
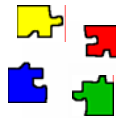



**Putting the Puzzle Together**  
Using the Internet in the Classroom

Kathy Schrock  
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**Putting the Puzzle Together**  
Using the Internet in the Classroom  
Online Web Page

<http://kathyschrock.net/puzzle/>







Based on

**“Working the Web for Education”  
and  
“What’s on the Web”**

by  
Tom March


<http://www.ozline.com/learning/theory.html>  
<http://www.ozline.com/learning/webtypes.html>

**Itinerary**

-  Internet-based learning applications
-  Strategies for Internet integration
-  WebQuests and their role in the classroom
-  How to put the puzzle together

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**Internet-Based  
Learning Applications**



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**Learning Applications**

- Enrichments
- Information resources
- Lessons/online tutorials
- Projects
- Tools
- Activities
- Reference resources

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## Enrichments

- Fun and games may not be appropriate
- Use as springboards to further discussion
- Similar to the cartoon on the overhead or beginning a lesson with a story

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Feline Reactions to Bearded Men  
<http://www.improb.com/airchives/classical/cat/cat.html>

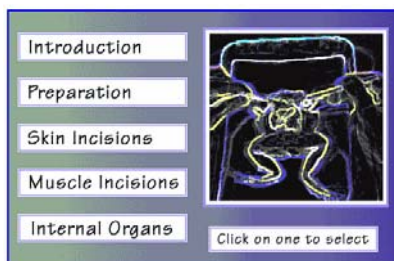


## Lessons / Online Tutorials

- Targets specific learner outcomes
- Guides a user through instructional steps
- May have feedback or checkpoints
- Technically hard to create
- Newer technologies allow for more

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Interactive Frog Dissection Site  
<http://curry.edschool.virginia.edu/go/frog/menu.html>



## Tools

- Input more quickly turned into output
- Search engine is the most used tool
- Online versions of offline tools now

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## Calculators Online

<http://www-sci.lib.uci.edu/HSG/RefCalculators.html>

<b>Agriculture &amp; Horticulture</b> Ag Farm Comp Business & Analysis Energy / Machinery Soil / Water Aquaculture Breeding & Herds Production Crops & Horticulture Livestock Horses / Feed Cattle / Dairy / Deer Goat / Horse / Pig Poultry / Sheep Fertilizer Pesticides/Herbicides Air/Travel	<b>Automobile &amp; Motorcycle</b> New & Used Car Pricing Safety, Defects, Recalls Measurement & Torque How a Car Works Diesel Engines Electric Engines Internal Combustion Engines Starting Engines Axle / Cam's & Piston Car Stereo Car Stereo Tuning Maintenance, Grease, Replacement, Etc. Shocks / Tire & Wheels Tuning Interchanging Fuel, Cams & MPG Lubricants	<b>Calendar</b> All Inclusive Arabic / Hindi Chinese / English Japanese / Jewish Julian / Islamic Mayan / Persian <b>Camera</b> Zoom Slides Depth of Field Exposure / Field of View Aperture / Lens Pictures Pinhole Camera QVIB / Shutter Speed Sun's Position <b>Cleaning</b> <b>Checks &amp; Sundials</b> Clocks/Watches/Time Sundials	<b>Cooking &amp; Beverage</b> Cooking Measures Beverage Measures Parties Beer & Brewing Winemaking Wine, Tasting <b>Conservator &amp; Museum</b> <b>Cosmetics</b> <b>Creative, Fun &amp; Serious</b> Animations Astronomy / Antennas Dictionaries Birthday Brain Teasers / Games
--	---	--	--

## NoodleBib

<http://www.noodletools.com/noodlebib/index.html>

For a basic entry, fill in this section

Author(s) (Use either given, last name)  
 (First, Middle, Last)  
 (1)     
 (2)     
 (3)

Are there  less than 4 names?  4 or more names?

Title of site:  
 Or, if there is no title, add a site description (like "Home Page") below

\* Date of access:

\* Network address (URL):  (Use full URL, including http:// for example, http://www.noodletools.com)

If additional information is available, fill in this section  
 Associated author(s)/organization:

## Thesis Builder

<http://www.ozline.com/electraguide/thesis.html>

What's the topic you want to write about?

What's your main opinion on this topic?  
(Note: use the topic somewhere in the opinion statement and consider using the word "should" to make sure you're stating an opinion)

What's the strongest argument supporting your opinion?

What's a second good argument that supports your opinion?

What's the main argument against your opinion?

What's a possible title for your Essay?

## Reference Resources

- Meant to be comprehensive in scope
- Offline
  - encyclopedias and almanacs
- Online
  - sites that are comprehensive in scope or subject specific

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## Reference Resources

- Comprehensive in scope
  - CIA World Factbook
  - Statistical Abstract of the US
- Ready Reference
  - Merriam-Webster Dictionary
- Subject-specific
  - Web Elements

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## WebElements

<http://www.webelements.com/>

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	H	He																	
2	Li	Be	B	C	N	O	F	Ne											
3	Na	Mg	Al	Si	P	S	Cl	Ar											
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
6	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
7	Fr	Ra	**	Rf	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
**Lanthanoids	**	**	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tm	Yb	Lu	**	**	**	**	**	
**Actinoids	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	

**Scandium** 21  
**Sc**  
44.955910(8)

Switch to...

**The essentials**

- Name: scandium
- Symbol: Sc
- Atomic number: 21
- Atomic weight: 44.955910 (8)
- CAS Registry ID: 7440-20-2
- Group number: 3
- Group name:
- Period number: 4
- Block: d-block

**Description**

- Standard state: solid at 298 K
- Colour: silvery white

Here is a brief description of scandium.



## Information Resources

- Provide a deeper level of information
- Offline
  - Videotapes, guest speakers, and fieldtrips
- Online
  - Specialized collections of resources

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## Information Resources

- Collections of Information
  - Castles on the Web  
<http://castlesontheweb.com/>
- Field trips
  - Lower East Side Tenement House Museum  
<http://www.wnet.org/tenement/>

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Lower East Side  
Tenement House Museum

## Projects

- Long-term interdisciplinary events
  - Research
  - Reading
  - Writing
  - Artistic creation
- Long-term Web projects
  - Provide real world experiences
  - ThinkQuest, KidLink, etc.

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<http://www.kidlink.org/KIDPROJ/projects.html>

The Who-Am-I? program



April Rodriguez (12, Seattle)

Zoopolis





**THROUGH OUR EYES**

## Activities

- Orchestration of learning experiences into a purposeful whole
  - Many educational strategies
  - Different types of information available
- Offline
  - Class discussions and debates
- Online
  - WebQuest

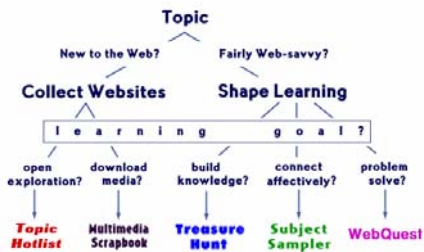
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## Strategies for Internet Integration



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## Identify Your Goal



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## Topic Hotlist

- Linking to Web sites that you find useful
- Create a Web page with the links
- Students can use your list for guidance
- Post your list on the Net and share it with other teachers

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## Topic Hotlist

### Birthdays

**An Internet Hotlist on birthday**

created by Mrs. Revlin  
Monte Vista Elementary School

---

**Introduction**

What happened in history on YOUR birthday?  
How do children celebrate holidays in Sweden?  
Do they have birthday cakes in Germany?  
Find out more about celebrations around the world

Pick a date to visit!

How about your BIRTHDAY?

January

1 - 31

---

**The Internet Resources**


- [YOUR BIRTHDAY](#) - Find out what happened in history on your birthday.
- [Celebrations Around the World](#) - Find out more about birthday celebrations in other countries' dream!

## Multimedia Scrapbook

- Provide a list of Internet links to photographs, maps, videos, slides, sounds, etc. on a certain topic
- Provides the students with the opportunity to discover artifacts on a specific topic
- Allow the students to download the items to use in "local" presentations

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## Multimedia Scrapbook





**Introduction**

Back in the old days before 1994, students had to use textbooks, magazines, television and the library to collect information. These are still good things, but now you can also use the World Wide Web. Explore the internet links on this page and look for good facts, quotations, examples, images, sound clips and video files. Imagine that you're an explorer in cyberspace and your job is to come back from a virtual journey with lots of artifacts and treasures to teach people back home what you learned! What's collected can then be pinned on a classroom bulletin board, pasted into an in-class newsletter, featured in a student-made multimedia stack, or posted as a Web page.

Keep this question in mind as you work:

**Why were the 1960's a turbulent time in American history?**

## Treasure Hunt

- Find Web pages that hold information
- Pose one key question per page to define the scope of the topic
- Include a culminating "higher order thinking skill" question

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## Treasure Hunt

**Wonderful Trees**  
an Internet Treasure Hunt on Trees  
created by M. Lybrand  
Tulsa Elementary  
[Introduction | The Questions | Internet Resources](#)

**Introduction**

Trees! Grab your brain and head for the further reaches of cyberspace. There's a lot more to learn about trees. Using the Web allows you to discover facts more than you may have ever known possible. Below is a list of questions about trees. Surf the Internet links on this page to find answers to the questions. Don't forget to go after the monster warning signs. The Big Question! Have fun!

**What Shapes Trees?**



**The Big Question**


Why are trees so dearly needed?

## Subject Sampler

- Prepare a smaller variety of Web sites that are organized around a main topic
- Choose "intriguing" sites
- Students are asked about their perspectives on topics, interpretations, comparisons, etc.

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## Subject Sampler



**Internet Activities**  
[www.mindspins.com/cix/culpack/heratme.htm](http://www.mindspins.com/cix/culpack/heratme.htm)


**Activity:**

1. Describe some of the roles women played during the American Revolution that supported war efforts.
2. Choose 2 women that are listed as spies. Give a description of the women you chose and their contributions made during the war.
3. How do you think the efforts of women in the American Revolution helped shape the roles of American women today?

[http://historylink.wa.edu/ah/ah02/ah02\\_01/ah02\\_01\\_01.htm](http://historylink.wa.edu/ah/ah02/ah02_01/ah02_01_01.htm)

**Activity:**

1. Who was Ester DeBardet Reed and what were the contributions she made during the war?
2. Reflect of the contributions mentioned in this site. What contribution did you find most outstanding? Explain why you chose this contribution.
3. Who were the convassers and what was the contribution made by this group?



## WebQuest

- Provides student groups with a challenging task, scenario, or problem to solve
- Provides resources for students to use
- The summarizing activity is meant to synthesize the prior learning into a "new" presentation or product

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## WebQuest



**King Tutankhamun  
Was It Murder?**

A WebQuest  
Was It Murder?  
The Death of King Tutankhamun  
The Boy King

Welcome to the King Tut WebQuest! I'm anxious for you to help solve this mystery. Be sure to check out everything around my task. Thank!


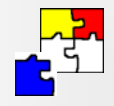
**Introduction | Task | Process | Resources | Evaluation | Conclusion |  
Teacher Directions**

**Introduction**

King Tut has been fascinating students and adults alike since the discovery of his tomb in 1922. Why has so much interest been generated about this remarkable pharaoh? Could it be the fabulous gold and treasure discovered in his tomb? Or is it the mystery surrounding the boy king's early death? You and your research team have been hired by the Egyptian government to solve the mystery of the boy king's death. You have only 3 days to complete your work.

- The reporter will visit [Tutankhamun: Boy King](#)
- The Egyptologist will visit Egypt: [The King Tut Murder Mystery](#)
- The historian (optional) will visit [Tutankhamun's Life](#)
- The history professor will visit [Mysteries of Egypt](#)

## WebQuests

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## Definition

- A WebQuest is an inquiry-oriented activity in which some or all of the information that students interact with comes from resources on the Internet

Dodge, Bernie.(2000) *The WebQuest Page*.  
<http://edweb.sdsu.edu/webquest/webquest.html>

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## Theoretical Basis

- Marzano's Dimensions of Learning
- Short term WebQuests
  - Knowledge acquisition and integration
- Long term WebQuests
  - Extending and refining knowledge

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## Knowledge Acquisition and Integration

- Learner deals with a significant amount of new information and makes sense of it

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## Extending and Refining Knowledge

- Learner deeply analyzes a body of information, transforms it, and demonstrates understanding by presenting it in some new way

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## WebQuests Organized by Task Type

- Provides a goal and focus for the student
- Makes the curricular intentions concrete
- Elicits thinking that goes beyond rote comprehension

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## Task Types

- Retelling task
- Compilation task
- Mystery task
- Journalistic task
- Design task
- Creative product task
- Consensus building task
- Persuasion task
- Self-knowledge task
- Analytical task
- Judgment task
- Scientific task

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## Task Types

- Retelling task
  - Background understanding
- Compilation task
  - Take information from sources and transform
- Mystery task
  - Wrap it up in a puzzle

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## Task Types

- Journalistic task
  - Students act as reporters covering an event
- Design task
  - Create a product or plan to accomplish a goal
- Creative product task
  - Lead to the production of something within a given format

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## Task Types


- Consensus building task
  - Students articulate differing viewpoints and come to a consensus
- Persuasion task
  - Students develop a convincing case based
- Self-knowledge task
  - Answers questions about themselves

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## Task Types

- Analytical task
  - Students examine similarities and differences
- Judgment task
  - Make informed decisions among choices
- Scientific task
  - Students make use of the scientific method


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## Putting the Puzzle Together



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## “How Do I Start?”




- Start with the end in mind
  - What is my intention with technology use?
  - What do I want the end result to be?
  - Is the focus going to be on technology skills or production?
  - What end result do I wish to facilitate?

Kelly, Deirdre. “The Year Ahead”. *Classroom Connect*, September 2000, p.16.

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## “How Do I Start?”




- Set goals for you and your students
  - Teacher goals
    - I want to feel confident when my kids start talking about the Internet.
    - I want to learn how to use the Internet to find teacher materials.
    - I want to sprinkle the Internet throughout my curriculum.

Kelly, Deirdre. “The Year Ahead”. *Classroom Connect*, September 2000, p.16.

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## “How Do I Start?”




- Set goals for you and your students
  - Student goals
    - I want my students to treat the Internet as a tool, not a toy.
    - I want my students to learn how to use the Internet as a publishing tool.
    - I want my students to learn how to use the Internet as a research tool.

Kelly, Deirdre. “The Year Ahead”. *Classroom Connect*, September 2000, p.16.

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## “How Do I Start?”



- Look at your current curriculum units with an eye towards what may have been lacking
  - Do learners come out of the unit knowing enough information?
  - Are the students actively engaged?
  - Do they pursue higher-level thinking?
- Create a Web-based activity for the learning aspect that you’d revise anyway

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## “How Do I Start?”

- Once you feel comfortable with the tools, you change your way of thinking
- Become creative and internalize their use
- NETS for Teachers (<http://cnets.iste.org/>)
  - Design developmentally appropriate learning activities that apply technology-related instructional strategies to support the diverse needs of learners



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## Teaching and Learning

- Activities are carefully guided and structured
- Learners are engaged in the learning practices
- Students must understand what exploration is
- Students are investigating, asking questions, writing, and doing these in an authentic context
- They are learning to read and write and think

Schrum, Lynne. (24 January 2000) "Let's put the pedagogy first." Education World Online, [http://www.education-world.com/a\\_tech/tech004.shtml](http://www.education-world.com/a_tech/tech004.shtml).

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## Online Tools to Use

- *Puzzlemaker*: online puzzles
- *Trackstar*: online lesson format
- *FreeDrive*: online storage
- *eBoard*: easy posting of information
- *Filamentality*: creating activities
- *More tools*:

<http://kathyschrock.net/cooking/>

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## eboard.com



## Trackstar



## Filamentality

### Search the Registry for Online Learning Activities

Specify your search criteria and click the "Find" button to get a list of online learning activities.

Activity Format:  Holist  Treasure Hunt  Scrapbook  Sampler  WebQuest  
 Filamentality and The WebQuest Page to learn about these formats


Grade Level:  All  Early Learning  Elementary  Middle School  High School  College  Adult/Professional

Subject Area:  AS  Arts  Business  English  Foreign Language  Health & Physical Education  History/Social Studies  Mathematics  Science  Technology  Vocational Education  Education  Other  Interdisciplinary

Keyword in Description:

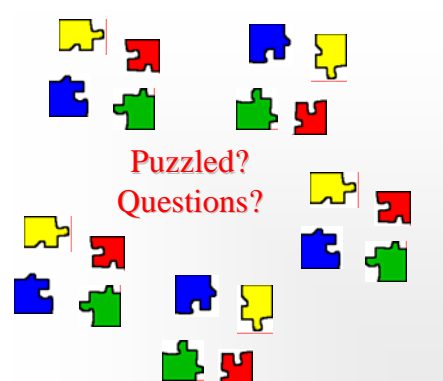
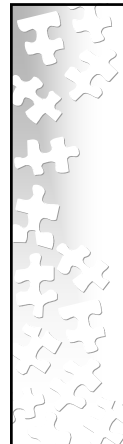
## Supporting Web Page

<http://kathyschrock.net/puzzle/>

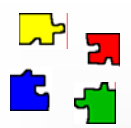



**Kathy Schrock's Guide for Educators**


<http://discoveryschool.com/schrockguide/>



**Puzzled?  
Questions?**



**The End**



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