projectRESEARCH: Consider the Source

WESTERN**RESERVE**
PUBLIC MEDIA

http://www.WesternReservePublicMedia.org/research

Contents

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Overview

Why create a project about research?

You just got your driver's license. Your dad said he'd help you pay for a car of your own. Now the task is to decide what you want. Is what you want what you can afford? Is a lower-priced car going to be maintenance free? The best way to find out is to research the topic. First, you'll gather information. Then you'll read it make sure you have a clear understanding of that information and are not being conned. Then, based on that information, you'll pick the car of your dreams. Research is a key element in making good decisions. Those decisions can be minor, such as deciding what you want to eat for breakfast, or they can be as important as purchasing a car. They might even be vital, such as selecting a hospital if you are sick.

In each case, the process that you use mimics this research project. First students find information about the topic. They can search the Web for the information that is needed. They then make sure that they have an understanding of what they have found and that the source is accurate. Finally, they make decisions based upon what they have learned.

Research is the tool that helps us to make informed decisions. This projects helps students in grades 7-12 learn the structure for creating a research project, from finding information to the creation of a presentation using information they have made their own.

What standards are used?

Reading and writing standards say that a student must be ready for college and for the workforce. To be ready, the Common Core Standards state that "students need the ability to gather, comprehend, evaluate, synthesize and report on information and ideas, to conduct original research in order to solve problems." *(Common Core State Standards for English, Language Arts and Literacy: Research and media skills blended into the Standards as a whole, p. 4.)* Those tasks are exactly what is provided in **projectRESEARCH: Consider the Source**.

What does research show about students' ability to use research?

Research was done through the Education Testing Service using ICT (Information and Communication Technology Literacy Assessment). More than 6,000 students took this test, which produced these preliminary research findings: "Only 52 percent of test takers could correctly judge the objectivity of a Web site and only 65 percent could correctly judge the site's authoritativeness. In a Web search task, only 40 percent entered multiple search terms to narrow the results. And when selecting a research statement for a class assignment, only 44 percent identified a statement that captured the demands of the assignment." *Source: http://www.ets.org/ictliteracy/prelimfindgings.html*

What does this project include?

ProjectRESEARCH: Consider the Source includes six videos: three student videos and three professional development videos. Also included is this teacher guide, which can be found online at **http://westernreservepublicmedia.org/research**. Supplemental materials also are available at this site.

Student Videos:

Video 1: Finding Information

- Evaluating websites
- Knowing search language
- Tips for good searching
- Finding information

Video 2: Understanding Information

They did their research, they found a site and it's on the topic. This video helps students understand the information they find and focus their ideas, both old and new, into a manageable topic. Topics covered in this video include the following:

- Understanding graphs
- Primary, secondary and tertiary sources
- Paraphrasing information
- Using proper citations

Video 3: Making Information Your Own

Presentation of the information found is a critical factor, and students need to understand their audience. This video helps the student understand the different types of presentations that could be made. Below are the topics covered in this video:

- Types of presentations
- Social media
- Acting as a reporter
- Doing a project

Teacher Videos:

Video 4: Finding Information

This video offers steps for helping students to find the information and check its validity.

Video 5: Understanding Information

This video offers activities for helping students understand the information that they have researched.

Video 6: Making Information Your Own

This video helps the teacher to understand the different ways that students are doing research today. The research project is discussed.

projectRESEARCH: Consider the Source

Finding Information

http://www.WesternReservePublicMedia.org/research

Evaluating Websites PowerPoint Presentation

Evaluating Websites

Slide 1

Why should I evaluate websites?

- To assure that the information is accurate
- To avoid being deceived
- To get a good grade

Slide 2

What should I look for?
Authority

- Is the author of the site given? Is he/she reputable? Can I find information about the author?
- Is the site created by an organization? Can I find information about the organization?

Slide 3

More about …
Authority

It is difficult to judge the authority of the writer of the website. For help look at:

- The domain: *.edu, .com, .org, .net*
- A header or footer that indicates the author's affiliation

Example:
http://westernreservepublicmedia.org

What can you say about this site?

Slide 4

What should I look for?
Accuracy

- Is the information on the site true? Can I verify it?
- Are the grammar and spelling correct?

Slide 5

What should I look for?
Currency

1962

- How old is the information? Is there a copyright date?
- Has the site been updated?

Slide 6

What should I look for?
Coverage

- What is the focus of the site?
- Is the site easy to navigate?
- Are there clear headings so that I know what the site is about?

Slide 7

What should I look for?
Objectivity

Go Browns!!!

- Is there a sponsor for the site? Does that sponsor have an "issue?"
- Are inflammatory words used on the site?

Slide 8

More about …
Objectivity

- Is there **bias** in the information given on the site? What is the site trying to do? Let's look at an example.
- **FAIR** — Federation for American Immigration Reform: http://www.fairus.org/home
  - What are the writers of the site trying to do?
  - Is this an unbiased presentation of the information?

Slide 9

Need more information? Try …

- **Evaluation Criteria**
  http://lib.nmsu.edu/instruction/evalcrit.html
- **Criteria for Evaluating Websites**
  http://www.classzone.com/books/research_guide/page_build.cfm?content=web_eval_criteria&state=none
- **Library Learning Commons**
  http://www.fscj.edu/mydegree/library-learning-commons/assets/documents/web_site_eval.pdf

Slide 10

Evaluating Websites

Overview

To reinforce the fact that not everything presented on the Internet is true, students research selected websites to determine their reliability.

Standards Addressed

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source and integrate the information while avoiding plagiarism.

Materials

- PowerPoint: Evaluating Websites
- Student handout: Can I Believe It? Evaluating Websites
- Computers or other technology that allows use of the Internet

Procedure

1. Begin by asking students what they look at when they are finding information on website. After a brief discussion, show the PowerPoint presentation.

2. Distribute the student handout Can I Believe It? Evaluating Websites.

3. Ask a student to read the first two sections of the handout. If possible, display the first article so that all students can see it. (Or have them go to the site on their own computer.) Discuss what they have just read. Ask if they believe what the articles say. Ask if there are any clues to help them make a decision. These questions could be asked:
    - Who is responsible for the site?
    - What is the purpose of the site?
    - Is the information fact or opinion?
    - Can the information be verified?
    - Why was the site created?
4. Read through the section of the handout that is titled "Your Task." Review what the top-level domain (TLD) means. Review the criteria that the students should look for when determining whether a site is reliable or if it has information that is incorrect.

5. Have the students work with a partner and have them write the names of both partners on the student handout.

6. Assign two of the sites in the section titled Sites to Search to each team of students. Tell them to fill in the section at the end of the page by writing the number of the site in the first box, the name of the site in the second box and whether they think the site is real or a fake. Then they need to write why they made this decision.

7. You can either collect the sheets and go over them or have a discussion at the end of class or the following day giving the students the correct answers.

Answers

1. **Aluminum Foil Deflector Beanie — http://zapatopi.net/afdb/#what**
   Unreliable site. In the section called "Special Information for Web Site Evaluators," teachers and information gatekeepers are accused of trying to control your mind. You are told to check provided sites to verify this fact. Most of the sites don't work and the ones that do have no relationship to this topic.

2. **Dihydrogen Monoxide Research Division — http://www.dhmo.org**
   Unreliable site. This site was makes it sound as if the use of this chemical combination is dangerous. In actuality, dihydrogen monoxide is water (H_2O). This site fooled many news organizations and almost led to the passage of related legislation in a California city!

3. **The Martin Luther King Research and Education Institute — http://mlk-kpp01.stanford.edu**
   Reliable site. This is an .edu site and therefore the information is most likely accurate. If you checked the information against other resources, you will most likely find the same information.

4. **The White House — http://www.whitehouse.gov**
   Reliable site. This is a .gov site, meaning that it was put on the Web by a government agency. If you checked the information against other resources, you will most likely find the same information.

5. **The White House — http://www.whitehouse.net**
   Unreliable site. The site looks legitimate but upon closer examination, you will learn that it was built first as protest and then as a joke.

6. **California Velcro Crop Under Challenge — http://home.inreach.com/kumbach/velcro.html**
   Reliable site. Velcro cannot be grown. There is no Velcro crop even though the site looks very real. The title should give you a clue the site is bogus.

7. **Buy Dehydrated Water — http://buydehydratedwater.com**
   Unreliable site. By virtue of the tital alone, this site is obviously a joke. Go to the Cool Jobs and FAQ sections for further evidence.

Evaluation

Exit Slip

Have the students put all their materials away.

Distribute a 3x7 card. Ask the students to write at least three methods they would use to decide if a website is valid. Collect the cards as they leave the room. Collate their information and the following day, share what they wrote and what they omitted when deciding how legitimate a website is.

OR

Create a wall and have the students put their information on the wall using the computer. To do this, go to http://padlet.com.

- Select "Build a Wall."
- Log in by giving your email address and a password.
- You can give the students your email and password or go to "share the wall" and have the students put three messages on the wall explaining how they would determine if a site was valid. This is done by merely clicking on the wall.
- You could also have this on one computer and have the students enter their information on that computer.

Names of your team_____

Can I Believe It? Evaluating Websites

Do you believe everything that you read on the Internet? Let's look at a few websites that might help you to make a decision as to their validity or accuracy.

Your Task

Below are seven websites. Some are reliable and give accurate information and some are not. With your partner, you will go to at least two of these websites to determine if they are valid, truthful sites. What should you look for?

1. Who created this site? Is the person or organization credible? Is there contact information?
2. What does the top-level domain (TLD) – the last part of the domain name that follows the period – tell you? Here are some common TLDs:
    - **.gov** – Created by the government; is generally accurate
    - .**edu** – Created by a university or college; is generally accurate, but could be a student or professor's personal site
    - .**org** – Created by a not-for-profit institution and is generally designed to benefit the organization
    - .**com** – Created by a for-profit institution or business for a specific agenda
    - .**net** – The name is derived from *network*, indicating its originally intended purpose was for organizations involved in networking technologies. This is not always the case, however.
3. What's the purpose of the site ... to inform, persuade or sell something?
4. Are facts given or is it merely opinions? Is it affiliated with an organization?
5. Can the information be verified?
6. Is the information current?

Adapted from Teaching Students to Effectively Use the Internet, http://dept.sccd.etc.edu/tlc/resources/teach.html

Sites to Search

1. Aluminum Foil Deflector Beanie – http://zapatopi.net/afdb/#what
2. Dihydorgen Monoxide Research Division – http://www.dhmo.org

3. The Martin Luther King Research and Education Institute – http://mlk-kpp01.stanford.edu
4. The White House – http://www.whitehouse.gov
5. The White House – http://www.whitehouse.net
6. California Velcro Crop Under Challenge – http://home.inreach.com/kumbach/velcro.html
7. Buy Dehydrated Water – http://buydehydratedwater.com

Name of site selected: _____

Is it a reliable site? Yes _____ No _____

Why? _____

_____

_____

Name of site selected: _____

Is it a reliable site? Yes _____ No _____

Why? _____

_____

_____

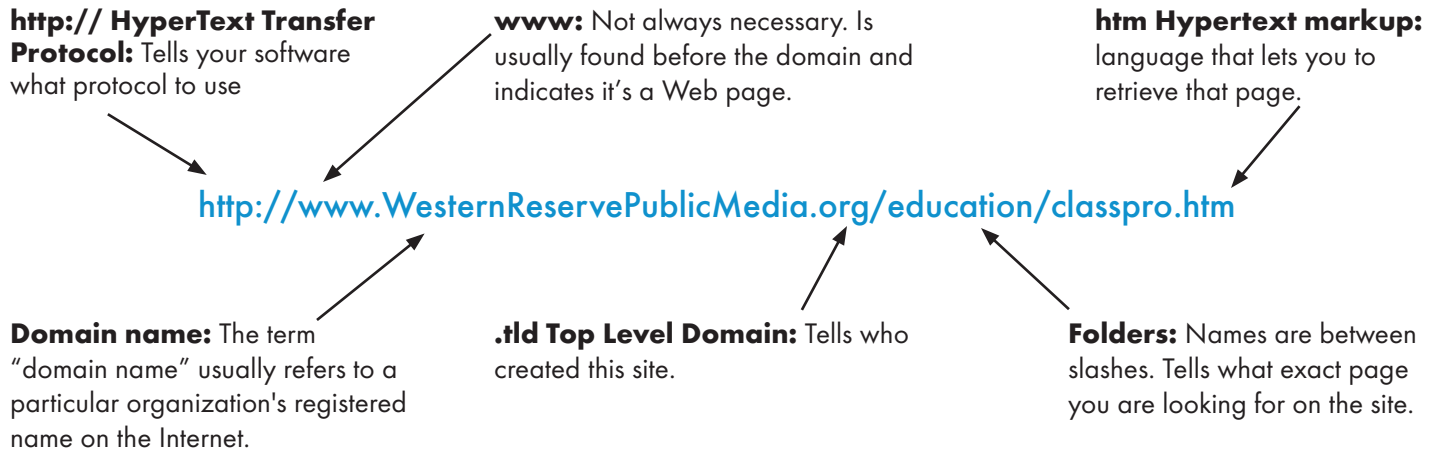
Name of site selected: _____

Is it a reliable site? Yes _____ No _____

Why? _____

_____

_____


http:// HyperText Transfer Protocol: Tells your software what protocol to use
www: Not always necessary. Is usually found before the domain and indicates it's a Web page.
htm Hypertext markup: language that lets you to retrieve that page.
http://www.WesternReservePublicMedia.org/education/classpro.htm
Domain name: The term "domain name" usually refers to a particular organization's registered name on the Internet.
.tld Top Level Domain: Tells who created this site.
Folders: Names are between slashes. Tells what exact page you are looking for on the site.

Cool Searching Tips PowerPoint Presentation

Obliterate??

Cool Searching Tips

Who won the Super Bowl in 2012?

How old is Pres. Obama?

Who is Will.I.Am?

Slide 1

What can I do if I need information?

- Use your textbook
- Go to the library
- Ask you teacher
- **Try a search engine**

But HOW?

Slide 2

What's a **search engine?**

Programs that search documents for **specified keywords** and return a list of the documents where the keywords were found.

Different search engine = different results

Slide 3

Think about KEY WORDS for your topic.

- Your task is to write a report on Abraham Lincoln. What are the **key words?**
  - Abraham Lincoln—of course
  - Civil War
  - Gettysburg Address
  - White House

Slide 4

Try using quotation marks around key words

Want information about **Abe Lincoln**?

If you type in Abe Lincoln, you might get sites about Abe Fortis or Lincoln penny

With quotation marks around the phrase — "Abe Lincoln" — you will get sites about Abe Lincoln only

Slide 5

Exclude Extra Words

You want to know in what city LeBron James was born.

On the search line you could write—
LeBron James birthplace
or just **LeBron James**

Slide 6

Use a **different search engine**. Continued…

Name some search engines:

- **Google —** In our survey, Google was the most-used search engine.
- **Bing**
- **Yahoo**
- **InfOhio**
- **Ask.com**

Slide 7

Observe the top-level domain (TLD) to determine validity of site.

http://kent.edu

the **TLD**

Slide 8

Look for these:

- **.gov** (government site)
- **.edu** (university site)
- **.org** (not-for-profit agency)
- **.com** (commercial site)
- **.net** (usually networking, but could have other use)

Slide 9

Shortcut words — On the search line, write _____

- **define:** gives you the definition of a word
- **weather:** add Zip code to get weather
- **movie:** put in Zip code and get listing
- **image:** put in name and get images list
- **phonebook:** put in number and it tells caller (cell phones often left out)
- **inform:** give information on topic

Slide 10

Two more tips

- No need for a calculator!
  Write calculations right on the search line.
- Can use symbols to get results.
  Use %, $ and #
  (# for social networking)

Slide 11

GIVE IT A TRY!
For more information, go to…

- **Google Search Features**
  http://google.com/help/features.html
- **Google Guide**
  http://googleguide.com

Slide12

Scavenger Hunt

Overview

In the form of online scavenger hunts, students practice researching particular questions.

Standards Addressed

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

Materials

- Student handouts: Scavenger Hunt – Sports and Scavenger Hunt – Global Warming
- Computer or other technology that accesses the Internet
- Writing utensils

Procedure

1. Ask the students if they have ever been on a scavenger hunt. Elicit their responses and make sure that they understand that a scavenger hunt is a game in which the organizers prepare a list of specific items that the participants strive to gather. Explain that instead of collecting physical "things," they will be gathering information from the Internet.

2. There are three options for this assignment.

    a. Scavenger Hunt – Global Warming has one site that the students will access. All of the questions can be answered using this site.

    b. Scavenger Hunt – Sports has a different URL for each question asked. This is more difficult than the Global Warming assignment because there are multiple sites to process.

    Decide which activity you want to use and distribute it to the students. Have them work with a partner, but remind them that each person is responsible for filling out his or her own answer sheet.

3. How much help you provide is dependent upon the ability of your students to scan and read new material and determine the answer to the question. You may want to do the first question together by projecting it on a screen or a Smart board.

Scavenger Hunt — Global Warming Answers

1. climate
2. global warming
3. stronger storms
4. Weather is a specific event or condition that happens over a period of hours or days. Climate refers to the average weather conditions in a place over many years (usually at least 30 years). The average climate around the world is called global climate.
5. Higher temperatures
   Changing rain and snow patterns
   More droughts
   Warmer oceans
   Rising sea level
   Wilder weather
   Increased ocean acidity
   Shrinking sea ice
   Melting glaciers
   Less snowpack
   Thawing permafrost
6. greenhouse gases
7. carbon dioxide
8. methane
9. Scientists measure the amount of greenhouse gases in the atmosphere in several ways. They use satellites and other instruments to measure the amount of greenhouse gases in the air all around the world. They also collect samples of air from specific places and then analyze these samples in a laboratory.
10. Reducing greenhouse gases

Scavenger Hunt — Sports Answers

1. Other teams include the Chicago Blackhawks, Detroit Red Wings, Nashville Predators and St. Louis Blues. They make up the Central Division.
2. The coach is Rob Chudzinski and the mascot is called Chomps.
3. American League Central
4. There are about 20 names on the list, so this answer will vary according to the year.
5. Hines Ward
6. Tennis
7. Augusta National G.C.
8. He is 6'8" and weighs 250 lbs. His weight could vary over time.
9. Skateboarding, snowboarding, surfing, skiing, BMX and RallyMoto X
10. Answers will vary over the years.

Evaluation

Each scavenger hunt has 10 questions. Ten points can be given for each question and the standard scale for grading can be used.

Names _____

Global Warming Scavenger Hunt

Your Task: Go to http://www.epa.gov/globalwarming/kids. Fill in the answers below.

1. The average weather conditions in a certain place over many years is called the _____ .
2. The average temperature of the earth, which has been increasing for many years, is called _____ .
3. When air temperatures rise, the oceans absorb more heat from the atmosphere and become warmer. The result of this is_____ .
4. What is the difference between weather and climate?_____

   _____

   _____

   _____

5. The average temperature of the earth is rising, but that's not the only way that we can tell the climate is changing. In fact, the signs are all around us! Observations and measurements from all over the world provide strong evidence that the climate has already started to change. Name at least five of those changes.

   _____ _____

   _____ _____

   _____

6. Heat-trapping gases exist naturally in the atmosphere, where they help keep the earth warm enough for plants and animals to live. But people are adding extra gases to the atmosphere. These gases are called _____ .
7. The most important greenhouse gas emitted by humans is _____ .
8. Another greenhouse gas is produced in several ways. The manure of cows and sheep, emissions from land fills, leaks in gas pipes and mining coal all produce this gas called _____ .
9. How do we know the amount of greenhouse gases in the atmosphere is increasing? _____

   _____

   _____

   _____

10. What is the key to solving global climate change? _____

Names _____

Scavenger Hunt — Sports

1. Go to www.espn.com. Name the teams that are in the same division as the Columbus Blue Jackets and name the division title.

2. Go to ClevelandBrowns.com and find the name of the head coach and mascot.

3. Go to www.espn.com. In what division do the Cleveland Indians play?

4. At this same site, name five pitchers for the Cleveland Indians.

5. Go to www.steelers.com. What Steelers football player won a Lifetime Achievement Award? (Clue: He was on "Dancing With the Stars.")

6. Go to petesampras.com. In what sport did he excel?

7. Go to http://www.golfdigest.com/golf-courses/2011-05/100-greatest-golf-courses. What golf course is rated number one in the United States?

8. Go to www.nba.com. How tall is LeBron James and how much does he weigh?

9. Go to http://xgames.espn.go.com. Name the six events that are a part of the X Games.

10. Go to http://espn.go.com/racing/nascar. Name five NASCAR drivers.

Fact or Fiction?

Overview

With a partner, students practice selecting keywords to maximize their Internet search results.

Standards Addressed

Research — Grades 7 and 8

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

Research to Build and Present Knowledge

8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source and integrate the information while avoiding plagiarism.

Materials

- Student handout: Fact or Fiction?
- Writing material
- Internet — access enough for every two students to be connected

Procedure

1. Divide the class into groups of two.

2. Introduce the activity by showing pictures of very strange things. Ask the students if they believe the pictures they are seeing are reliable. What can they do to determine the validity of the pictures? Acceptable answers might be to research at a library or on the Internet.

   Some Examples:

   - Siamese Snake: has a head on each end of its body — http://www.ripleys.com/weird/uncategorized/siamese-snake
   - Animal Freaks of Nature: odd dog teeth, animals with one eye and more — http://www.ripleys.com/weird/daily-dose-of-weird-wtf-blog/crazy-animals/pranks-of-nature
   - World's Biggest Easter Bunny: 4 ft., 3 in. long — http://www.ripleys.com/weird/daily-dose-of-weird-wtf-blog/unbelievable-but-true/beware-of-the-b-easter-bunny-worlds-biggest-bunny

- World's Smallest Dog: born at 1 oz. – http://www.ripleys.com/weird/daily-dose-of-weird-wtf-blog/crazy-animals/tiny-dachshund-pup-born-in-california-may-well-be-the-worlds-smallest-dog

- Tortoise with two heads and five legs – http://www.ripleys.com/weird/daily-dose-of-weird-wtf-blog/crazy-animals/tortoise-has-2-heads-and-5-legs

3. Distribute the Fact or Fiction? handout and go over the directions. Students should select two statements, list the search words they used and a site that either verifies or discredits the statement. Encourage the students to carefully select specific search words to improve the quality of their results. Stress the idea that it may take more than one search to find the information.

4. Below are the statements and one source that will verify or discredit it.

   - Kangaroos don't move backward. They can only jump, not walk! *True*. http://skeptics.stackexchange.com/questions/3596/can-kangaroos-walk-backwards

   - Dogs sweat through their feet – most of their sweat glands are on their paw pads. *True*. http://www.psychologytoday.com/blog/canine-corner/201011/do-dogs-sweat

   - After eating, a fly vomits its meal up and then eats it again! *True*. http://wiki.answers.com/Q/is_it_true_that_house_flies_throw_up_oeverything_they_land_on

   - Believe it or not, goats can climb trees! *True*. http://webecoist.momtastic.com/2008/08/19/the-incredible-tree-climbing-goats -of-morocco/

   - Elephants produce around 200 pounds of poo every day. *Open to debate – not necessarily true*. http://www.ehowspace.com/how-much-poop-does-an-elephant-produce-per-day

   - One million locusts make a swarm. *True*. http://www.independent.co.uk/news/science/solved-the-mystery-of-why-locustsswarm-1520409.html

Evaluation

The process is as follows:

1. Start or access computer.

2. Open browser.

3. Access a search engine.

4. Select suitable keywords or phrases to find the answer to your question.

5. Enter keyword or phrase into the search engine and run the search.

6. See if your search answers the question. If so, record your result. If not, try a different search word or phrase.

1	Has limited understanding of topic and struggles to identify search terms and keywords. Needs help to open browser and operate search engine. Needs assistance throughout process from key term or search word selection to result selection.
2	Has some understanding of the topic or area of learning. Occasionally needs assistance to open browser or search engine. Can construct a search with assistance. Can select suitable results with assistance. Can modify search with assistance.
3	Understands area of learning or topic. Opens browser and search engine with minimal assistance. Can select suitable terms or phrases with some assistance. Can enter keywords. Will select suitable results and modifies search with assistance.
4	Understands the area of learning or topic. Can open browser and select URL or icon independently. Can select suitable keywords or phrases with minimum of assistance. Can enter keyword or words and change if necessary. Understands why using these focuses the search. Can select appropriate results or modifies the search.

Adapted from http://edorigami.wikispaces.com

Names _____

Fact or Fiction?

Ever hear something that makes you wonder if it is possible that it is true? Did you ever decide to check it out and wonder what to do? Would you ask your mom or your dad if it's true? What else could you do? Let's try using the Internet to verify these statements.

Below are six statements.

1. ***Kangaroos don't move backward. They can only jump, not walk!***
2. ***Dogs sweat through their feet — most of their sweat glands are on their paw pads.***
3. ***After eating, a fly vomits its meal up and then eats it again!***
4. ***Goats can climb trees!***
5. ***Elephants produce around 200 pounds of poo every day.***
6. ***One million locusts make a swarm.***

Your Task: With your partner you are to select two of these statements and go to the Internet to discover if they are true or not true. You must keep a record of your searches – what words you used to find the answer. When you find the answer, you need to write the URL that shows if it is true or not true. Then write if you believe the site is reliable or not.

Statement number you selected:
Search word(s) used:
Number of searches you used:
The statement is TRUE or FALSE or NOT ALWAYS TRUE (circle one)
URL that proves or disproves the statement:
Do you feel this site is reliable? Yes No Why?

Statement number you selected:
Search word(s) used:
Number of searches you used:
The statement is TRUE or FALSE or NOT ALWAYS TRUE (circle one)
URL that proves or disproves the statement:
Do you feel this site is reliable? Yes No Why?

projectRESEARCH: Consider the Source

Understanding Information

http://www.WesternReservePublicMedia.org/research

Understanding Graphs PowerPoint Presentation

Understanding Graphs

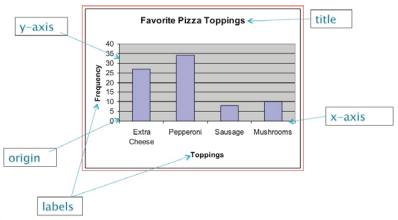
Slide 1

Bar Graph

- Easy to make
- Information is easily understood
- Each bar represents counts for a category
- The length of the bar represents the percent of the total that falls into that category

Slide 2

Bar Graphs



Slide 3

Box-and-Whisker Plots

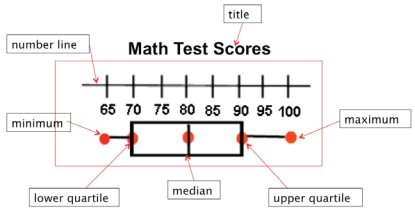
- Good for large data sets — at least 15

  Give five important pieces of data: **median, maximum, minimum, lower** and **upper quartiles**

- Can be used to compare sets with different number of data points

Slide 4

Box-and-Whisker Plots



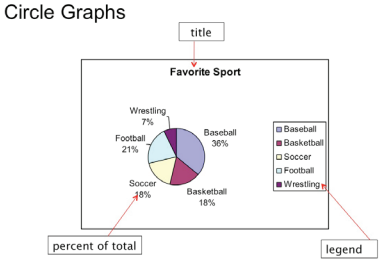
Slide 5

Circle Graphs

- Easy to read
- Each piece represents a percent of the whole
- Can also calculate the degree of the circle
- Shows the whole as 100 percent

Slide 6

Circle Graphs



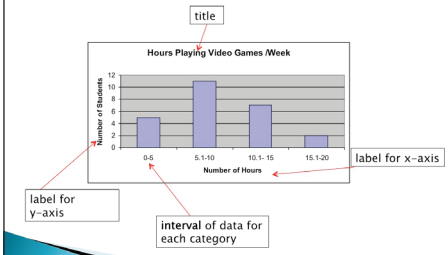
Slide 7

Histogram

- Kind of a bar graph
- Easy to make
- Bars represent an **interval** of data—not just one number (e.g., 0 to 5)
- The length of the bar represents the number that falls into that category

Slide 8

Histogram



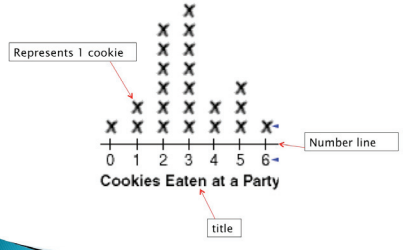
Slide 9

Line Plots

- Easy to read
- Easy to make
- Best when you have 25 data points or less
- Shows **clusters** (groups of points), **gaps** (large spaces between points), **outliers** (points much larger or smaller in value) and **variability** (how the data is spread)

Slide 10

Line Plots



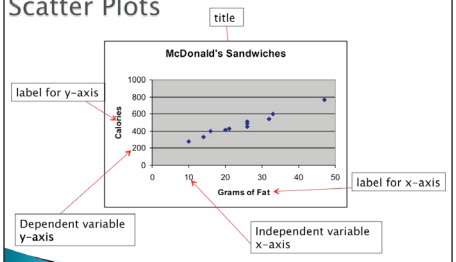
Slide 11

Scatter Plots

- Organizes **bivariate** data (two variables)
- Shows the **association** between two variables
- Involves **causation** and **association**
- Shows **clusters** and **outliers**
- Have the **independent variable** on the x-axis
- Can only connect points in a **time-series**

Slide12

Scatter Plots



Slide 13

Stem-and-Leaf Plots

- Easy to make
- Best with more than 25 values
- Allows the identification of **largest** and **smallest values, clusters, gaps** and **outliers**
- Other varieties include back-to-back plots

Slide 14

Stem-and-Leaf Plot

Stems	Leaves
0	
1	2, 4,5,6,8
2	3
3	6

2|3 means 23

Legend

Slide 15

Measure of Center

Mean — A number that represents the middle point, or **average**.

It is the quotient obtained by dividing the sum total of a set of figures by the number of figures.

Slide 16

Mean

Mean Health Care Salaries	
Surgeon	$184,150
Home health aides	$20,960
Nurses aides	$22,960
Dental assistants	$30,850
Physical therapists	$41,410
Athletic trainers	$38,860

- The sum of the salaries is $339,190
- There are six values.
- $339,160/6 = $56,531
- The **mean** is $56,531

Slide 17

Measures of Center

Median — The value in an ordered set of values that represents the point of which there are as many instances higher as there are lower.

Slide 18

Median

Mean Health Care Salaries	
Surgeon	$184,150
Home health aides	$20,960
Nurses aides	$22,960
Dental assistants	$30,850
Physical therapists	$41,410
Athletic trainers	$38,860

- Put the numbers in order by value:
  184,150 41,410 38,860 30,850 22,960 20,960
- Find the middle. In this case, the middle is between 38,860 and 30,850. So find the mean of those $\frac{38,860 + 30,850}{2}$
- $69,720/2 = 34,855
- The **median** is $34,855

Slide 19

Measures of Center…continued

Mode — The most frequent value of a set of data.

Mean Health Care Salaries	
Surgeon	$184,150
Home health aides	$20,960
Nurses aides	$22,960
Dental assistants	$30,850
Physical therapists	$41,410
Athletic trainers	$38,860

- There is no number that appears most often, therefore:
- There is no **mode**.

Slide 20

Look at the measures of center

- The mean is $56,531.
- The median is $34,855.
- There is no mode.

Why are the mean and the median so different if they are both measures of center?

The mean is greatly affected by very large or very small numbers. The surgeon's salary is much greater than the others and that gives us a larger mean.

Slide 21

Understanding Graphs

For more information about data, go to

Quiz Bus: Dealing With Data
http://westernreservepublicmedia.org/quizbus/index.htm

Dealing With Data Hotlist
http://westernreservepublicmedia.org/quizbus/index.htm

Slide 22

Graphing Data

Overview

Students learn how to make a bar graph using information that they gathered. They then practice finding mean, median, mode and outlier.

Standards Addressed

Research

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Materials

- Student handout: Getting to Know You
- Post-it notes
- A board, whiteboard or some large, flat surface that could be written on
- Writing utensils
- Papers with magnets on the back with the keywords to be placed on the board: x-axis, y-axis, labels, origin, title, mean, median, mode, gap and outlier

Procedure

Part One

1. Tell the students that this activity will help them find out a little more about the people in their class. First, however, they will find out a little more about the class as a whole.

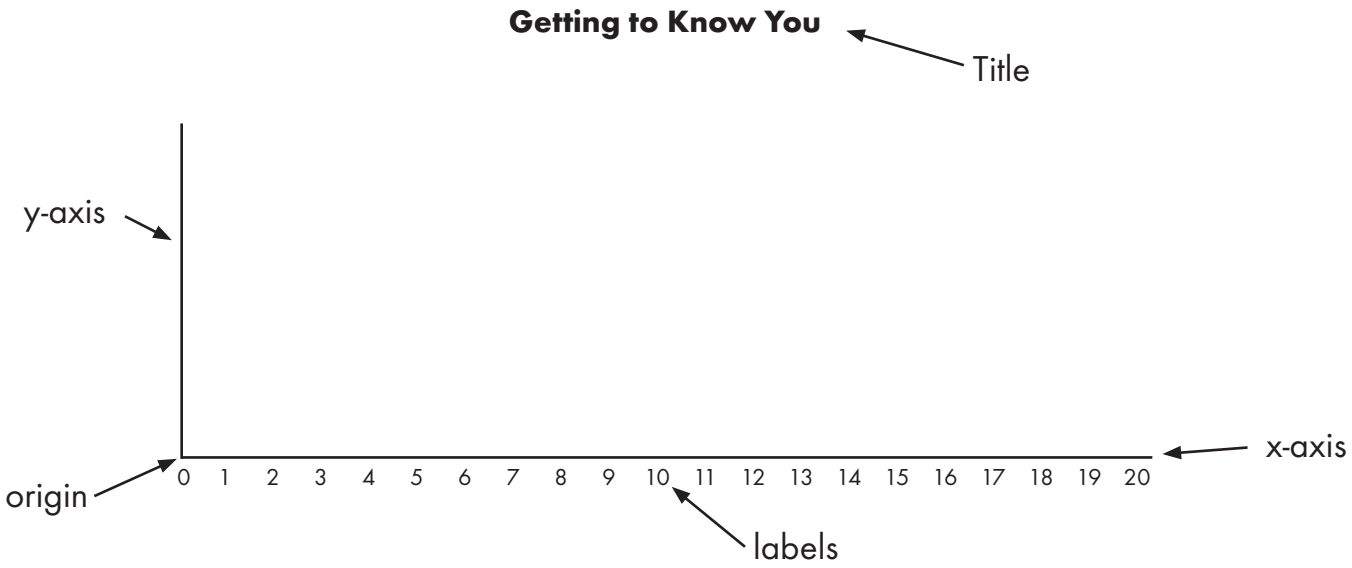
2. Draw the diagram below on a display surface.

3. Distribute the handout Getting to Know You. Have the students complete the first step by writing "yes" beside each item that is true for them. They should then add up the number of yeses and put that number on a Post-it note with their name. Next, instruct them to place their note on the board above the number of yeses on their paper. You may want to alter the list of items you're asking the students. This works best if you can say that all of the items on the list are true for you.

4. Now they can try to get their sheet filled by going around the room ask asking one question to someone else in the class. If that person can answer yes, he or she should initial the sheet. They then continue to ask one question to each person until the sheet is filled. You can omit the "getting to know you" part of this activity if time is a issue, but the students really love finding out things about their classmates.

5. Ask the students to tell something they learned about someone else in the class.

6. Now go back to the board and ask the students what type of diagram it is (bar graph). Display the name cards showing the words above. Ask them if they can place them in the correct place.



Part Two

7. Now we're going to look at the data that the students created. Write the words mean, median and mode so the students can see them. Ask the students if they know the meaning of these words. If they don't, tell them that these are words used to describe the data. They are called **measures of center**. These are numbers that provide information about cluster and average for a collection of data. They include the following:

   - **mean:** The sum of a set of numbers divided by the number of elements in the set.
   - **median:** The middle number or item in a set of numbers or objects arranged from least to greatest, or the mean of two middle numbers when the set has two middle numbers.
   - **mode:** The number or object that appears most frequently in a set of numbers or objects.

8. Have the students get into groups of two, three or four students and have them calculate mean, median and mode of the data on the board. When this is done, label them using the cards to show where they are on the bar graph that the students made with their Post-it note cards.

9. If you can answer yes to the words on the sheet, put your Post-it on the line at the number 20 on the graph. It will probably be far away from the ones that the students have placed on the graph. Now ask the students if they know the word **outlier.** Explain that an **outlier** is a data point in a sample widely separated from the main cluster of points. Use the card to label the outlier. Also ask if they know what a gap is. A **gap** is a break or hole between two data points. Point out the gap in the data and label it with the card.

Evaluation

Students will write an exit slip using a 3x5 card. They are to draw the picture that they created, putting the correct words in their place on the graph. The teacher can give them the frame so that they can fill in the names of each item.

Name_____

Getting to Know You!

1. Write **YES** in front of every statement that is true for you. Count that number and write the total on a Post-it note. Place your Post-it note on the board above the number that matches your total.

2. You are to try to fill in the blank spaces on your sheet by asking **ONE** question to someone else in the class. If they can answer yes to an open question, have them initial your sheet. Continue to ask **ONE** question to each person until your sheet is full.

_____ 1. My favorite show on TV is "Big Bang Theory."

_____ 2. I own a pair of Nike shoes.

_____ 3. I have a Macintosh and a PC computer at home.

_____ 4. I read in bed.

_____ 5. I take showers, not baths.

_____ 6. I have been to the beach within the last five years.

_____ 7. My favorite subject is math.

_____ 8. I live in the same city where I was born.

_____ 9. The last digit of my phone number is 5.

_____ 10. I play at least one game on my computer.

_____ 11. Pizza is my favorite food.

_____ 12. I have attended an NFL football game.

_____ 13. My family has a red car.

_____ 14. I have at least one brother.

_____ 15. I have a wind-up (not electric) alarm clock.

_____ 16. I have had a dog as a pet.

_____ 17. My favorite subject in school is mathematics.

_____ 18. I watched the Super Bowl this year.

_____ 19. I have my own cell phone.

_____ 20. My favorite color is purple.

Vocabulary Cards

y-axis
x-axis
origin

title
labels
mean

median

mode

range

outlier

gap

Understanding Graphs: Student Data

Overview

Using real data, students analyze graphs. They review key data terminology for finding mean, median, mode, extremes and range. Students can get extra credit if they create a box-and-whisker plot.

Standards Addressed

Research

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation

Materials

- Student handout: What Can Graphs Tell Us?
- Writing material

Procedure

There are two approaches to using this lesson. The first is to use the data given on the student handout. The second is to do a survey in your own classroom and have the students use their own data. Using this approach, students find information about their own class, which may be a more interesting and informative lesson.

The procedure given will be for the student handout.

1. Ask students if they know what a survey is and how one might be taken. Distribute the What Can Graphs Tell Us? student handout.

2. Review the terms mean, median, mode, extremes and range. If the students are going to do the box-and-whisker plot, also review interquartile range.

3. Allow students to work with a partner, but have each student fill in his or her own student handout.

4. When the work is completed, go over the answers together. Have students explain their thinking about what they wrote.

What Can Graphs Tell Us? Answers

1. *There are many good answers. One common answer would be that Google was used most.*

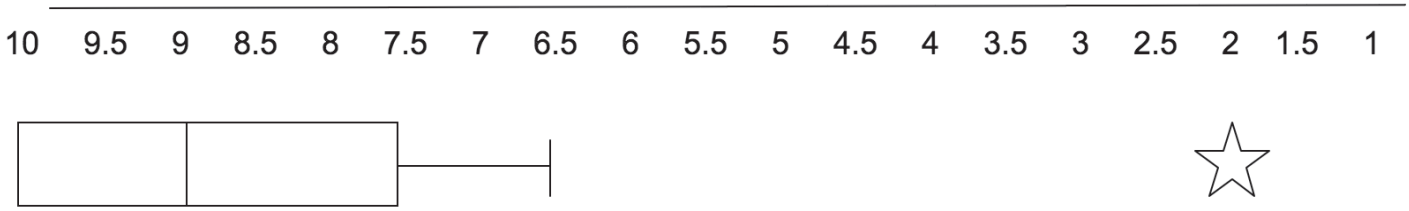
2. *Some students must have used more than one search tool. If that is the case, then there will be more than 33 points on the graph.*

3. *You can use exact words if you put them in quotation marks and cite the source.*

4. a. 8.2
   b. 8.7
   c. 7.6
   d. 9
   e. maximum: 10; minimum: 2
   f. 10
   g. (10-2) 8
   h. 2

5. Mean is very much affected by outliers.

EXTRA CREDIT:



Median: 9

Upper quartile: 10

Lower quartile: 7.5

Maximum: 10

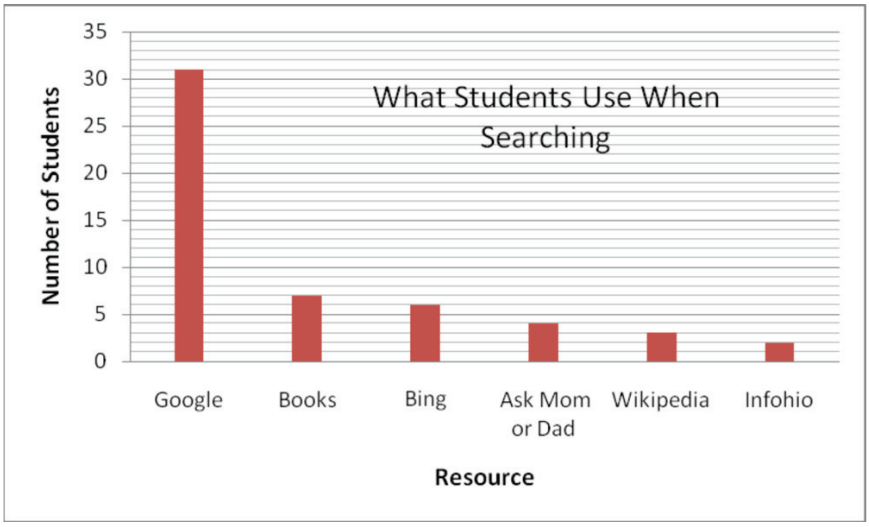
Minimum: 2

Outlier: 2

Names

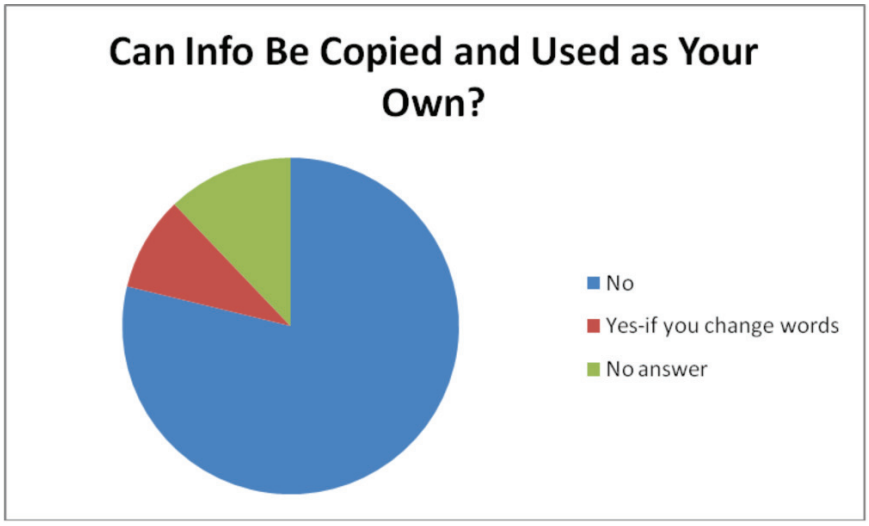
What Can Graphs Tell Us?

Thirty-three students from Brown Middle School in Ravenna, Ohio, filled out a survey to help learn about their Internet habits. There were 18 boys and 15 girls in the survey. I'd like you to do a few things with their data.



1. Using the graph above, write two sentences that tell me about the data.

2. Using this same graph, explain why there were 33 students in the survey but there are more than 33 answers.



3. On the graph above, most students said that you couldn't copy work from the Internet unless you changed the words. What if you need to use those exact words? Can you ever properly do this? How?

How Comfortable Students Are With Technology

o																		
o																		
o		o		o														
o		o		o														
o		o		o														
x		x		o		o												
x		x		o		x												
x		x		o	o	x												
x	x	x	x	x	x	x	o									o		
10	**9.5**	**9**	**8.5**	**8**	**7.5**	**7**	**6.5**	**6**	**5.5**	**5**	**4.5**	**4**	**3.5**	**3**	**2.5**	**2**	**1.5**	**1**

Class Makeup

X = girls

O = boys

4. On the graph above, find the following information. Please show your work.

   a. mean for all of the data _____

   b. mean for the boys _____

   c. mean for the girls _____

   d. median _____

   e. extremes: maximum _____

      minimum _____

   f. mode _____

   g. outliers _____

The mean, median and mode are all measures of center. Why, then, are the mean for all of the data and the median different?

EXTRA CREDIT: Make a box-and-whisker plot of this data.

Primary, Secondary, and Tertiary Sources

Overview

Students learn about the three different types of research sources and the advantages and disadvantages of each. They also learn how to formulate an effective research question.

Standards Addressed

College and Career Readiness Anchor Standards for Reading

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source

Procedure

1. Describe the following three sources of information. The first is an interview with a park ranger about edible plants that can be found in the wild. The second is a scientific journal article about surviving when stranded in the wild. The third is a field guide that gives basic descriptions and facts about different edible plants found in deciduous forests. Then ask these questions:

    - How are all of these sources similar?
    - What is it about them that makes them different?

2. Pass out the Primary, Secondary and Tertiary Source Guide student handout and review the key terms. As students read, ask the following questions:

    Q: What might be the advantages of using a primary source? What disadvantages might there be?

    A: *Students may mention that primary sources record immediate and personal reactions to events. However, since the information is very particular to one person, it only gives one viewpoint to this topic rather than giving a bigger picture. Also, primary sources may be difficult to understand since they contain dated language and references.*

    Q: What might be the advantages of using a secondary source? What might the disadvantages be?

A: *Secondary sources have the advantage of being able to study many different primary and secondary sources and comment on how they reflect on the subject. This gives a much more thorough view of what is being studied. However, they can also take these primary sources out of context in order to benefit their own argument.*

Q: What advantages may there be for using a tertiary source? What disadvantages are there?

A: *Tertiary sources have the benefit of collecting from many different sources in order to give a very complete view of data. However, it only includes data and doesn't have any reflection about what the data might imply.*

3. After reading through the guide, pass out the student handout Finding Sources: What Works and Why? As a class, read the directions and discuss what would be a good research question for the assignment. Try to get the students to focus the question so that it's very specific.

4. Divide the class into groups of three and have them complete the worksheet in order to determine what type of source it is, whether it should be used or not and how you would use it. After 20 minutes of work, students can share their responses. Keep in mind that the answers may vary depending on the particular research question.

Evaluation

Students refer to their work on the handout Finding Sources: What Works and Why? in order to answer the following question in complete sentences:

> Out of all eight sources, which source do you think would be most useful for your research question? Make sure to give at least two reasons why this source would be best. What other primary, secondary or tertiary source can you think of that may be useful?

Name: _____

Primary, Secondary and Tertiary Source Guide

When conducting a research project, you will encounter three types of sources: **primary**, **secondary** and **tertiary**. The difference between these three sources is determined mostly through **proximity**.

Proximity is the difference between the time that an event happens and when the source is created. For example, the source could be created immediately or it could be created 50 years later.

A **primary source** is original material created during the time period that is involved. This is usually information that is taken from a firsthand account. Primary sources include sources such as interviews, letters, photographs and any other artifact created during the time period that is being researched. These sources are usually the most helpful if created by someone who is an expert on the subject.

A **secondary sources** is generally written after a researched time period. Secondary sources interpret and evaluate the information shared in primary sources. Rather than showing pure evidence, such as primary sources might, they discuss and analyze the evidence from primary sources. Secondary sources may include academic journal articles, biographies, websites, etc.

A **tertiary source** is a collection of primary and secondary sources. Usually this source does not contain reflection from the author and often consists of compilations of facts. Tertiary sources may include almanacs, fact books, bibliographies, databases, etc.

Sometimes, it can be difficult to determine whether a source is primary, secondary or tertiary. Overall, it depends on how the source relates to the research question.

A **research question** is the formal statement of the goal of a study. It is a logical statement that progresses from what is known or believed to be true to that which is unknown and requires validation. Research questions should be very specific. For example, "How has the presence of violence in video games changed since their invention?" is more specific than "What sort of violence can be found in video games?"

Name: _____

Finding Sources: What Works and Why?

Imagine that you are thinking about writing a research paper about the general topic of global warming. Develop a **specific** research question based on this topic:

_____

_____

_____

Study the source descriptions given below. In the table, indicate whether it is primary, secondary or tertiary, and whether you think it would be useful or not for research.

Source description	**Primary, secondary or tertiary?**	**Would I use it for my research? If yes, how would you use it? If no, why not?**
A book by Maxwell T. Boykoff titled "Who Speaks for the Climate?: Making Sense of Media Reporting on Climate Change"		
The database entry for "The Greenhouse Effect" at Wikipedia.com		
An interview with a student from class about what they think about global warming		

"Inventing Al Gore" by Bill Turque, a biography about politician and environmentalist Al Gore		
The article "America's First Great Global Warming Debate," from Smithsonian.com, written in 2011 about the first debate about climate in 1799		
A copy of Senate Bill 2867, "The Global Warming Prevention Act of 1988," sponsored by Sen. John H. Chafee		
A copy of Thomas Jefferson's "Notes on the State of Virginia," one chapter of which briefly discusses climate change		
An article from Cracked.com titled, "6 Global Warming Side-Effects That Are Sort Awesome"		

Finding Sources: What Works and Why?

Imagine that you are thinking about writing a research paper about the general topic of global warming. Develop a **specific** research question based on this topic:

> ***Example:*** *Students may answer with research questions such as "What were the early perceptions of global warming like? How do they differ from today's perception?" or "Does the media's perception of global warming match scientific research?" Make sure that students are specific.*

Study the source descriptions given below. In the table, indicate whether it is primary, secondary or tertiary, and whether you think it would be useful or not for research.

Source description	**Primary, secondary or tertiary?**	**Would I use it for my research? If yes, how would you use it? If no, why not?**
A book by Maxwell T. Boykoff titled "Who Speaks for the Climate?: Making Sense of Media Reporting on Climate Change"	*This source would most likely analyze information from other sources, making it a secondary source*	*Most likely, depending on the chosen research question, this will be useful. In particular, it is a good measure of media perception of global warming.*
The database entry for "The Greenhouse Effect" at Wikipedia.com	*Since this is a database of collected information, it would most likely be considered a tertiary source*	*Wikipedia would most likely not be used as a source because anyone could edit it. However, reading the Wikipedia article ahead of time may help to generate good keywords for researching. Wikipedia should never be cited as a source since it can be unreliable.*
An interview with a student from class about what they think about global warming	*Because this comes from a firsthand account, this would be a primary source.*	*If you are researching common conceptions and misconceptions about global warming, this might be a good source. However, more than likely, this would not be a good source to find reliable facts about global warming since the student is most likely not an expert on the subject.*

"Inventing Al Gore" by Bill Turque, a biography about politician and environmentalist Al Gore	*This would most likely be considered a secondary source since it is a biography that encompasses information from outside sources.*	*Since Al Gore has done a lot of work in order to spread information about global warming, this may be a good place to find background information on the subject. However, since this biography is giving an overall view of Al Gore, it may give too much extraneous information.*
The article "America's First Great Global Warming Debate," from Smithsonian.com, written in 2011 about the first debate about climate in 1799	*The difference in the time periods tip off that this source is a secondary source.*	*If you are researching information about the early views of global warming, this may be a good source to find background information. If you are focusing more on modern-day information on global warming, this may not be quite as useful.*
A copy of Senate Bill 2867, "The Global Warming Prevention Act of 1988," sponsored by Sen. John H. Chafee	*This senate bill is an artifact of one of the views of global warming in 1988. It is a primary source.*	*This may be a good source for researching different ways that people attempted to prevent global warming throughout the years.*
A copy of Thomas Jefferson's "Notes on the State of Virginia," one chapter of which briefly discusses climate change	*Because this book was written by Thomas Jefferson and contains his own opinions and observations, this would be a primary source.*	*This source might have some relevant information. However, there may not be that much information that is relevant to the research question beyond a small section of the text.*
An article from Cracked.com titled, "6 Global Warming Side-Effects That Are Sort Awesome"	*This would be a secondary source since it contains second-hand information that is reflected on by the author rather than being factual like a tertiary source would be.*	*Since this is a humor website, this may not be an appropriate or reliable source for finding information about global warming.*

Focusing Research

Overview

This lesson helps students leearn how to conduct research that is specific and focused.

Standards Assessed:

College and Career Readiness Anchor Standards for Reading

Text Types and Purposes

4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
9. Draw evidence from literary or informational texts to support analysis, reflection and research

Part One — Creating Focused Research

Materials

- Scrap paper
- Student handout: Terms and Tips for Focused Research Questions
- Student handout: Focused Research Questions

Procedure

1. Instruct students to get out a sheet of paper. Tell them to write down as many things they can think of that relate to the topic "food and drink." Give students three minutes to generate ideas. Then, ask them to flip the paper over and list as many ideas as possible based on the topic "coffee." Give students three minutes to generate ideas.

   Ask students the following questions:

   Q. Which list was easier to write ideas for?

   Students will most likely pick the second list.

   Q. Which list contains information that would be more useful in a research paper?

   Students will most likely pick the second list.

Q. Why did you generate better ideas in the second list? How was the second list different from the first list?

The first list contained a more general topic. Therefore, the information produced is less focused and less in-depth. The second list, in comparison, is more specific.

2. Stress that our minds work very similarly to search engines. More specific topics and search terms create more focused research and information.

3. Review research questions, thesis statements and focused writing using the Terms and Tips for Focused Research Questions handout. Have students define the terms in their own words. Notice that the keywords for the bottom two research questions are different. Ask students to explain why this is so, even though it's the same research topic.

4. Have students analyze the following research question:

   What are coffeehouses?

   How could this question be improved? Refer to the Terms and Tips handout for assistance.

   For example:

   Think about time periods and historical contexts:
   When were coffeehouses invented and what sort of cultural impact did they make?

   Think about differences and changes:
   How are coffeehouses of the past different from current coffeehouses?

   Think about things that might be critiqued or should be changed:
   Why do coffeehouses have such overpriced goods? Why should prices be lowered?

5. Practice the use of creating research questions through the Focused Research Questions handout. Go through the example problem together and then have students test their skills by creating research questions for the other examples.

Part Two — Creating Focused Writing

Materials

- Student handout: Tips for Focused Research Writing
- Printouts of information from http://www.history.org/foundation/journal/spring01/coffeehouses.cfm (optional)
- Computer and overhead projector (optional)
- Student handout: Sample Research Topic and Thesis Statement

Procedure

1. Have students read through the worksheet on Tips for Focused Research Writing. Ask students to explain why focused writing is important and why these tips are useful.

2. As a class, analyze the research question about coffeehouses determined in Part One, Step 4. Print out the information at http://www.history.org/foundation/journal/spring01/coffeehouses.cfm or review the website through an overhead projector and computer. As a class, review information about the history of the American coffeehouse.

3. Based on the research question and the information from the website listed above, determine a thesis statement that you might use in order to focus your writing.

4. Pass out the handout Sample Research Topic and Thesis Statement. As a class, review that the thesis and research question for a paper should be the guiding force for the paper. The information presented should always somehow relate to the thesis and question. Have students read through the worksheet in order to determine which information is irrelevant and should not be included. Students will cross out this information and then explain why this information detracts from the focus of the paper. They will then circle information that is vital for describing the thesis. *They should delete the sentence, "Intranasal zinc products may be used to ease the common cold, but can also cause a loss of the sense of smell that is possibly permanent (NCCAM)." There are many possible medications that could be used. There is no need to name a specific one.*

Evaluation:

1. Print out the information from http://www.history.org/foundation/journal/spring01/coffeehouses.cfm and pass it out to each of the students.
2. Each student must create a thesis statement and record it on the Planning Focused Research Papers handout.
3. Each student will read through the printout and circle all of the information that supports their thesis.
4. On the Planning Focused Research Papers handout, have the students list three pieces of information that they would include in their research.
5. Students should explain why they chose this information to be in a research paper based on their thesis.
6. Students will be graded based on the following rubric.

Rubric – Planning Focused Research Paper

	0 points	**1 point**	**2 points**	**3 points**
Thesis	The student failed to provide a thesis statement that shows any sort of relevance to the topic.	The student has provided a somewhat relevant thesis. However, it is relatively basic and it lacks both specificity and provocativeness.	The student has provided a relevant thesis. However, it fails to meet expectations in terms of either specificity or provocativeness.	The student has provided a relevant thesis that is arguable and provocative. The argument contains specific information that will be easily studied.
Information	The student has failed to provide any sort of relevant information to support their thesis.	The student has provided only one piece of relevant information to support their thesis.	The student has provided only two pieces of relevant information to support their thesis.	The student has successfully provided three pieces of relevant information to support their thesis.
Application	The student has failed to provide any argument for why the information supports for their thesis.	The student has provided at least one argument for why the information supports the thesis.	The student has provided at least two arguments for why the information supports the thesis.	The student has provided arguments for all information about why the information supports the thesis.

Terms and Tips for Focused Research Questions

A **research question** is the guiding question that will lead what type of information you will gather. It is important that this question is specific and focused. This is the main question that you want answered by the end of your research paper. It is considerably more in-depth than the **research topic.**

For example, a research topic might be "electronic music," but the research question would be "How do current music trends such as electronic music relate to current youth struggles?" or "How has the emergence of new technology created new genres of music?"

In order to make a research question more specific, think about the following things:

- What effect does the time period have?
- What effect does the location have?
- How has the topic changed or evolved?
- What should be critiqued or changed about the topic?
- What sort of cultural significance does the topic have?

From this research question, you can generate specific keywords that you can use when searching for information.

For the research question "How do current music trends such as electronic music relate to current American youth struggles?" you might use some of the following keywords:

music culture, youth culture, 21st century, electronic music, United States

For the research question "How has the emergence of new technology created new genres of music?" you might have the following keywords:

electronic music, dubstep, techno, trance, electropop, synthesizer

Name: _____

Focused Research Questions

The examples below contain very vague research topics that do not have much focus. For each example, think of a more focused research question. Make sure to focus on the *why* and *how* questions rather than the *who* and *what* questions. In many instances, you will want to specify the topic by choosing a more precise keyword or by using a specific time and location. Next, list three to five keywords that you think would be best for finding research.

Example: Original research topic: Animation

Focused research question:

How has the shift toward 3-D animation in the United States redefined the movie industry?

Related keywords for searching:

CG animation, 3-D/2-D art shift, DreamWorks, Pixar, movies, United States

1. Original research topic: **World War II**

   Focused research question: _____

   _____

   Related keywords for searching:_____

   _____

2. Original research topic: **Censorship**

   Focused research question: _____

   _____

   Related keywords for searching:_____

   _____

3. Original research topic: **Advertising**

   Focused research question: _____

   _____

   Related keywords for searching:_____

   _____

Tips for Focused Research Writing

Once you have gathered all of the information from your research, you will begin to actually write your paper. When writing, it is important to keep your information focused. In order to do this, you must make sure that all of your information somehow leads back to your research question and thesis statement.

The **thesis statement** in a research paper is the main point that you will be attempting to make throughout the paper. A good thesis should be arguable and provocative.

For example, "Amusement parks are enjoyable places to go on vacations" is not a good thesis because it is not very provocative or interesting. There's a chance that this statement could be argued (perhaps if someone has a particular hatred for all things wonderful), but the argument would be pointless and put the reader to sleep.

In contrast, "The popularity of amusement parks symbolizes a need for escapism in American society" would be a more interesting thesis to try to prove. This statement is far more provocative and interesting.

Once you've established your thesis, you must use your research in order to back up this claim. When writing, keep in mind whether the information is truly relevant to the thesis statement and research question. Considering the following:

- How does this information support my argument/thesis?
- Why did I include this information if it failed to support my thesis? All information should serve a purpose.
- If I removed this information, would there be anything lacking from the argument? Is it worth removing?
- Would this information be more effective in a later paragraph? What other information relates to this information?
- Am I responding to this information? Keep in mind that the author should respond to each piece of information when supporting a thesis. After all, research should support your ideas while still containing your own thoughts and responses.

Name: _____

Sample Research Topic and Thesis Statement

The paragraph below is an excerpt from a research paper about herbal remedies and complementary alternative medicines. The author had the following **research question**: *How effective are herbal remedies and how should they be used?*

Based on the research, the author created the following **thesis statement**: *Although herbal remedies are effective, they must be regulated and researched in order to ensure safety.*

Using this research question and thesis statement, go through the paragraph below and evaluate whether the information is focused or not. Cross out all information that should be removed. Circle all information that may be vital for understanding the subject.

> In many cases, the use of complementary alternative medicines (CAM) can be dangerous if not handled correctly. The National Center for Complementary and Alternative Medicine (NCCAM) created an online fact sheet that overviewed the effectiveness of alternative medicine for the flu and common cold, NCCAM warns that "'natural' does not always mean 'safe.'" Some dangers include the fact that natural ingredients may react negatively with current medications or other natural ingredients, may contain dangerous ingredients that cause side effects, and may react badly with people who have certain medical conditions (NCCAM). The common cold is one of the leading reasons that people miss school or work, and can be caused by over 200 viruses (NCCAM). Intranasal zinc products may be used to ease the common cold, but can also cause a loss of the sense of smell that is possibly permanent (NCCAM). The flu should only be treated through vaccination (NCCAM). In conclusion, although natural remedies or complementary alternative medicines may sometimes be effective, but they must be researched in order to ensure safety.

"The Flu, the Common Cold, and Complementary Health Practices." National Center for Complementary and Alternative Medicine, Jan. 2010. Web. 16 Apr. 2013.

Comments:

Name: _____

Planning Focused Research Papers

In the space below, create a relevant and specific thesis about your topic. Keep in mind that the thesis should be arguable as well.

_____

_____

_____

Three pieces of information to support my thesis:	Why does this information support my thesis?
1.	1.
2.	2.
3.	3.

A Lesson on Citations

Overview

This lesson focuses on teaching students not only how to cite, but also why correct citations are necessary.

Standards Assessed

College and Career Readiness anchor Standards for Reading

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and information texts independently and proficiently.

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source and integrate the information while avoiding plagiarism.

Materials

- Student handouts:
  - An Insight to Citing Worksheet
  - Avoiding Plagiarism Worksheet
  - Misquote Mishaps Worksheet
  - Practicing In-Text Citations Worksheet
- Computer with Internet access

Procedure

1. The teacher will begin by having students imagine the following scenario:

   After Brittney overheard the conversation in the teacher's lounge about the upcoming spring concert, she instantly told everyone she knew. Although she hadn't heard all of the information, she did hear the words "special guest" and "president." Using these two words, she assumed that the president of the United States would be appearing. She quickly told everyone her assumption. Eventually, the rumor spread so far that local news reporters were swamping the school, begging for interviews.

   As it turns out, the two words that were actually said were "special guest" and "resident," which referred to a local low-key radio personality from the polka channel who would be hosting the spring concert. The thousands of audience members crammed into the school gymnasium were less than impressed.

   Ask the students the following question:

   Q. How could this confusion have been avoided?

   A. *The students could have gone back to the source to check the facts. In order to do so, the students would need to have figured out where the information first came from.*

This situation is very similar to how checking sources is also very important. In order to check information and give credit to the original creators, the writer must always make sure to correctly cite the information.

2. Pass out the student handout An Insight to Citing. Instruct the class to read through the first section of text in order to consider why citing is important.

3. After students read through this section, pass out the Avoiding Plagiarism worksheet. Have students write in their own words a definition of what plagiarism is. Invite them to share their responses. Then have students go through the citation examples in order to determine whether or not the information should be cited. Ask students to give their answers and justify their reasoning behind their choices.

Answers

1. Yes
2. No
3. Yes
4. Yes
5. No

4. Return to the An Insight to Citing handout and have the students read the Formats for Citing section in order to learn about the difference between APA and MLA citation formats. Ask students to turn the Avoiding Plagiarism sheet over and write on the back which formats might be used for doing projects for the following subjects:

    1. History
    2. Psychology
    3. Art
    4. Chemistry
    5. Economics
    6. Theater

    Give students the answers and have them check their work.

Answers

1. History (MLA)
2. Psychology (APA)
3. Art (MLA)
4. Chemistry (APA)
5. Economics (APA)
6. Theater (MLA)

5. All of these methods allow the reader to check context and validity of the information. Ask students why doing this would be important. Pass out the Misquote Mishaps worksheet to the students. Have them research each misquote in order to find out where it originated from and how it differs from the original quote. Have the students consider how problems with citing can cause problems. There are many other sites where information could have been found, but the ones listed had the information.

Answers

1. *http://suite101.com/article/WashingtonsCherryTree-a954*
    a. *Mason Locke Weems wrote a book about George Washington and included the story in order to sell books and make money.*
    b. *Original story is probably a myth. There is no verification of the event.*

2. *http://www.csmonitor.com/USA/Politics/2011/0603/Political-misquotes-The-10-most-famous-things-never-actually-said/I-can-see-Russia-from-my-house!-Sarah-Palin*
    a. *The words were actually spoken by Tina Fey as she impersonated Sarah Palin on "Saturday Night Live."*
    b. *Sarah Palin actually said, "They're our next-door neighbors, and you can actually see Russia from land here in Alaska, from an island in Alaska."*

3. *http://www.murphys-laws.com/murphy/murphy-true.html*
    a. *Capt. Edward A. Murphy was an engineer working on Air Force Project MX981, which was designed to see how much sudden deceleration a person can stand in a crash. A technician wired it incorrectly and the test failed.*
    b. *What actually was said was, "If there is any way to do it wrong, he'll find it." The contractor kept a list of "laws" and he called this Murphy's Law.*

4. *http://wiki.answers.com/Q/Did_Paul_Revere_Really_say_the_British_are_coming*
    a. *He would not have said "The British are coming" because most colonists called themselves British.*
    b. *Different sources suppose that he said either "the Red Coats are advancing" or, more probably, "the Regulars are out," as Regulars was the term commonly used to refer to the British.*

6. Go over the two types of citations mentioned in the Types of Citations handout: in-text and works cited. Have students consider why both of these methods are necessary when writing a research paper.

7. Review the three types of in-text citations: summarizing, paraphrasing and direct quotes. Practice these tactics using the Practicing In-Text Citations worksheet. Using this worksheet, students will look up a topic in order to find three examples of information that they might use in a research topic. Each student will need to create an example of each type of in-text citation and record it in the spaces provided.

8. Distribute the Writing Citations student handout. Have the students work with a partner to create correct citations using the site Citation Maker: Oregon School Library System, http://secondary.oslis.org/cite-sources. This tool allows the students to input data and the program correctly formats the citation – it has APA and MLA styles. There are multiple other sites that do the same thing. There is a list at the Citing Hot List site at http://westernreservepublicmedia.org/research/citing-sources-hotlist.htm.

    Writing Citations Answers

    1. Prensky, M. (2001). *Digital Game-Based Learning*. New York, New York: McGraw-Hill.
    2. Sonntag, L. (Ed.). (1999). *All About World History*. Singapore: Parragon Publishing.
    3. Oregon Association of School Libraries. (n.d.). *Oregon School Library Information System*. Retrieved April 2013, from Oregon School Library Information System website: http://secondary.oslis.org/cite-sources/apa-citation
    4. Montana, C. (2013, April 29). *Informational Interview*. Interview by M. Monk [Video recording]. Kept at Western Reserve Public Media Archive. Retrieved from http://westernreservepublicmedia.org
    5. Ramich, P. (2012, October). Entertainment Abounds. *Ohio Magazine*, *31*(7), 12-14.

    After the students have completed this task, it would be good to go over the citations they created. If possible, use an Elmo or other projection system so students can compare their answers with the correct ones.

9. Now that students have read through the information on citations, have them review the worksheet Avoiding Plagiarism. How has the student's definition about what plagiarism changed? Why?

Assessment

1. Using the information gathered from the Practicing In-Text Citations exercise, students will do one of the following:
    a. Have students create a glog at http://edu.glogster.com/ using the information they gathered. Students must present each piece of information to the class in the form of a summarization, paraphrase and direct quote. Finally, the students must also have a works cited at the end. Encourage them to refer to the Insight to Citing worksheet for a guide. Each student should respond and draw conclusions from the information, as well. Students will be assessed based on how they correctly use the citation forms and how they draw their own conclusions from this information.
    b. Have students write a paragraph for a research paper using the information. Students must present each piece of information in the paper in the form of a summarization, paraphrase and direct quote. Finally, the students must have a works cited at the end. Again, encourage them to refer to the Insight to Citing worksheet for a guide. Each student should respond and draw conclusions from the information. Students will be assessed based on how they correctly use the citation forms and how they draw their own conclusions from this information.

Name: _____

An Insight to Citing

Citations are a completely necessary step for research work. There are many reasons why citations are necessary:

1. Citing gives you credibility. It lets the reader know that that you've done the research and are informed about your subject.

2. Citations are necessary in order to give people recognition for what they've done. Citing gives credit where credit is due.

3. Citations allow the reader to check the context of the quote and validate whether the writer's information is accurate.

4. Citations are vital in order to avoid plagiarism, the practice of taking someone else's work or ideas and passing them off as one's own.

Formats for Citing

In this unit, we will be addressing two main formats for using citations: The Modern Language Association format (MLA) and the American Psychology Association format (APA).

APA format is mostly used for research papers that are scientific in nature (science, math, sociology, etc.). Because this format is looking for the newest, most up-to-date information, you will need to make sure to pay attention to the publication year when looking for research.

MLA format is mostly used for research papers that are based in the humanities (English, art, history, etc.). In this format, make sure to take note of page numbers so that the reader will be able to check the context of the information. In other words, the information must be checked in order to make sure that it's being used in the same way that it was used originally.

Name: _____

Avoiding Plagiarism

In your own words, describe what you think plagiarism is:

_____

_____

_____

_____

_____

Should this information be cited (circle one)? Yes No

1. A student reads books about filmmakers from the early 1900s and wants to use a bit of information about Georges Méliès' childhood. The information is written in the student's own words.

   Yes No

2. Students decides that they want to draw their own conclusions about the impact of historical events on the movies of the early 1900s.

   Yes No

3. A student watches the short film "A Trip to the Moon" and wants to use a summary of the plot in a research paper.

   Yes No

4. A student reads an interview from a film critic and finds a powerful statement about how films of the 1900s differ from the films of today. The student wants to use exact words and phrases in the research paper.

   Yes No

5. A student wants to include the details that show that photography was the precursor to the medium of film.

   Yes No

Name: _____

Misquote Mishaps

Throughout history, there have been many instances in which people have been misquoted. Because people often do not check the source, these misquotes have been accepted as accurate despite being incorrect. In fact, some of the most famous quotes in history are not actually correct.

The quotes below are examples of famous misquotes. Using the Internet and specific keywords, search these quotes in order to find out where these mistakes originated from. How are they different?

1. Historically, George Washington is believed to have said "I cannot tell a lie. It was I who cut down the cherry tree."

   Where did this misquote originate from?

   _____

   _____

   _____

   How is it different from the original source?

   _____

   _____

   _____

2. During the 2008 presidential campaign, Alaskan governor Sarah Palin supposedly said, "I can see Russia from my house!"

   Where did this misquote originate from?

   _____

   _____

   _____

   How is it different from the original source?

   _____

   _____

   _____

3. Murphy's Law, created by Capt. Edward A. Murphy, is defined as being, "Everything that can go wrong, it will."

   Where did this misquote originate from?

   _____

   _____

   _____

   How is it different from the original source?

   _____

   _____

   _____

4. Patriot Paul Revere is quoted as saying "The British are coming! The British are coming!" during the American Revolution.

   Where did this misquote originate from?

   _____

   _____

   _____

   How is it different from the original source?

   _____

   _____

   _____

Types of Citations

Information in a research paper must be cited both as an in-text citation as well as in works cited. **In-text** means that the source is mentioned within the actual essay. **Works cited pages**, on the other hand, are a list of sources that are included at the end of the research paper. Works cited pages contain more information than in-text citations. Depending on the type of medium being used, the information needed may be different. In the examples below, we are using a book and a weblog, yet there are many other types of sources to cite, such as movies, journals, websites, etc. In order to find more specific guidelines, visit the links in the Additional Information section.

APA Citations	**MLA Citations**
In-text APA (Author's last name, year published) Examples: From 2002 to 2011, the number of adolescents who were binge drinkers decreased from 10.7 percent to 7.4 percent (Harding, 2013). Or Frances Harding writes that the number of adolescent binge drinking actually decreased from 10.7 percent in 2002 to 7.4 percent in 2011 (2013).	In-text MLA (Author's last name, page number) Examples: When reading Thoreau's Walden, there are constant notations that kept track of how Thoreau spent his money while removed from nature for two years (Thoreau 71). Or Henry David Thoreau constantly makes notes about how he spent money during his two years at Walden Pond (71).
Works Cited MLA Format for books: Author's last name, first name and first initial. *Book title*. City where published: publisher, year published. Example for books: Thoreau, Henry D. *Walden*. New York: Thomas Y. Crowell &, 1910.	**Works Cited APA:** Format for weblogs: Author's last name, first name and middle initial. "Title of Article." Type of post. *Website title*. Website sponsor, date published. Date accessed Example for a weblog: Harding, Frances M. "Parenting Is Prevention." Web log post. *SAMHSA Blog*. Substance Abuse and Mental Health Services Administration, 14 Feb. 2013. Web. 19 Apr. 2013.:

In-text Citation Strategies

There are three different ways that information can be cited in-text:

- **Summarizing**:
  When summarizing, the writer gives a very general overview of the main points or events that were included in the source. This should be used whenever analyzing longer pieces of text. For example, this tactic might be used in order to include information about the plot of a story, the overview or timeline of a historic event, the main points of the source's argument, etc.

- **Paraphrasing**:
  When paraphrasing, the writer is choosing one specific piece of information in the text and explaining it in his or her own words. This information is for things that are more specific than summarizing.

- **Direct Quotes**:
  When using direct quotes, the writer is using the exact words from the original source. When writing, these words should be put in quotations usually along with some sort of signal phrase (Brown writes ...) in order to show ownership. Direct quotes should be used only if the original text is significantly interesting, entertaining and insightful, or if you are trying to make a specific point about the word choice. Make sure that each quote matters, or your paper may start to feel like it's not your own creation.

- Citations are not necessary if the information is common knowledge for the audience.

Throughout your paper, you will want to use a balanced combination of these tactics. No matter what, make sure that the in-text APA or MLA citation is included, as well.

Additional Information

For more information, check out the style guides located at the Purdue Online Writing Lab:

- APA Format: http://owl.english.purdue.edu/owl/section/2/10

- MLA Format: http://owl.english.purdue.edu/owl/section/2/11

More information about citations is at the Citing Sources Hotlist at
http://WesternReservePBS.org/research/citing-sources-hotlist.htm

Name: _____

Writing Citations

Your Task: Below are five scenarios. Go to Citation Maker: Oregon School Library System at http://secondary.oslis.org/cite-sources. Select APA. Use the template there to create citations for the scenarios.

1. You used a book with one author: Digital Game-Based Learning by Marc Prensky. It was printed in New York in 2001 by McGraw-Hill.

2. You are using a book with an editor for your history class. It's called "All About World History." It was published in Singapore in 1999 by Parragon Press.

3. You are citing a Web page. It is a citation maker: Oregon School Library System and is at http://secondary.oslis.org/cite-sources/apa-citation.

4. You are using information from an interview that you had with Chas Montana. You videotaped the interview on April 29, 2013. The video will be kept at Western Reserve Public Media in Kent, Ohio, 44240, and will be kept at http://westernreservepublicmedia.org. Mike Monk was the interviewer.

5. It's Saturday night and you're really bored. You decided to see what's going on so you go to Ohio Magazine and read the article "Entertainment Abounds" on pages12-14. You find some things that you can use in your class assignment. Some information you need to cite is that the article is in Vol. 31, No. *7*, in the October 2012 issue.

Name: _____

Practicing In-Text Citations

Choose one of the following topics:

- Video games
- Alternative energy sources
- Greek mythology
- Energy drinks
- Advertising strategies

Using this topic and related keywords, search for a source that you might use in a research project at http://infomine.ucr.edu. In the spaces below, pick three pieces of information that you might use. Create three different types of in-text citations in the spaces provided below based on the source.

Website: _____

Example of a Summarized Citation	
Example of a Paraphrased Citation	
Example of an In-Text Citation	

Citing Sources Hotlist

Format for Citations

- **Citation Maker: Oregon School Library System —** Has a tool that allows you to input the data and it is put into the correct format – has APA and MLA
  http://secondary.oslis.org/cite-sources

- **Citing Sources: Duke University —** Has a link to APA, MLA, Chicago, Terabian, CSA and four citation management tools
  http://library.duke.edu/research/citing

- **Citing Sources Within the Text of Your Paper —** Gives explanations of different scenarios
  http://www.jfklibrary.org/Education/Profile-in-Courage-Essay-Contest/Contest-Information-and-Topic-Guidelines/Guidelines-for-Citations-and-Bibliographies/Citing-Sources-Within-the-Text-of-Your-Paper.aspx

- **Noodle Tools: Citing Sources —** Is a good basic resource
  http://www.noodletools.com/helpdesk/kb/index.php?action=category&id=2

- **Purdue Online Writing Lab: MLA Works Cited: Electronic Sources —** Shows proper citation
  http://owl.english.purdue.edu/owl/resource/747/08

- **Son of Citation Machine —** You pick what you want to cite and the machine puts them into correct form. Uses APA, MLA, Chicago and Terabian
  http://citationmachine.net/index2.php

- **Teaching Copyright —** Lots of student handouts and information
  http://www.teachingcopyright.org

- **Cyberbee —** Hover over the student picture and a question is given. This is probably too elementary for middle school or high school students
  http://www.cyberbee.com/cb_copyright.swf

- **Debating Music Downloads —** Students visit four sites and write the main point of each article
  http://interactives.mped.org/view_interactive.aspx?id=678&title=

  and then write their opinion
  http://interactives.mped.org/view_interactive.aspx?id=679&title=

- **Copyright Kids —** May be too young for middle school or high school students
  http://www.copyrightkids.org

Acting as a Reporter

Overview

This two-part lesson plan enables students to conduct information-gathering interviews and supplement their findings with Internet research.

Standards Addressed

College and Career Readiness anchor Standards for Reading

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source

Part One

Materials

- Student handouts:
  - Acting as a Reporter, Part One: Reporting What's Primary
  - Interview Tips and Tricks
  - Interview Log
- Writing material

Procedure

1. Review with the students explain what primary, secondary and tertiary sources are.

2. Remind the students that one way to get a primary source is to conduct an interview. Ask what they think about the information that they would receive at an interview. Explain that the students must decide what they are going to discuss at the interview. They need to write a research question for the whole project and questions for the interviewee as well.

3. Distribute the student handout Acting as a Reporter, Part One: Reporting What's Primary. Students can work independently or with a partner. If working with a partner, students may meet with the interviewee together, but they must write their own report.

4. Have the students look at Interview Tips and Tricks and go over the material covered.

5. Review Interview Log as a class and explain how this is to be completed.

Evaluation

On a 3x5 card, have the students write a definition of a primary source and give an example. On the back, have them write the definition of a secondary source and give an example. Each item is worth 10 points – two definitions and two examples. Have the students share some of their definitions and examples.

Part Two

Materials

- Student handouts:
  - Acting as a Reporter, Part Two: Keywords and Secondary Sources
  - Tips for Searching for Secondary Sources
  - Secondary Source Log
- Use of a computer or instrument that will allow for Internet searching

Procedure

1. Review primary, secondary and tertiary sources. Have the students explain what they are.

2. Spend some time discussing the interviews that they conducted. Review the idea that these were primary sources.

3. Talk about using secondary sources. Distribute the student handout Acting as a Reporter, Part Two: Keywords and Secondary Sources. Explain to the students that they will now find secondary sources for the same topic that they used in Part One of this lesson.

4. Discuss using search words and explain the citation information. Distribute Tips for Searching for Secondary Sources.

5. Explain Secondary Source Log.

Name: _____

Acting as a Reporter, Part One: Reporting What's Primary

In the journalistic world, research is vital for getting accurate information to the public. Journalists use a variety of **primary**, **secondary**, and **tertiary sources** in order to give an accurate portrayal of the subject. One of the most common ways that reporters do this is through primary sources such as interviews.

Imagine that you are hired to be a reporter for the school newspaper. You've been assigned to write an article about any recent school news.

Choose a subject that you'd like to write about. If conducting an interview, who would you interview and what would you ask? Try to think of a realistic subject and person to ask since you will be conducting this interview.

This is my story topic for the school newspaper:

_____

_____

Here is who I will interview: _____

These are the questions that I will ask:

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

_____

Name: _____

Interview Tips and Tricks

The more interesting and knowledgeable an interviewee, the more interesting and credible that the interview will be. Although you may feel more comfortable talking to your friends and family, this does not exactly mean that they are the best people to interview. Think about who would know the information best and who might have a personal connection to the subject matter.

When asking someone for an interview, make sure to include a general idea of what you are writing about and why. This way, they will have a better sense of what you are asking and what information you want.

Always prepare your questions ahead of time. A prepared interview is a successful interview.

Be respectful to those you are interviewing. Hostility will only make people less likely to want to answer.

Make sure to record a variety of information through both paraphrasing and direct quotations. This is an important tactic for gathering all research, no matter if the source is primary, secondary, or tertiary.

Paraphrasing is for summing up information that someone else says in your own words. Although this may not be direct quote, this information must still be attributed to the source in order to show ownership.

Example: Although Patterson says that the baseball game is likely to end in defeat, this does not mean that she thinks that the Spartans should give up.

Quotations are direct phrases that the person says. These must be placed in quotations with a signal phrase in order to show ownership. Quotations are often used with phrases that are interesting and unique. They add color to your research.

Example: "They're probably going to crush us," says Patterson. "Beat us so badly that we'll be black and blue for ages. But, that doesn't mean we can just give up."

Make sure to record what is said. Sometimes, it may be easier to use a tape recorder or video recorder, especially when gathering direct quotes.

Always thank your interviewee at the end of the session.

Name: _____

Interview Log

In the spaces below, record your interview questions and the answers that you receive. Keep in mind that you should use both specific quotes from your interviewee as well as paraphrases. You may also choose to record the interview through a tape recorder or video recorder while conducting the interview

Interview with: _____ Date:_____

Questions	Answers

Name: _____

Acting as a Reporter, Part Two: Keywords and Secondary Sources

When using secondary sources, you must first think of keywords in order to find useful sources. Searching "management strategies," "test anxiety," and "high school students" will produce far better results than simply searching "test anxiety."

Using the subject from the previous assignment, you will be finding secondary sources in order to write an accurate article for the school newspaper.

Assigned topic to write for the school newspaper:

_____

_____

_____

What sort of keywords would you use for finding secondary sources?

1. _____
2. _____
3. _____
4. _____

Type these keywords into a search engine. List two sources that may be useful for writing the newspaper article:

1. Title: _____

   Author: _____

   Website Found: _____

2. Title: _____

   Author: _____

   Website Found: _____

Name: _____

Tips for Searching for Secondary Sources

1. Make sure that you have specific keywords when using a search engine. The more specific the search, the better. Keep in mind that you can find exact phrases by putting the phrase into quotation marks.

2. Keep in mind that websites that end in .org and .gov will most likely be more accurate than websites ending in .net or .com.

3. Make sure to check the validity of your sources by reviewing who the author is, when the information was published and whether the citations are accurate.

4. Watch out for bias in the piece. There may be moments where an author is skewing information for personal gain.

5. Make sure to record a variety of information through both paraphrasing and direct quotations. Review the Interview Tips and Tricks handout if you need additional information about these techniques.

6. Make sure to keep track of the source of your information for citation purposes.

Name: _____

Secondary Source Log

In the spaces below, record your sources and useful information that you find. Keep track of the page number, if possible, as well as other information that is needed for citation.

Sources	Paraphrased Information	Direct Quotations
Source 1 Title: Author: Website: Publisher: Date Published: Date Accessed:		
Source 2 Title: Author: Website: Publisher: Date Published: Date Accessed:		

projectRESEARCH: Consider the Source

Making Information Your Own

http://www.WesternReservePublicMedia.org/research

Social Media Lesson Plan

Overview

Students work with a partner to write a report that explains social media. The report must include an explanation of social media, two explanatory graphs and information about their own experiences with social media.

Standards Addressed

College and Career Readiness Anchor Standards for Reading

Text Types and Purposes

4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source and integrate the information while avoiding plagiarism.

Materials

- Computer or tablet

Procedure

1. Begin class with a data-gathering activity below. Record the data so it is visible to the students.
    a. How many boys are in the class?
    b. How many girls are in the class?
    c. How many use social media? (You can name a specific media such as Facebook, Twitter or Pinterest.)
    d. How many hours a day do you use social media?

e. What is your purpose for using social media (e.g., show pictures, talk to friends, make new friends, etc.)

f. Alternatively, you could ask each one of these quesitons separately to collect the data. It would go like this:

   i. How many use social media to share pictures?

   ii. How many use social media to talk to your friends?

   iii. How many use social media to tell people what you are doing?

   iv. How many use social media to find out what your friends are doing?

   v. How many use social media to make new friends?

   vi. How many of you like to follow celebrities on a social network?

7. Allow students to select a partner. Distribute the Social Media student handout. Explain that the starred questions – numbers 1, 5 and 7 – must be included in their report. Be sure to note that they may use the data that they collected to satisfy the requirement of #5. Show them the website listed so that they can get help if needed. Also refresh their memories on the importance of correct grammar and spelling. The need to cite the sources they have used to help them prepare their report and is an essential element.

8. Review how this assignment will be graded.

Evaluation

Evaluating Social Media Paper (100 points possible)

Written communication (32 points) (Select one in each category)

- **Organization**
  - Needs Improvement (0-6 points): Organization of the essay is difficult to follow due to inadequate transitions and/or rambling format.
  - Adequate (10 points): The essay can be easily followed. A combination of the following is apparent: basic transitions are used; a structured format is used.
  - Excellent: (16 points): The essay can be easily followed. A combination of the following is apparent: effective transitions are used; a professional format is used.
- **Mechanics and grammar**
  - Needs improvement (0-6 points): The essay contains many grammatical and mechanical errors.
  - Adequate (10 points): The essay contains minimal grammatical or mechanical errors.
  - Excellent (16 points): The essay is clear and concise and contains no grammatical or mechanical errors.

Content (34 points)

- **Correctness of facts**
  - Needs improvement (0-6 points): Some facts are wrong.
  - Adequate (10 points): Technical details are generally correct.
  - Excellent (17 points): All facts are correct and the technical explanation is both concise and complete.

- **Completeness**
    - Needs improvement (0-6 points): Addressed the questions, but provided few details.
    - Adequate (10 points): Addressed the questions but left out some details.
    - Excellent (17 points): Addressed all questions completely.

Inclusion and Correctness of Graphs (34 points)

- **Title and Axes**
    - Needs improvement (0-6 points): Both the title and the axes were incorrect or intervals were incorrect. Graph is not visually appealing.
    - Adequate (10 points): Either title or axis were incorrect. Some intervals were incorrect. Graph could use some work to make it more visually appealing.
    - Excellent (17 points): Title is visible. The x-axis and y-axis are labeled. Scale and axes intervals are correct and accurate. Graphs are neat and visually appealing.
- **Evaluation of Graph**
    - Needs improvement (0-15 points): There is little or no understanding of what the graph is showing OR graph is incorrect so appraisal of content is impossible.
    - Adequate (10 points): Graphs allow for an explanation of the content but explanation is faulty. Contents of graph and evaluation are incompatible.
    - Excellent (17 points): Evaluation of the graph tells the story the graph is showing. Correct terminology and used.

Adapted from http://www.longwood.edu/staff/webberrp/Rubric%20for%20essays.htm

Names: _____

Social Media

Your Challenge: Your grandmother said, "I keep hearing about this social media stuff – you know, like Facebook and Twitter. What is it and should I get involved?"

Your task is to bring your grandmother into the 21st century. It's too hard to explain to her what you know so you've decided to write a report.

This report should be written using:

- An **introduction** – Start with a topic sentence.
- The **main body** – This includes basic information – You must answer questions 1, 5 and 7 (marked with a star) in your report. You may also use any of the other questions shown below in your report.
- **Two graphs or charts** (#5) – You will explain two charts or graphs that you find when you are doing research **OR** you may take a survey of classmates and explain what you find. (For example, you could ask how many students use various different social media sites and make a bar graph or a circle graph.) Then you need to write an explanation of that graph.
- A **conclusion** – Make a conclusion that summarizes your thinking on the topic.

The back of this sheet contains the rubric on which you will be graded. Look carefully at the information on the rubric.

Here are some topics that you may want to include. The starred ones (★) must be included. You may elect to explain any or all of the other topics.

1. What is social media? (★)
2. Who uses social media?
3. What are some pros and cons of using social media?
4. What are the names of some social media sites?
5. Include two charts or graphs. (★)
    a. You can gather your own data and make a graph using that information. You can go to http://WesternReservePBS.org/research to find information on types of graphs and charts and how to make them.
    b. You may use charts or graphs that you have found online, but they must be cited.
6. Can you trust what you read at social media sites?
7. What do YOU think of social media? What sites do you frequent? How much time do you spend on social media sites? (★)

Conducting a Research Project

Overview

Students conduct research about global warming. Two PowerPoint presentations offer tips for conducting research and presenting findings. A hotlist of information is available for teacher or student use.

Standards Addressed

College and Career Readiness Anchor Standards for Reading

Text Types and Purposes

4. Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence

College and Career Readiness Anchor Standards for Writing

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source and integrate the information while avoiding plagiarism.

Materials

- Student handouts: Research Project Template and Global Warming Hotlist
- Computer with Internet access
- Writing material

Procedure

1. Explain to the students that they are going to do a research project on global warming. (If you would prefer to use another topic, the same material can be used. You could simply change the topic title on the student handout.) For a variety of ways to present their research, review the PowerPoint presentation Presenting Your Information. (If you want all of the students to do a research essay, you may want to skip this step.)

2. The next step is to make sure the students understand how to go about conducting their research. The PowerPoint presentation Doing a Research Project offers useful information in this regard.

3. Distribute the Research Project Template. Go over each section with the students. Have the students think back to the activities they did about finding information, citing it, searching, etc. They are to fill in the chart as they do their research. On page two of the template, there is room for them to list their sources. You might want them to do this on 3x5 cards instead. Give the students the date when this project is due.

4. Direct the students to the website Global Warming Hotlist at http://westernreservepublicmedia.org/research/global-warming-hotlist.htm

5. Remind the students of the due date. (Due date will depend upon how much class time you give them to work.)

6. Another option is to have the students work with a partner to complete this assignment.

Evaluation

There are rubrics online for specific types of projects. They are listed below. You would select the one that fits the project the student is doing.

Creating Your Own Rubric

- **Rubistar** – Choose and create a new rubric based on a template
  http://rubistar.4teachers.org
- **Choose a Customized Rubric** – From Rubistar
  http://rubistar.4teachers.org/index.php?screen=NewRubric
- **Build a Rubric** – Can be done with the class
  http://www.learner.org/workshops/hswriting/interactives/rubric
- **Teachnology** – Has lots of rubrics – some to make and some premade
  http://www.teach-nology.com/web_tools/rubrics

Rubrics for Essays

- **Essay Rubrics** – Includes rubrics for many types of writing assignments
  http://www.rubrics4teachers.com/writing.php
- **Essay Rubric**
  http://www.readwritethink.org/files/resources/printouts/Essay%20Rubric.pdf

Rubric for Creating a Video

- **Video Project Rubric**
  http://www2.uwstout.edu/content/profdev/rubrics/videorubric.html
- **Media Making Rubric: Slideshow/Video**
  http://science.kqed.org/quest/files/imp/video_slideshow_rubric.pdf

Rubrics for Slideshow (PowerPoint, Pritzi, et. al)

- **Slideshow Presentation Rubric**
  http://www.chs.k12.nf.ca/web2003/courses/scitech/dt2109/pres_rubric.html
- **Multimedia Rubrics** – Has slide show, PowerPoint, podcasting and more
  http://www.rubrics4teachers.com/multimedia.php

Presenting Your Information
PowerPoint Presentation

Slide Show

Essay

Presenting Your Information!

Web Page

Video

Poster

Cartoon

Slide 1

How should I present my info?

1. You've done the **research**—checked your facts.
2. You've got information you need to present.
3. You need to determine the best way to get that information to the public (or to your teacher).

Slide 2

Regardless of how you present…

- Your presentation should include:
  - Your **thesis** OR the question you want answered.
  - The **information** you got from the research you've done.
  - Your **conclusion.**

Slide 3

Writing an Essay

- Decide on your topic.
- Prepare an outline or diagram of your ideas.
- Write your thesis statement.
- Write the body.
  - Write the main points.
  - Write the subpoints.
  - Elaborate on the subpoints.
- Write the introduction.
- Write the conclusion.
- Add the finishing touches.

(From http://lklivingston.tripod.com/essay/)

Slide 4

Essay Help

- Guide to Writing a Basic Essay
  http://lklivingston.tripod.com/essay/
- 10 Tips for Writing an Essay
  http://www.schoolatoz.nsw.edu.au/homework-and-study/homework-tips/10-tips-for-writing-an-essay
- Easy Topics for Kids
  http://www.buzzle.com/articles/essay-topics-for-kids.html
- Citing Sources http://library.duke.edu/research/citing/

Slide 5

Making a Cartoon

- **Toondoo** Create cartoons
  http://www.toondoo.com/
- **Sketch Star** Makes cartoons
  http://www.miniclip.com/sketch-star/en/
- 9 Free Tools to Make Educational Cartoons
  http://www.educatorstechnology.com/2011/08/list-of-some-of-best-cartoon-making.html

Slide 6

Slide Show Help

- **PowerPoint** Makes a slide show presentation software that helps you tell a story and share your slides on the Web. Part of Office.
  http://office.microsoft.com/en-us/powerpoint/
- **Kizoa** Create slide shows
  http://www.kizoa.com/creating-slideshows?gclid=CMaXwqr-6rUCFVSVMgodiloAUw
- **Roxio** Make a photoshow
  http://www.photoshow.com/home/start
- **12 Free Online Slideshow Creators** (hotlist)
  http://socialtimes.com/12-free-online-slideshow-creators_b5957

Slide 7

Video Help

- **Animoto** Creates music videos http://animoto.com/
- **School Tube** Upload student or teacher made videos
  http://www.schooltube.com
- **VoiceThread** Allows you to work together with video, voice, and text commenting. Creates multimedia material. http://voicethread.com/
- **Screenr** A very simple, easy-to-use tool for creating screencast videos and can be downloaded to YouTube. http://www.screenr.com/
- **Windows Movie Maker**
  http://windows.microsoft.com/en-US/windows-live/movie-maker-get-started

Slide 8

Create a Web Page

- **Google Sites** Makes a website using template
  https://sites.google.com/
- **Weebly** Create a Web page
  http://www.weebly.com/
- **Wiki Spaces** Create class or school Web site
  http://www.wikispaces.com/

Slide 9

Making a Poster

- **Glogster** Makes posters There is a fee for use.
  http://www.glogster.com/
- **Padlet** (formally Wallwisher) Allows you to post notes and work collaboratively.
  http://padlet.com/wall/hco6qve5p2

Slide 10

Other Valuable Tools

- **OttoBib.com** You select the style, put in the information and it makes a **citation** in the correct format http://www.ottobib.com/
- **Timeline Maker** Makes timelines and is directed at kids
  http://www.softschools.com/teacher_resources/timeline_maker/
- **Wordle** Makes word clouds from the text you put in
  http://www.wordle.net/

Slide 11

NOW---CREATE!

Slide12

Doing a Research Project PowerPoint Presentation

Slide 1

Research Topic

Consider your assignment

- What is the purpose of your research?
- Are you using your own topic or have you been assigned a topic?

- **Think about how you want to present your project**
  - Essay, poster, Web page, slide show, etc.

Slide 2

Research Question

The guiding question that will lead what type of information you will gather.

- Needs to be **specific** and **focused.**
- Is the **main question that you want answered** by the end of your project.

Slide 3

Write your **research statement** or your **thesis statement**.

- The **research statement** or thesis statement expresses the **main idea**.
- It is used as a guide for the project and **directly answers the question you posed**.

Question ⟹ Answer

Slide 4

What search words should you use?

- Select **key words**
- Where are you getting the information you need?
  - Library
  - Textbook
  - Internet
  - Interviews

Slide 5

What do you already know?

- Decide what you already know so you can:
  - Decide what **new information** you need.
  - Determine **related questions** or **subtopics**.

Slide 6

What do you need to find out?

- Evaluate the content of your sources:
  - Is the information **accurate?**
  - Is the information **biased?**
  - Is the information **current?**
- Does it answer your research question?

Question ⟹ Answer

Slide 7

Did you remember to cite your sources?

- **Citing gives credit to the ideas and products of others.**

- Cite when
  - You use a quotation
  - You restate an idea or opinion
  - Use facts that aren' t common knowledge

Slide 8

To make your point and be understandable...

- Break your information into logical chunks.
- Set up a flow chart of some sort
  OR
- Make an outline

Slide 9

What format will you use to present your project?

- Make sure presentation is appropriate to the directions given.
- Possible presentations:
  - Essay
  - Poster
  - Web page
  - Slide show
  - Cartoons
  - Video
  - Cartoon
  - Other??

Slide 10

When you have completed your project….

Proofread your work!

No matter how the information is presented, your credibility will be damaged if your **grammar**, **spelling** and **punctuation** are lax!

Slide 11

Reflect on your experience.

- Did you answer the research question?
- Did you hand your project in on-time?
- Did you cite your sources?
- Did you use your own words?

Slide12

Name_____ Due Date _____

Research Project Template

Your Task: You are to create a research project about global warming. Please fill in this template sheet as you work on your project. If you are creating an essay, it must be at least two pages long. Proper citation is necessary for all research.

Research Topic: Global Warming

Research Question: *(This is the guiding question that will lead to what type of information you will gather.)*
What do you want to know about global warming?

_____

_____

_____

Thesis Statement (or Research Topic): *(This is the main point you are trying to make throughout your project.)*

_____

_____

_____

What do you already know?

_____

_____

_____

What do you need to find out?

_____

_____

_____

What search words will you use?

_____

_____

_____

List sources here OR have sources on note cards. *(When searching, be sure to record titles, authors, publishers, dates and any other data you might need to cite your source.)*

_____

_____

_____

What format will you use when creating your project? *(Possibilities include a poster, cartoon, research essay, Web page, video or other forms, with the approval of the teacher.)*

_____

_____

_____

Comments

_____

_____

_____

_____

_____

_____

_____

_____

_____

For Help, Go To:

Focusing Your Topic

- **Term and Tips for Focused Research Questions** (page 51)
  http://westernreservepublicmedia.org/research/terms-and-tips-for-focused-research-questions.htm
- **Focused Research Questions** (page 52)
  http://westernreservepublicmedia.org/research/images/focused-research-questions.pdf
- **Tips for Focused Research Writing** (page 53)
  http://westernreservepublicmedia.org/research/tips-for-focused-research-writing.htm
- **Sample Research Topic and Thesis Statement** (page 54)
  http://westernreservepublicmedia.org/research/sample-research-topic-and-thesis-statement.htm
- **Planning Focused Research Papers** (page 55)
  http://westernreservepublicmedia.org/research/images/planning-focused-research-papers.pdf

Citations

- **Copyright and Citations** (page 59)
  http://westernreservepublicmedia.org/research/research/insight-to-citing.htm
- **Citing Sources Hotlist** (page 67)
  http://westernreservepublicmedia.org/research/citing-sources-hotlist.htm

General Help

- **Creating a Research Project Hotlist** (page 95)
  http://westernreservepublicmedia.org/research/creating-a-research-project-hotlist.htm

Global Warming Hotlist

Global Warming for Kids

- ★★**Clean Air Kids: Global Warming** – Written simplistically but good for middle school. Also has games and information sheets.
  http://www.clean-air-kids.org.uk/globalwarming.html
- **Global Warming for Kids** – For young children. Has games, videos, etc.
  http://globalwarmingkids.net

Global Warming Overview

- **10 Global Warming Facts** – Video and list
  http://www.globalwarmingfacts.net
- **Advantages and Disadvantages of Global Warming**
  http://geography.about.com/od/globalproblemsandissues/a/advantages.htm
- **A Discordant Sea: Global Warming and its Effect on Marine Population**
  http://geography.about.com/od/geographyintern/a/globalmarine.htm
- ★★**The Effects of Global Warming**
  http://usliberals.about.com/od/environmentalconcerns/a/GlobalWarm4.htm
- ★★**Global Warming Basics (from Natural Resources Defense Council)** – Is in a question-and-answer format
  http://www.nrdc.org/globalwarming/f101.asp
- **Global Warming Facts (Environmental Defense Fund)** – Gives a fact and then a site to find more information
  http://www.edf.org/climate/global-warming-facts
- ★**Global Warming Thinkquest** – Read about global warming and then do the activities
  http://library.thinkquest.org/CR0215471/global_warming.htm
- **The Next Ice Age**
  http://geography.about.com/od/globalproblemsandissues/a/nexticeage.htm
- **An Overview of Global Warming** – Information at a more adult level
  http://geography.about.com/od/globalproblemsandissues/a/globalwarming.htm

Specific Global Warming Topics

Greenhouse Effect

- **The Greenhouse Effect**
  http://www.ucar.edu/learn/1_3_1.htm
- **What Is the Greenhouse Effect?**
  http://www.weatherquestions.com/What_is_the_greenhouse_effect.htm

Ozone

- **Ozone Facts: What Is the Ozone Hole? (NASA)**
  http://ozonewatch.gsfc.nasa.gov/facts/hole.html
- **The Ozone Hole** Shows diagrams
  http://www.theozonehole.com

Recycling

- **Benefits of Recycling**
  http://www.benefits-of-recycling.com/whatisrecycling
- **Recycling Basics: Reduce, Reuse, Recycle (EPA)**
  http://www2.epa.gov/recycle/recycling-basics

Global Warming Effect on Animals

- ★★**Global Warming: Natural Wildlife Association** – Tells the effects of global warming on animals
  http://www.nwf.org/Wildlife/Threats-to-Wildlife/Global-Warming.aspx
- **Global Warming Effects on Animals**
  http://www.buzzle.com/articles/global-warming-effects-on-animals.html

Global Warming Effect on Plants

- **Global Warming Effects on Plants** – Gives opposing viewpoints
  http://www.opposingviews.com/i/global-warming-effects-on-plants
- **Carbon Dioxide's Effect on Plants Increase Global Warming** – Study findings
  http://www.sciencedaily.com/releases/2010/05/100503161435.htm

projectRESEARCH: Consider the Source

Resources

http://www.WesternReservePublicMedia.org/research

Creating a Research Project Hotlist

Video

- **World Science Festival, There and Back Again: A Packet's Tale. How Does the Internet Work?** – Short video that explains how data put into the Internet gets from one place to another
  http://worldsciencefestival.com/videos/there_and_back_again_a_packets_tale or http://www.wimp.com/internetworks

Internet Basics

- **How to Use the Internet Well — For Your Life and Your Country's** – Lots of text makes reading difficult, but information is good.
  http://www.theatlantic.com/technology/archive/2012/05/how-to-use-the-internet-wisely-for-your-health-and-your-countrys/256898
- **Internet 101**
  http://www.internet101.org
- **Internet Basics: The Essentials of Being Online** – Links to sections including using email, browers, etc.
  http://netforbeginners.about.com/od/internet101/u/inetbasics.htm
- **Internet Beginner's Guide and Tutorials** – Hotlist of sites to help you get started using a computer
  http://www.refdesk.com/factbeg.html
- **LearnFree.org** – Excellent tutorials, videos and online classes.
  http://www.gcflearnfree.org
- **What Is a Web Browser**? – One-minute video
  http://googleblog.blogspot.com/2009/10/what-is-browser.html

Learning to Search the Internet

- **Google Guide**
  http://googleguide.com
- **Google Search Features** – Offers help on specific areas and programs
  http://google.com/help/features.html
- **How to Spot a Fake Website**
  http://stopsign.com/blog/how-to-spot-a-fake-website
- **Kids' Search Tools** – Gives many search engines on one page
  http://www.rcls.org/ksearch.htm

Evaluating Websites

- **Library Learning Core: Evaluating Websites** – Contains a list of things to look for in a website
  http://www.fscj.edu/mydegree/library-learning-commons/assets/documents/web_site_eval.pdf
- **Evaluating Websites** – One of many YouTube videos on this topic
  http://www.youtube.com/watch?v=gBe4WKcQzVI
- **Evaluating Websites** – Tutorial with slides stating the different things to look for and links to other sites
  http://liblearn.osu.edu/tutor/les1

Doing Personal Research

- **Survey Monkey** – Create and publish online surveys in minutes, and view results graphically and in real time. Must pay for very large searches.
  http://www.surveymonkey.com
- **Poll Everywhere** – Audience response system that uses mobile phones, Twitter, and the Web. Responses are displayed in real-time on gorgeous charts in PowerPoint, Keynote, etc.
  http://www.polleverywhere.com

Organizing Your Work

- **Bubbl.us** – This site helps the user to brainstorm the idea. It does require the user to sign in.
  https://bubbl.us
- **Evernote** – Capture your ideas, photos, etc., and store them so that you can recover them from any device
  http://evernote.com
- **Making Note Cards** – Tutorial on making and using note cards to aid your research
  http://www.crlsresearchguide.org/12_Making_Note_Cards.asp
- **Study Guides and Strategies: Note Cards** – Offers tips on making and using note cards for research
  http://www.studygs.net/wrtstr5.htm

Working on a Team

- **Diigo** – Collect and organize anything and access from any device. Allow membership in your group.
  https://www.diigo.com
- **Google Docs** – Allows you to input information and work on it collaboratively
  https://drive.google.com/?hl=en#my-drive
- **Poplet** – Allows teams of students to work together in real time on a project
  http://popplet.com
- **Padlet (**formerly Wallwisher) – Allows you to post notes and work collaboratively
  http://padlet.com/wall/hco6qve5p2

Presenting Your Material

- **Dipity** – Create an interactive, visually engaging timeline in minutes
  http://www.dipity.com
- **Glogster** – Makes posters. There is a fee for use.
  http://www.glogster.com
- **Google Sites** – Makes a website using template
  https://sites.google.com
- **Interactive Timeline** – Students input information into template and timeline is created
  http://www.readwritethink.org/files/resources/interactives/timeline
- **Kizoa** – Create slide shows
  http://www.kizoa.com/creating-slideshows?gclid=CMaXwqr-6rUCFVSVMgodiloAUw
- **Museum Box** – Provides tools for the student to use as they prepare a presentation of material
  http://museumbox.e2bn.org
- **Noodletools** – A comprehensive tool to assist in the research and literary process
  http://www.noodletools.com
- **OttoBib.com** – You select the style and put in the information and it makes a citation in the correct format
  http://www.ottobib.com
- **PowerPoint** – Makes a slide show presentation software that helps you tell a story and share your slides on the Web. Part of Office.
  http://office.microsoft.com/en-us/powerpoint
- **Sketch Star** – Makes cartoons
  http://www.miniclip.com/sketch-star/en
- **Timeline Maker** – Makes timelines and is geared for children
  http://www.softschools.com/teacher_resources/timeline_maker
- **Toondoo** – Create cartoons
  http://www.toondoo.com
- **Weebly** – Create a Web page
  http://www.weebly.com
- **Wiki Spaces** – Create class or school website
  http://www.wikispaces.com

- **Wordle** – Makes word clouds from the text you put in
  http://www.wordle.net

Using Student Video Programs

- **Animoto** – Creates music videos
  http://animoto.com
- **School Tube** – Upload student or teacher made videos
  http://www.schooltube.com
- **VoiceThread** – Allows you to work together with video, voice, and text commenting. Creates multimedia material.
  http://voicethread.com
- **Screenr** – A very simple, easy-to-use tool for creating screencast videos and can be downloaded to YouTube.
  http://www.screenr.com
- **Windows Movie Maker**
  http://windows.microsoft.com/en-US/windows-live/movie-maker-get-started

Evaluating Your Research Project

- **Glencoe Rubrics for Middle School Writing** – Start with page 9; there are rubrics for a variety of middle school projects
  http://www.glencoe.com/sec/glencoewriting/MiddleSchoolRubrics_876541.indd.pdf
- **Teach 21 Writing Rubrics** – Rubrics for grades 3-11
  http://wvde.state.wv.us/teach21/writingrubrics

Search Vocabulary

Adware: These are applications that display advertising in while you are using the program. True adware has become quite rare. It's being crowded out by aggressive spyware.

Blog: Also called weblog. A Web page that presents short journal entries in chronological order. Most blogs emphasize links to other pages and sites, and most entries are short commentaries or even simple one-sentence links to an interesting page somewhere else. "Blogging" is the act of writing a blog; those who write blogs are referred to as "bloggers."

Browser: A Web browser is a software application used for retrieving, presenting and traversing information resources on the World Wide Web.

Caching: Caching refers to the strategy of keeping a copy of a page or image you have already seen. Web browsers typically cache files that they display for you, and simply ask the server if the page has actually changed rather than always downloading the entire thing. This speeds up your next visit to the page.

Citation: A citation is a reference to the source of information used in your research. Any time you directly quote or paraphrase the essential elements of someone else's idea in your work, a citation should follow.

Firewall: A firewall sits between your computer and the rest of the Internet. It filters out unwanted traffic and foils attempts to interfere with or take over your computer. It can be a separate device, which is common today, or simply pieces of software for your own computer.

Flash: Micromedia Flash is a technology that allows animations, interactive forms, games and other "jazzed-up" features imbedded in Web pages. It is a well-known and trustworthy plug-in that users should feel comfortable installing.

HTTP — Hyper Text Transfer Protocol: The language or protocol that all Web browsers speak when talking to Web servers.

HTTPS: The "S" at the end tells you that the two programs need a way to verify each other's identity. It is a safety measure.

Hyperlink: A hyperlink is a link you can click on or activate with the keyboard or other device in order to go somewhere else. It is generally blue and underlined and a little hand appears when you scroll over it.

Internet: "The Internet" refers to the worldwide network of interconnected computers, all of which use a common protocol known as TCP/IP to communicate with each other. Every publicly accessible website is hosted by a Web server (computer), which is a part of the Internet. Every personal computer, cell phone or other device that people use to look at websites is also a part of the Internet. The Internet also makes possible email, games and other applications unrelated to the **World Wide Web**.

IP (Internet Protocol) Address: This is a unique identifier that distinguishes one device from another. It enables you to communicate with Web servers, instant messaging servers and other computers around the world.

Java: A technology that allows software designed and written just once to run on a variety of real computers, including Windows PCs, Macintoshes and Unix computers.

Phishers: Scam artists who try to get you to reveal sensitive information such as credit card numbers, bank accounts, etc., to scam you.

Plagiarism: The act of taking another person's writing, conversation, song or even idea and passing it off as your own. This includes information from Web pages, books, songs, television shows, email messages, interviews, articles, artworks or any other medium.

Plug-in: A piece of software that adds extra capabilities to your Web browser, such as the ability to see movies, etc.

Search engine: Typically the user will type in a few words that relate to what he or she is looking for and click a search button, at which point the search engine will present links to Web pages that may be relevant to that search. Modern search engines rely on automated exploring, or "spidering," of the Web by specialized programs that behave somewhat like Web browsers but do not require a human operator.

Spyware: Technology such as tracking software that aids in the unwitting gathering of information about a person or organization.

URL: Can be thought of as the "address" of a Web page and is sometimes referred to informally as a "Web address."

Top Level Domain (TLD): Tells who created the site. Some common ones include the following:

.gov — Created by the government is generally reliable.

.edu — Created by a university or college and is generally reliable.

.org — Created by a not-for-profit institution and is generally designed to benefit the organization.

.com — Created by a for-profit institution or business. Generally has an agenda.

.net — The name is derived from network, indicating its originally intended purpose was for organizations involved in networking technologies. This is not always the case, however.

Web browser: When you sit down and look at Web pages, you are using a Web browser. This is the piece of software that communicates with Web servers for you and puts text and image data into a nicely formatted on-screen display, and presents this information to you.

Website: A collection of Web pages maintained by a single person or organization. In most cases, a website has a distinct domain name, such as http://disney.com. Everything on the site is considered to represent the Disney organization.

Wiki: A website developed collaboratively by a community of users, allowing any user to add and edit content. The most popular is Wikipedia, http://en.wikipedia.org. Be careful when using this information. Anyone can enter information, so the data will need to be verified.

World Wide Web — WWW: Refers to all of the publicly accessible websites in the world, in addition to other information sources that Web browsers can access.

Vocabulary Sources

- **Boutell.com**
  http://www.boutell.com/newfaq/definitions/gov.html
- **Merrimam-Webster Dictionary Online**
  http://www.merriam-webster.com
- **Teaching Students to Effectively Use the Internet**
  http://dept.sccd.etc.edu/tlc/resources/teach.html

Research Vocabulary

abstract: A summary of a text, scientific article, document, speech, etc.

APA citation: Refers to the rules and conventions established by the American Psychological Association for documenting sources used in a research paper. APA style requires both in-text citations and a reference list. For every in-text citation there should be a full citation in the reference list and vice versa.

appropriateness: Suitable for a particular person, condition, occasion or place.

bar graph: A graph of data with parallel bars used for comparing information on categories where each bar represents a category and the height or length of the bar represents the number of events in that category.

bias: Prejudice in favor of or against one thing, person or group compared with another, usually in a way considered to be unfair.

bias sampling: A sample that overrepresents or underrepresents part of the population.

bibliography: A list of the books referred to in a scholarly work, usually printed as an appendix.

box-and-whisker-plot: A diagram that shows pictorially the median and measures of spread.

causation: The relationship between two variables where a change in one variable affects the outcome of the other variable.

categorical data: Data that can be classified by type; e.g., color, types of dogs. These types of data are typically represented using bar chart, pie charts or pictographs.

census: When every member of the population has data collected from them.

citation: A quotation from or reference to a book, paper or author, especially in a scholarly work.

datum: A single piece of data. The singular form of data.

dependent events: A statement or probability for one event affects a statement or probability for another event (cause and effect).

draft: A preliminary version of a piece of writing.

editing for context: The process of checking the circumstances that form the setting for an event, statement or idea, and in terms of which it can be fully understood and assessed.

editing for mechanics: The process of correcting errors in a text and making it conform to an editorial style, which includes spelling, capitalism and punctuation.

evaluation validity: *Validity* refers to how well a test measures what it is purported to measure. Allows writer to be sure the goals and objectives are clearly defined and operationalized.

event: An outcome of a probability experiment.

experiment: The collecting of data through a planned investigation.

extrapolation: A term used in interpreting data that predicts the location of points extending beyond the data displayed. (Make a prediction of what will happen based on data that shows what has already happened.)

glyph: A picture that represents data.

graph: A diagram that exhibits a relationship, often functional, between two sets of numbers as a set of points having coordinates determined by the relationship.

graphic organizer: A visual and graphic display that depicts the relationships between facts, terms, and or ideas within a learning task. Graphic organizers are also sometimes referred to as knowledge maps, concept maps, story maps, cognitive organizers, advance organizers, or concept diagrams.

independent event: Two events in which the outcome of the first event does not affect the outcome of the second event.

interval: The distance on a real number scale between two consecutive tick marks or the space between two points.

line plot: A graph that indicates the location of data points along a segment of the real number line.

measurement data: Has a numerical value and can be placed on a number line.

measures of center: Numbers that provide information about cluster and average of a collection of data. They include the mean (average), mode and median.

mean: The sum of a set of numbers divided by the number of elements in the set.

median: The middle number or item in a set of numbers or objects arranged from least to greatest, or the mean of two middle numbers when the set has two middle numbers.

MLA citation: Refers to the rules and conventions established by the Modern Language Association for documenting sources used in a research paper. MLA style for documentation is widely used in the humanities, especially in writing about language and literature. It is generally simpler and more concise than other styles.

mode: The number or object that appears most frequently in a set of numbers or objects.

observation: The act of recognizing and noting a fact or occurrence.

outcome: Any possible result of an activity or experiment.

outliers: A data point in a sample widely separated from the main cluster of points in the sample.

outline: A general plan of the material that is to be presented in a speech or a paper.

paraphrasing: To express the meaning of the writer or speaker or something written or spoken using different words, especially to achieve greater clarity.

peer reviews: A process by which something proposed (as for research or publication) is evaluated by a group of experts in the appropriate field.

pictograph: The use of a repeat picture in a bar graph form to represent data.

population: A whole set of individuals, items or data from which a sample is drawn.

plagiarism: The practice of taking someone else's work or ideas and passing them off as one's own.

primary source: A document, speech or other sort of evidence written, created or otherwise produced during the time under study. Primary sources offer an inside view of a particular event.

proofread: To read copy for purposes of error detection and correction.

random sample: A sample in which every event has an equal chance of selection and each event is chosen by a random process.

range: The difference between the greatest and the least numbers in a set of data.

rank: Placing a numerical order according to scale or value.

sample: A set of data taken from a larger set used to create or test theories about the data as a whole.

scale: The regular intervals of the number line that are chosen to represent the full range of data on a graph.

scatter plot: A graph with one point for each item being measured. The coordinates of a point represent the measure of two attributes of each item.

secondary source: A source of information that was created later by someone who did not experience firsthand or participate in the events or conditions you're researching. For the purposes of a historical research project, secondary sources are generally scholarly books and articles. Also included would be reference sources like encyclopedias.

simulation: The study of probability by collecting mathematically appropriate data that models an actual event.

stem-and-leaf plot: A frequency diagram that displays the actual data together with its frequency by using a part of the value of each piece of data to fix the class or group (the stem), while the remainder of the value is actually listed (the leaves).

survey: A question or set of questions answered by a population of people.

tertiary source: An index and/or textual condensation of primary and secondary sources. Examples are almanacs and guide books.

thesis statement: A short statement, usually one sentence, that summarizes the main point or claim of an essay, research paper, etc., and is developed, supported and explained.

topic focusing: The *topic* (or theme) of a sentence is *what* is being talked about, and the comment (focus) is what is being *said* about the *topic*.

tree diagram: A graphic representation that resembles the branches of a tree. It is used to illustrate outcomes of an event.

trend: An emerging pattern in the shape of a data display that can be seen on a scatter plot.

variable: A changing quantity, usually a letter in an algebraic equation or expression, that might have one of a range of possible values.

Vocabulary Sources

- **Boutell.com**
  http://www.boutell.com/newfaq/definitions/gov.html
- **Merrimam-Webster Dictionary Online**
  http://www.merriam-webster.com
- **Teaching Students to Effectively Use the Internet**
  http://dept.sccd.etc.edu/tlc/resources/teach.html

Reference and Research Hotlist

Critical Reading

- **7 Critical Reading Strategies** – For older students
  http://www.salisbury.edu/counseling/new/7_critical_reading_strategies.html
- **Critical Reading** – Has handouts that allow students to take notes on what they're reading and derive meaning from the text
  http://www.studygs.net/crtread.htm
- **The Fundamentals of Critical Reading and Effective Writing** – Activities assist the reader in understanding the text
  http://www.criticalreading.com
- **Critical Reading** – Attempts to make meaning by actively engaging a text. Has both handouts for students and some theory for teachers.
  http://writing.colostate.edu/guides/guide.cfm?guideid=31
- **Teaching Research: Encouraging Discovery** – Gives a procedure for deriving a meaning from the text
  http://www.math.hmc.edu/~su/leitzel/leitzel.pdf

Reference Material

- **Fact Fragment Frenzy** – Helps elementary students find facts in nonfiction reading
  http://www.readwritethink.org/materials/factfrenzy/opening.html
- **The Exploding Dictionary**
  http://www.hyperdictionary.com
- **General Reference Hotlist**
  http://www.educationindex.com/genref
- **Internet Public Library** – Read online books, magazines and newspapers; do research and browse Web links
  http://www.ipl.org/
- **Little Explorers** – An interactive dictionary
  http://EnchantedLearning.com/Dictionary.html
- **A Research Guide for Students** – Lots of sites students can go to to get help with research
  http://www.aresearchguide.com/index.html

Primary Sources

- **The American Memory Collection** – Organizes material from Library of Congress into easy-to-navigate site
  http://memory.loc.gov/ammem/browse
- **Fordham University — Internet History of Science Sourcebook** – Deep resources focused on the history of science. You choose the period of science.
  http://www.fordham.edu/halsall/science/sciencesbook.asp
- **Primary Resources Organized by State!** – Click on the U.S. interactive map by state. Also allows you to search by grade and subject.
  http://www.loc.gov/teachers/classroommaterials/primarysourcesets/states/index.html
- **Primary source Nexus** – Easy to navigate. Organized by topic.
  http://primarysourcenexus.org
- **Science News** – Advanced site of contemporary science news
  http://www.sciencenewsdaily.org
- **Teaching with Primary Sources Journal** – Offers resources for K-12 classroom from the Library of Congress
  http://www.loc.gov/teachers/tps/journal
- **UC San DiegoGuide to Online Primary Sources** – These resources are categorized by topics such as military studies, literature and more. Starts on science page, but menu is at the top.
  http://libguides.ucsd.edu/content.php?pid=63836&sid=687130

Search Engines for Kids

- **Askkids.com** – Accepts questions instead of keywords. Offers suggestions about how to expand and narrow a search.
  http://www.askkids.com/
- **The Awesome Library** – Provides only resources that have been reviewed and found to be of high quality for its users.
  http://www.awesomelibrary.org
- **Factmonster.com** – An encyclopedia, almanac, dictionary and atlas rolled into one engaging search engine that is especially helpful for homework
  http://gws.ala.org/content/fact-monstercom
- **Go Gooligans.com** – Filters searches. Includes a point-and-click option for those who find it difficult to use a keyboard.
  http://www.gogooligans.com
- **KidsClick** – A database of more than 6,400 sites compiled by librarians
  http://www.kidsclick.org
- **Kids' Tools for Searching the Internet** – Fill in the blanks to find information
  http://www.rcls.org/ksearch.htm
- **Quintura.com** – Unique visual search engine that uses word clouds to let users see how different keywords are related
  http://quinturakids.com
- **RedZee.com** – Produces a limited number of child-friendly results. Rolling the cursor over a result lets users see a miniature version so they can decide whether it's worth a click.
  http://redz.com/home
- **Yahoo Kids** – Designed for Web surfers ages 7 to 12. Sites selected by the Yahoo! Inc. staff.
  http://kids.yahoo.com

Using the Internet to Find Information

- **Just Google It? Develop Internet Search Skills** – This is a lesson plan where students conduct Web searches on open-ended questions and draw on their experiences to develop guides to searching effectively and finding reliable information online.
  http://learning.blogs.nytimes.com/2010/02/22/just-google-it-developing-internet-search-skills
- **Students' Guide to Web Searching** – Offers instruction on using search engines, evaluating websites and doing a project
  http://www.findingdulcinea.com/guides/Education/Students-Guide-to-Web-Search.html
- **Teach Your Kids the Secrets of Web Searching** – Gives some tips and tricks to help children understand the words needed to make an effective search
  http://www.commonsensemedia.org/advice-for-parents/teach-your-kids-secrets-smart-web-searching

Western Reserve Educational Services
A service of Western Reserve Public Media
1750 Campus Center Drive
Kent, OH 44240-5191
330-677-4549
http://www.WesternReservePublicMedia.org