PROJECT TELLUS

Interactive Video Lessons for Middle School Students on
Global Change Issues Related to the Gulf of Mexico Region

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Teaching Modules for Global Change Issues

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VIDEO GUIDE

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USING PROJECT TELLUS

In Roman mythology Tellus was the goddess of earth. From her sprang forth the sky, the sea, and the mountains — in other words, the air, water, and land. Today, taxed by an ever-increasing human population and the development and use of technology, these three media (air, water, and land) and the life forms they sustain are being forced into change.

The purpose of *Project Tellus* is to provide middle school students an opportunity to examine five issues on global change as they relate to the states bordering the Gulf of Mexico. The issues (treated in separate modules) include **biodiversity, exotic species, climatic change, water quality**, and **overpopulation**. An additional program focuses on **the scientific method and process skills**. The environmental setting of the Gulf Coast region is ideal for illustrating some of the pressing ecological issues surrounding these current or impending global changes. Each module revolves around an interactive video which melds the global change issue with fundamental ecology concepts.

Teachers recognize that using video in instructional settings is often a passive activity for students. So, contrary to most, *Tellus* videos integrate hands-on activities at specific intervals to stimulate class discussion and participation. The questions and activities engage students in active learning, giving them opportunities to relate the video concepts to their everyday experiences. These scheduled interludes also enable the classroom teacher to "teach the moment." Learning can be monitored and misconceptions corrected immediately rather than at the end of the learning experience.

The topics selected for *Project Tellus* promote an understanding of the interdependence that exists among species and between the living and non-living components in the environment. Part of that interdependence is driven home as students consider the pros and cons associated with any human course of action aimed at correcting environmental problems.

The videos are also designed to encourage critical thinking and problem solving strategies. Students will learn to distinguish relevant from irrelevant information and to synthesize prior knowledge, experience, and values with new knowledge in order to form a conceptual network from which individual and community action may emerge.

Project Tellus is divided into six modules. Each module includes an 18-25 minute interactive video and a video guide which contains learning objectives, background information, vocabulary, previewing and post-viewing questions and answers, extension activities, teacher instructions for the activities, and student worksheets.

The following sequence describes how to effectively use the videos and project materials.

1. ***Read the background information and view the video prior to class.***

   - Some teachers may want to write additional discussion questions to link the video concepts to examples or situations more in keeping with their local area.

2. ***Review learning outcomes with the class.***

   - By telling the students exactly what information they are expected to know by the end of the module, they are cued to information that will be relevant in the upcoming video.

3. ***Review vocabulary words with the class.***

   - This allows students to understand each term separately before it is linked with other concepts.

   - Important terms are in **bold** type in the Background Information and are defined in the Vocabulary section of the video guide.

4. ***Ask the previewing questions.***

   - These questions are designed to activate students' prior knowledge. When

students relate new information in the video to information already in long-term memory, they are more likely to learn and remember the new information.

- An answer key is provided, however, most of the questions allow a variety of answers. Consider all logical and relevant responses valid.

5. ***Show the video and have each student participate in the questions and activities included within it.***

   - It is not necessary to turn out the lights for TV viewing — overtaxed students may find it tempting to nap in a darkened classroom. Viewing may be improved, however, if lights are dimmed over the screen.

   - Be prepared to pause the tape for short discussions or stop the tape for activities. The video tape will provide a clear signal to begin the discussion or activity.

   - These interactive breaks in the video change the student from a passive to an active learner involved in developing his or her own meaning from the information.

   - The questions and activities allow for immediate feedback to help the teacher identify and clarify concepts the student finds confusing.

6. ***Guide the class through the postviewing questions.***

   - These questions allow students to apply knowledge learned in the video. This generalization of new knowledge causes students to realize the relevancy of the information.

   - If teacher-generated questions were prepared prior to class, this is a good time to use them. A variety of applications encourages the students to remember and use the new knowledge.

   - Some of the questions can be used as the basis for homework or research projects.

   - An answer key is provided, however, as in the previewing questions, the key is not all-inclusive and other answers should be considered.

7. ***Assign the evaluation questions for homework and review the answers during the next class period.***

   - The questions may be graded at the teacher's discretion. Studies have shown that reinforcement and feedback help students learn new material.