How to Use Science Media Effectively for Enhancing Teaching and Learning

Media can be a powerful tool for meaningful learning. As a teacher, you can increase learning by helping your students understand and actively analyze the media they consume. The next time you use a piece of supplementary media with your students, try one of these suggestions.

Before Viewing / Listening

For the teacher:

- Review related print and Web materials, especially any teacher's guide that accompanies a media resource. Look for innovative ways to incorporate additional information from a program's Web site into your activities.
- There is no rule that requires you to use an entire program. Determine whether you will use the entire program or only relevant segments in order to illustrate/help accomplish objectives in your curriculum. Remember: Even a few seconds of video or audio can be very powerful. There are many short audio and video podcasts available that are great for classroom use.

Activities for students:

- Stimulate students' pre-existing knowledge by bringing objects into the classroom that are related to the media topic. Have students sketch the objects and brainstorm ten words that they relate to the object.
- Have students use the attached KWL chart to record their thoughts before, during and after watching or listening to a media piece.

During Viewing / Listening

Activities for students:

- **Focus questions** can make the media more meaningful by encouraging active viewing/listening and evaluation of content. Try alternating between using content-specific questions and personal thoughts (see the Story Summary and Personal Response student sheets at the end of this document).
- Use **media analysis** tools to encourage critical thinking.
- Increase observation and listening skills through **repeated viewing or listening** of the same segment (just as you would go over printed material several times). On some occasions, **press PAUSE** to identify and clarify what the students are hearing and seeing.
- Try watching video **without the sound.** Watch in silence or provide your own audio commentary. Identify students' prior knowledge or assess what they have learned by having them provide narration. Encourage students to record their questions as they view without sound. Then view the program with sound to discover whether these questions have been answered.

- For audio-only content (or for the audio portion of a video), have students **listen and gather ideas** based on the sounds. What roles do the music, narration and ambient sounds play? Let students create their own visual images as they listen to a segment.

- Try using **closed-captioning** and/or transcripts. These are especially effective to use with English-language learners as a reading reinforcement.

After Viewing / Listening

Activities for students:

Quick Write
In a personal journal or on a sheet of paper, have students write quickly for two minutes to record any thoughts that come to mind after watching or listening to a media segment.

Four Corners
Choose four main concepts or topics from the video or audio and label each corner of the room with one. For example, if exploring the physics of baseball, the corners might be pitching, hitting, catching and running. Ask the students to choose a corner of the room that matches the concept they wish to explore. Plan an activity for the students in each corner and have them share their findings with the class. This technique can be very effective for initiating class discussions on different concepts within one segment.

Concept Map
Divide students into groups to develop a Concept Map. Begin by having each group write a key word or concept from the media segment in the center of a blank "map," on chart paper or an overhead transparency. Have each group build a map by adding words related to the key word and arranging them in categories. Discuss each diagram and supply additional information to extend students' understanding of the topic.

Jigsaw
Place students into groups of four and assign each student in a group a different number, from 1 to 4. Then, assign a specific concept or question to each number for the students to focus on or answer during the media piece. For example, in a program about food webs, all students who are 1s might explore how producers contribute to the food web and all students who are 2s might consider the role of decomposers. You may want all students with the same number to get together to clarify their concept before reporting back. After the program, have each group member teach what he or she has learned to the other members of the group. Then each student may quiz the group members until everyone understands how the pieces of the puzzle fit together to make one picture.

Blog
Research blogs related to the topic of study – find the QUEST blog at www.kqed.org/quest/blog. Have students read what others have written on the blog and then provide their own comments on the topic. (Be sure students keep their identity and personal information confidential when posting on the Internet -- you may want to create a class email address and identity for students to use that doesn't contain any personal information.)

Slideshow Presentation
Introduce students to PowerPoint or a similar program.
- Let students pick an aspect of the media topic to explore further and have them create a slideshow on the topic to present to the class.
- Have students choose a controversial issue presented in the media piece and create a persuasive slideshow presentation expressing their view.

Radio Report/Podcast
Let students meld their science and journalism skills by creating and recording a two- to five-minute radio report or podcast that includes an interview with an expert and their editorial view on the media topic. Discuss student views of what makes a good radio segment before they begin.

Digital Story
Have students personally respond to the media piece by creating a digital story. Pictures, music and narration can be woven together in a media collage. For a guide and online tutorials on digital storytelling, visit http://dsi.kqed.org/index.php/workshops/about/C13/

Online Media Album
Students can create narrated online media albums to demonstrate what they have learned about the science media topic. Classmates, family and community members can add text, video and audio comments to the album. www.voicethread.com

Online Treasure Hunt
Let students create an online treasure hunt that leads to an answer or explanation about a topic or concept explored by the media piece. Students should first develop a question (or are assigned a question) and research its answer. Then, writing Web site clues, such as "Go to www.kqed.org and write down the word listed underneath the image of the computer mouse," students will create pieces of a sentence that answers the question. After the online treasure hunts are complete, students can trade with a classmate to go on their hunt.

Public Service Announcement (PSA)
Help students cultivate critical thinking and literacy skills by having them make and edit their own PSA science videos. After having students viewing examples of PSAs online, ask them to analyze what qualities make a powerful and memorable PSA. Have students write scripts and film their own PSA on an issue in the media piece.

Online Photo-Sharing
You and your students can upload your own photos related to QUEST topics through the photo sharing site, www.flickr.com. Join the KQED QUEST flickr group at www.flickr.com/groups/kqedquest to make your photos visible on the QUEST Web site.

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KWL CHART

Topic:_____

What I know	What I want to find out	What I learned

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PERSONAL RESPONSE SHEET

Title of QUEST segment:_____

- **What was the most memorable fact or scene? Why?**

- **Did you enjoy the segment or find it interesting? Why or why not?**

- **I think the main point of this piece is...**

- **I didn't understand...**

- **I was surprised by ...**

- **This reminds me of...**

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STORY SUMMARY SHEET

Title of QUEST segment: _____

- **From this title, I predict the segment will be about:**

- **This segment is about (give a 1-2 sentence summary):**

- **What is the issue or controversy?**

- **Who are the main characters in this segment and what are their positions on the issue?**

- **Why is this an important issue to know about?**

- **How does this issue connect to what you are studying in class?**

- **What is your opinion on the issue?**