Watershed Research and Teaching Clues

Students conduct further research on their watershed and quest site, decide which information is important to share with visitors, and create teaching clues for the quest.

PROCEDURES
1. Divide students into groups (2–4 students per group). Each group will be responsible for creating one (or more) teaching clues about a core element of your quest.

2. Students begin by creating a list of all the things they already know about their teaching point. This list should be neat, as they will hand it in later for a grade. (10–15 minutes)

3. Students then access primary, secondary and online resources to gather more content information. They append this new information to the list they created for No. 2 above. (30–40 minutes)

   Note: This can also be done as homework.

4. Model the writing of a teaching clue. (15–20 minutes) The general process is to: (a) list what you know; (b) choose from that list what is most important to say; (c) put the list into a well-ordered sequence of talking points; (d) write that list as a series of fragments or sentences; and (e) turn the sentences into your verse. An example of the process is outlined here.

   a. Make a list of what we know about the maple tree:
      - It is big and old.
      - It has woodpecker holes.
      - It grew in an open field.
      - It is a maple tree.
      - It has an embedded strand of barbed wire.
      - Our class saw a porcupine there.

   b. Select the three (or so) most important facts:
      - Old, maple, habitat for birds and animals (woodpecker and porcupine facts folded together)

   c. Put these facts into an appropriate sequence:
      - Old —► Maple —► Habitat

   d. Write the facts as sentences or fragments:
      - This old tree
      - Is a maple tree
      - And is both food and habitat
      - For many species, including woodpeckers and porcupines.

FOCUSBING QUESTION
What have we discovered about this watershed?
What else do we need to know to have a full picture of the watershed’s pieces, patterns and processes?
Based on what we know about the watershed, what do we want to share and teach through our teaching clues?

MATERIALS
Previously created student work (maps, notes, etc.)
Paper and pencil
Field guides, resource books and other online resources

TIME
2 hours
 Draft a clue at the writing level you expect of your students. You might choose simple rhyme. Or you might pay greater attention to stanza form, meter and verse pattern:

An ancient maple stands in the middle of this space.
It offers many animals a gathering place.
There are woodpecker holes all over this tree,
And you might spy a porcupine if you look carefully.

5. Then students work on their own teaching clue, using the process outlined above. (30–40 minutes)

6. Report: Groups read what they have so far and give and receive peer and teacher feedback. (10 minutes)

**ASSESSMENT**

1. Students have created an initial list of teaching points.
2. Students show results of additional research.
3. Students have created teaching clues for their assigned site(s).

### Evaluation Rubric

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Unacceptable</th>
<th>Beginning to progress</th>
<th>Getting closer</th>
<th>Meets standard</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of teaching points</td>
<td>Did not create list of points</td>
<td>List is both sloppy and incomplete</td>
<td>List is either sloppy or incomplete</td>
<td>List is both neat and complete</td>
<td>List is neat, organized and extensive</td>
</tr>
<tr>
<td>Additional research</td>
<td>No evidence of additional research</td>
<td>Little evidence of additional research</td>
<td>Some evidence of additional research as well as evidence of a group decision-making process</td>
<td>Ample research as well as full group participation</td>
<td>Meets standard, plus is neat, organized and extensive</td>
</tr>
<tr>
<td>Teaching clues</td>
<td>Writing neglects writing conventions, lacks clarity and does not teach</td>
<td>Writing either neglects writing conventions, lacks clarity or does not teach</td>
<td>Writing meets two of the three criteria (meets writing conventions, is clear, teaches)</td>
<td>Writing meets all three of the criteria (meets writing conventions, is clear and teaches)</td>
<td>Meets standard, plus has vivid descriptors, strong teaching content, and excellent meter and flow</td>
</tr>
</tbody>
</table>
FURTHER REFERENCES
Additional educator resources for Jean-Michel Cousteau Ocean Adventures can be found at pbs.org/oceanadventures.

For further information on questing, see Questing: A Guide to Creating Community Treasure Hunts, by Delia Clark and Steven Glazer (Hanover, NH: University Press of New England, 2004).

Quests have been published in Valley Quest: 89 Treasure Hunts in the Upper Valley (White River Junction, VT: Vital Communities, 2001) and Valley Quest II: 75 More Treasure Hunts in the Upper Valley (White River Junction, VT: Vital Communities, 2004).

AUTHOR
Steven Glazer is the Valley Quest Coordinator for Vital Communities, a regional nonprofit organization based in White River Junction, Vt., that works to engage citizens in community life and to foster the long-term balance of cultural, economic, environmental and social well-being in the region.

Vital Communities
104 Railroad Row
White River Junction, Vt. 05001
Phone: (802) 291–9100
E-mail: Steve@vitalcommunities.org
Web: www.vitalcommunities.org

CREDITS
Jean-Michel Cousteau Ocean Adventures is produced by KQED Public Broadcasting and the Ocean Futures Society.

The exclusive corporate sponsor is The Dow Chemical Company.