**Lesson Name:** Water Quality and Dams

**Grade / Subject:** 3rd Grade Social Studies

**Standard / Objective:** Standard 1, Objective 3, indicators d and e: Compare perspectives of various communities toward the natural environment. Make inferences about the positive and negative impacts of human-caused change to the physical environment.

Additionally, skills to be taught and practiced include: Reading satellite maps, analyzing differing viewpoints, note-taking, presentation skills.

**Vocabulary:** water quality, fertilizer, water treatment, downstream, electricity generation, turbine

**Integration:** Technology - viewing and responding to online video blogs, using online mapping tools; Literacy - Pros and Cons, developing a persuasive argument, pulling information from audio, video and written sources; Science - understanding water control and culinary water use, generation and storage of electricity with dams.

**Materials:**

- Preferred: Computer Lab access or mini lab access
- Projector
- Google Earth loaded on teacher computer
- Internet access
- Microphone(s) for computer
- Rivers and Dams video from eMedia downloaded
- Copy of Dam Pro/Con Notesheet (2003 version)

**Resources:**

- Wikipedia
- UEN eMedia
- Google Earth

**Preparation:**

- Create a VoiceThread or load one from somewhere.
- Install Google Earth and set up markers.
- Copy notesheets.
- Download video(s) from eMedia or other sources.

**Lesson Development**
(For me, it seems like this is a week-long topic, perhaps 45 minutes per day?)

Google Earth
• Look up a few places that the students would recognize, such as the hometown, Cougar stadium, Disneyland, etc.
• Look up Wheatland, Iowa and discuss what that area looks like (farms everywhere, few homes)
• Discuss where these people get water for all of those farms (find the rivers close by and follow them, perhaps)
• Discuss where they might get drinking water and water for their homes (treated river water, well water)
• Find Des Moines, Iowa, which is downstream from farms, though not directly downstream from Wheatland
• Where do they get their water (same sources)
• Where do we get our water? (rivers, reservoirs, wells, springs)

VoiceThread

• Listen to the voicethread on water quality in Iowa
• Discuss the different opinions and issues that the voicethread raises - list on the board
• It would be nice to have them research the issues further, but I am struggling at this point to find level-appropriate resources
• Have the students, individually or in small groups, respond to one or more of the comments on voicethread.

Dams

• Hand out the Pro/Con worksheet and explain how it is to be used
• Watch the Rivers and Dams video from eMedia (11+ minutes long), taking notes if possible, perhaps pausing the video to model this.
• Discuss the pros and cons of dams

Assessment: Have the students create a final report of some kind to summarize their learning and their opinion on one of the subjects covered. The size of the project might be affected by how much time was spent on this subject, how many other examples were explored, etc. The result might be a paragraph summarizing the issue and their opinion. It might be a poster, a newspaper style article, etc. Potentially it could be a PhotoStory essay or movie, but I doubt that you would go this far unless this becomes a major theme or unit.

Extensions:

• Stage a debate or presentation of what the class learned, either for the class, other classes, or parents.
• Letters to the editor or a write-up of what was learned to be submitted to a magazine or organization.
• Class movie or PhotoStory essay on the subject(s).
• Visit to a dam, virtual or in person.
• Send someone to interview someone at a dam, or at the Central Utah Water Project, and video-record it or live stream it to the class.
• Visit from someone at the Central Utah Water Project.