _____________________________________________________________
       _____________________________________________________________
6) (Question #6) ______________________________________
   a) (Answer to Question #6) ______________________________________
       ______________________________________
       ______________________________________

7) (Question #7) ______________________________________
   a) (Answer to Question #7) ______________________________________
       ______________________________________
       ______________________________________

8) (Question #8) ______________________________________
   a) (Answer to Question #8) ______________________________________
       ______________________________________
       ______________________________________

9) (Question #9) ______________________________________
   a) (Answer to Question #9) ______________________________________
       ______________________________________
       ______________________________________

10) (Question #10) ______________________________________
    a) (Answer to Question #10) ______________________________________
       ______________________________________
Unit #5

SOURCE CITATION TEMPLATE

Source #1

Author (if shown):_________________________________________

Title of the article:________________________________________

Name of encyclopedia:____________________________________

Date of publication (if available):___________________________

Date you found the information: _____________________________

Source #2

Author (if shown):_________________________________________

Title of the article:________________________________________

Name of encyclopedia:____________________________________

Date of publication (if available):___________________________

Date you found the information: _____________________________

Source #3

Author (if shown):_________________________________________

Title of the article:________________________________________

Name of encyclopedia:____________________________________

Date of publication (if available):___________________________

Date you found the information: _____________________________
**Post-test**

Assignment: Students are to conduct independent research on a famous sports figure. Remind students to use the search strategies presented during the instructional units. Students may use the Search Type Chart, Search Evaluation Table, Citation Template and Informational Outline Template in completing this assignment. Students must turn in their completed Informational Outlines and Citation Templates. Use the following checklist to evaluate the independent research projects conducted by the students.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Task/Skills</th>
<th>Task Completed Yes/No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Define Task</td>
<td>1. Identify topic&lt;br&gt;A. Read assignment&lt;br&gt;B. Write topic&lt;br&gt;C. Write 10 questions about topic&lt;br&gt;D. Compile list of keywords about topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Successfully log-in to INFOhio&lt;br&gt;A. Locate and power button and turn on computer&lt;br&gt;B. Locate and open internet browser&lt;br&gt;C. Locate address bar and type in the URL for INFOhio&lt;br&gt;D. Accurately enter username and password to gain access to INFOhio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Conduct Search</td>
<td>3. Conduct a search for relevant information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A. Access "Resources for grades 1-5"

B. Conduct either a general search or a source-specific search on INFOhio using previously identified keywords

4. Identify at least 2, but fewer than 20, relevant sources
   A. Modify search parameters and keywords until more than 2 but fewer than 20 sources are identified
   B. Evaluate the search results to identify most relevant sources and eliminate those that do not meet criteria
   C. Determine whether the information found is enough to answer all the identified questions

5. Using the sources selected, students will take notes, cite sources and produce an informational outline
   A. Read selected sources and take notes, making sure that the information is relevant to the topic and to the identified questions.
   B. Record the following information about each source:
      Name of article
      Name of online source from which it was retrieved
      Date the article was published
      The date on which the information was
C. Produce an outline that includes the following components:
   Clearly identified topic

   10 well-defined questions relevant to the stated topic

   Complete and accurate answers to all 10 of the questions
Additional Materials

Table for search result evaluation

<table>
<thead>
<tr>
<th></th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Can you find any of your keywords in the title of the article?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Can you read and understand most of the words used in this article?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Do the pictures and photographs on the page help you learn?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Are there several pieces of information you can use from this source to answer your questions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Can you find the date that the article was written to verify that the information is current?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Did you learn something new from this article?</td>
<td></td>
<td></td>
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</tbody>
</table>

If you answered yes to most of these questions, you have located a valid source of information. If not, try again!
Search Type Chart

1. Determine type of search
2. Do you know the name of the source you'd like to use? [YES/NO]
   - YES: Conduct a source-specific search
   - NO: Conduct a general search
3. Type keyword(s) into first box
4. Click on Go INFO search
5. Is the name of your source printed on one of the buttons? [YES/NO]
   - YES: Click on that button
   - NO: Type keyword(s) into first box
   - Click on arrow to reveal choices
   - Select type of source to search
   - Click on Go INFO search

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