WebQuests

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Technology Integration

- How have we integrated technology during this workshop?
- Did you know you have been engaged in a WebQuest?
- Educational Technology vs. Technology Education

What is a WebQuest?

- An inquiry-oriented activity in which most or all of the information used by learners is drawn from the Web.
- Designed to use learners' time well.

What is a WebQuest?

- Focuses on using information rather than on looking for it.
- Supports learners' thinking at the levels of analysis, synthesis, and evaluation.

Why WebQuests?

- To provide guidance through a lesson/unit using a constructivist learning approach.

Constructivist Learning

– The **Constructivist Learning Theory** holds that learning should build upon knowledge that a student already has, and that learning is more effective when a student is actively involved in the construction of knowledge, rather than when he/she is passively listening to a lecture. Thus, the learners give meaning to the knowledge based on their personal experiences.

Why WebQuests?

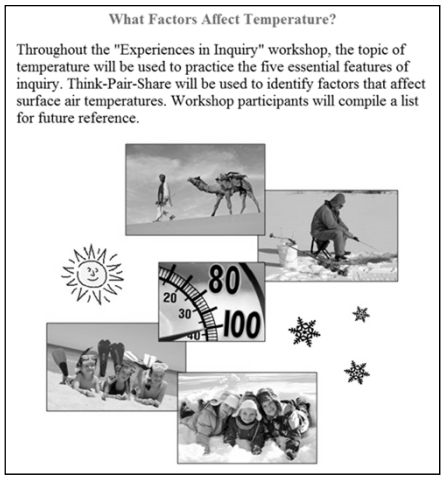
- To provide quality resources such as other web sites, files to download, images, audio, video, etc.

Six Basic Building Blocks of a WebQuest

1. The Introduction
2. The Task
3. The Process
4. The Resources
5. The Evaluation
6. The Conclusion

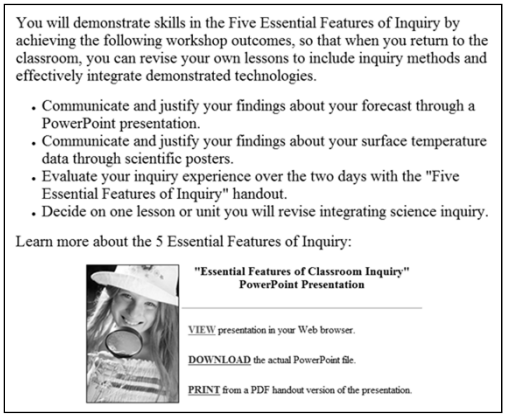
The Introduction

- orients students and captures their interest



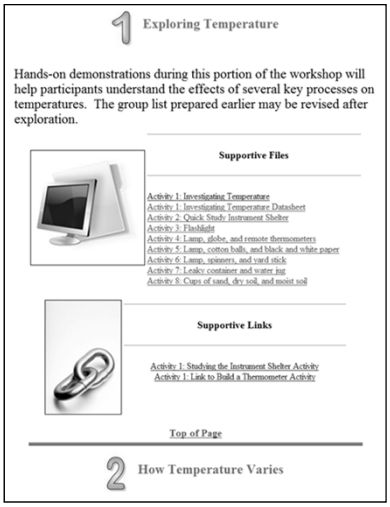
The Task

- describes the activity's end product



The Process

- explains strategies students should use to complete the task
- can embed "The Resources" building block within



1 Exploring Temperature

Hands-on demonstrations during this portion of the workshop will help participants understand the effects of several key processes on temperatures. The group list prepared earlier may be revised after exploration.

Supportive Files

Activity 1: Investigating Temperature
Activity 1: Investigating Temperature Datasheet
Activity 2: Quick Study Instrument Shelter
Activity 3: Flashlight
Activity 4: Lamp, globe, and remote thermometers
Activity 5: Lamp, cotton balls, and black and white paper
Activity 6: Lamp, spinners, and yard stick
Activity 7: Leaky container and water jug
Activity 8: Cups of sand, dry soil, and moist soil

Supportive Links

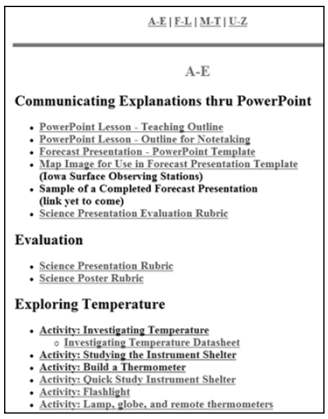
Activity 1: Studying the Instrument Shelter Activity
Activity 1: Link to Build a Thermometer Activity

Top of Page

2 How Temperature Varies

The Resources

- the web sites students will use to complete the task
- can include other types of resources as well
- May be embedded within "The Process"



A-E | F-L | M-T | U-Z

A-E

Communicating Explanations thru PowerPoint

- PowerPoint Lesson - Teaching Outline
- PowerPoint Lesson - Outline for Notetaking
- Forecast Presentation - PowerPoint Template
- Map Image for Use in Forecast Presentation Template (Iowa Surface Observing Stations)
- Sample of a Completed Forecast Presentation (link yet to come)
- Science Presentation Evaluation Rubric

Evaluation

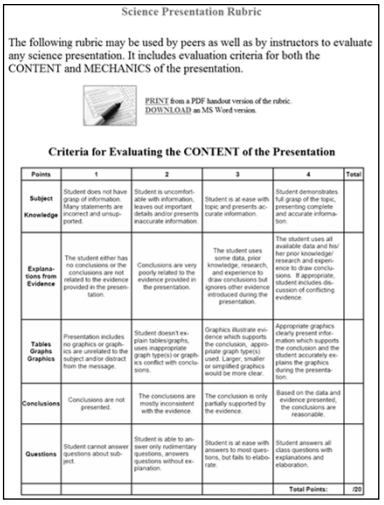
- Science Presentation Rubric
- Science Poster Rubric

Exploring Temperature

- Activity: Investigating Temperature
  - Investigating Temperature Datasheet
- Activity: Studying the Instrument Shelter
- Activity: Build a Thermometer
- Activity: Quick Study Instrument Shelter
- Activity: Flashlight
- Activity: Lamp, globe, and remote thermometers

The Evaluation

- measures the results of the activity



Science Presentation Rubric

The following rubric may be used by peers as well as by instructors to evaluate any science presentation. It includes evaluation criteria for both the CONTENT and MECHANICS of the presentation.

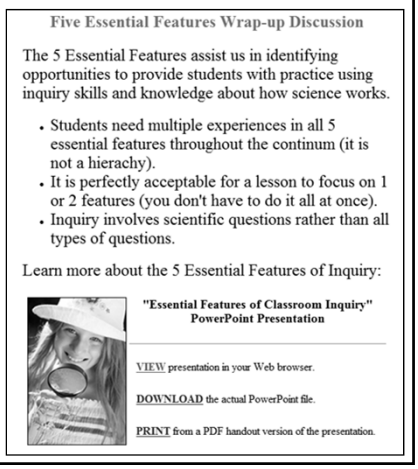
PRINT from a PDF handout version of the rubric.
DOWNLOAD an MS Word version.

Criteria for Evaluating the CONTENT of the Presentation

Points	1	2	3	4	Total
Subject Knowledge	Student does not have grasp of information. Many statements are incorrect and unsupported.	Student is uncomfortable with information, leaves out important details and/or presents inaccurate information.	Student is at ease with topic and presents accurate information.	Student demonstrates full grasp of the topic, presenting complete and accurate information.	
Explanations from Evidence	The student either has no conclusions or the conclusions are not related to the evidence provided in the presentation.	Conclusions are very poorly related to the evidence provided in the presentation.	The student uses some data, prior knowledge, research, and experience to draw conclusions but ignores other evidence introduced during the presentation.	The student uses all available data and his/her prior knowledge/research and experience to draw conclusions. If appropriate, student includes discussion of conflicting evidence.	
Tables Graphs Graphics	Presentation includes no graphics or graphics are unrelated to the subject and/or distract from the message.	Student doesn't explain tables/graphs, uses inappropriate graph type(s) or graphics conflict with conclusions.	Graphics illustrate evidence which supports the conclusion, appropriate graph type(s) used. Larger, smaller or simplified graphics would be more clear.	Appropriate graphics clearly present information which supports the conclusion and the student accurately explains the graphics during the presentation.	
Conclusions	Conclusions are not presented.	The conclusions are mostly inconsistent with the evidence.	The conclusion is only partially supported by the evidence.	Based on the data and evidence presented, the conclusions are reasonable.	
Questions	Student cannot answer questions about subject.	Student is able to answer only rudimentary questions, answers questions without explanation.	Student is at ease with answers to most questions, but fails to elaborate.	Student answers all class questions with explanations and elaboration.	
				Total Points:	/20

The Conclusion

- sums up the activity and encourages students to reflect on its process and results



Five Essential Features Wrap-up Discussion

The 5 Essential Features assist us in identifying opportunities to provide students with practice using inquiry skills and knowledge about how science works.

- Students need multiple experiences in all 5 essential features throughout the continum (it is not a hierachy).
- It is perfectly acceptable for a lesson to focus on 1 or 2 features (you don't have to do it all at once).
- Inquiry involves scientific questions rather than all types of questions.

Learn more about the 5 Essential Features of Inquiry:

"Essential Features of Classroom Inquiry" PowerPoint Presentation

VIEW presentation in your Web browser.

DOWNLOAD the actual PowerPoint file.

PRINT from a PDF handout version of the presentation.

Additional Elements to Consider

- For the Teacher
- For Parents
- Team Guidelines
- Glossary
- Credits
- Print version

A Quality WebQuest…

- Surrounds a task that's doable and interesting
- Makes good use of the web
- Is applicable to "real life" situations
- Incorporates cooperative learning
- Accommodates diverse learning needs

A Quality WebQuest…

- Isn’t just a research report or a step-by-step science or math procedure
- Isn’t just a series of web-based experiences
- Is not simply summarizing
- Requires higher level thinking – synthesis, analysis, problem-solving, creativity and judgment.

A WebQuest About WebQuests

- Uses the WebQuest model...
  - to teach you about WebQuests
  - to guide you in reviewing several existing WebQuests
- Available for use with teachers representing different levels

A WebQuest About WebQuests

- Available in various versions for different grade levels:

  http://webquest.org/sdsu/webquestwebquest.html

- Time to review two WebQuests

Think/Pair/Share

- THINK – 2 minutes – How could you use a WebQuest? Record your ideas on the handout.
- PAIR – 3 minutes – Share your ideas with your partner. Record your partner's ideas on the handout.
- SHARE – 10 minutes
  - Decide together on two ideas to share with the larger group. Record them on the handout.
  - Record ideas from other pairs as they share with the large group.

WebQuest Resources

- http://webquest.org
  - The most complete and current source of information about the WebQuest Model provided by the model's developer, Bernie Dodge
- https://www.internet4classrooms.com/buildingblocks.htm
  - Building Blocks of a WebQuest
- http://webquest.org/sdsu/webquestwebquest.html
  - A WebQuest About Creating a WebQuest

WebQuest Resources

- http://webquest.org/sdsu/materials.htm
  - WebQuest Training Materials
- http://www.thirteen.org/edonline/concept2class/webquests/index.html
  - WebQuests Workshop
- http://webquest.org/sdsu/webquestrubric.html
  - Rubric for Evaluating WebQuests

WebQuest Resources

- http://www.lausd.k12.ca.us/lausd/offices/di/Burleson/workshops/WQ_Workshop/index.htm
  - Dr.B's WebQuest Workshop
- http://webquest.org/sdsu/finepoints/index.htm
  - Fine Points (Tips for polishing your web page)
- http://www.educationworld.com/a_lesson/lesson/lesson164.shtml
  - A Sample WebQuest: "Women of the Century: An Education World WebQuest"

Weather WebQuests

(not reviewed for quality)

- http://www.uwm.edu/~kahl/WebQuests/Time/
  - As Time Goes By in Weather Forecasting (Grades 5 – 12)
- http://questgarden.com/46/94/0/070221061146/
  - The Many Changes of Weather Introduction (grade 4)
- http://questgarden.com/46/57/5/070211174029/
  - The Wonders of Weather (grades 4 – 8)

Weather WebQuests

(not reviewed for quality)

- http://questgarden.com/47/32/5/070227105037/
  - Weather Observing (grade 3)
- http://questgarden.com/45/96/8/070204135005/
  - Clouds Introduction (Grades 3 – 5)
- http://questgarden.com/46/77/7/070220163141/
  - You Be the Meteorologist! (grade 5)