The Rainforest Connection Live!
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http://www.montclair.edu/csam/prism/rainforest-connection/

Student preparation materials: Background readings are linked to topics listed online, as well as in the “Resources” section of the above website. Background podcasts can be found at http://www.youtube.com/profile?user=prismrainforest

Partners:
NJ EDge Video Portal http://njedge.net

Smithsonian Tropical Research Institute, Panama

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PRISM: Professional Resources In Science & Mathematics
The Rainforest Connection
Video-Chat Lesson Planning Checklist

✓ What theme or topic on the Rainforest Connection list will best suit a videoconference lesson for your class?
✓ When will it work for you to be connected? —check the schedule.
✓ What steps do you need to take to get the technology in place?
✓ What preparation will your students need in questioning skills? These are interactive sessions and students will get more out of the experience by developing questions to be asked during the connection.
✓ What preparation will your students need in speaking skills?
✓ They must speak clearly and loudly.
✓ What content would you like them to research?
✓ How will you plan pre- and post-lessons that bracket a video-chat from an exotic location? Teach the geography, examine maps, discuss travel to that location, introduce the culture of the country, introduce a few native species.
✓ Will you need to look into funding sources from PTO, school budget, science budget, bake sale, etc.?

VIDEO-CHAT PREPARATION: Equipment Needed

Different sessions will use either a webcam or a Polycom. Here are two ways to join a videoconference:

1- Webcam: You'll need a simple webcam costing between $40 - $150 and either a USB speakerphone or a speaker and a microphone, such as a Karaoke microphone that connects with a computer (either Mac or PC will work) and a large monitor or Smartboard. The necessary software is a free download called Vidyo, using this link:
http://msu.nedgevideoportal.net/flex.html?roomdirect.html&key=B3EXViKNZVIF.
This link is also how you will enter your videoconference. The built-in video camera on a Mac or PC laptop will work quite well. An external speaker and microphone is important for clarity.
2- Polycom videoconference unit: This type of equipment is fairly costly at $6000 to $10,000 for a unit. It comes with camera, speakerphone, and the capability to convert video signals for use directly from an internet line to a TV monitor. It provides better quality pictures than a webcam, and does not require special software.

Distance-learning by video requires preparation. Here are some tips:

1. Test all equipment in advance and be sure you are comfortable using it. We ask you to coordinate testing with us to ensure connectivity, check your speaker system connections, and adjust visual and audio functions.
2. Learn to use the microphone. The microphone will have to be muted (off) when your class is not participating in the discussion. If you do not turn off your microphone, then all the rest of us will hear an echo in their own speech (feedback from your speakers), and even the small noises in your room or just the hum of the equipment.
3. Please make sure the microphone is easily accessible to the students who will be asking questions, so they can reach it quickly when called on to contribute. They might line up near the microphone to keep the conversation moving.
4. Make sure the room is well lit and that the light is from above, not behind the students. We want to see you. Work on positioning your camera effectively so you show your best view. Rearrange room seating to keep the whole group in view.
5. Sessions last about 30 - 40 minutes, and the time will be set by appointment.
6. Sessions can be private for one class or club, or shared by up to 3 classes in different locations, with no more than a total of 50 students at each location.
7. Rehearse the students with some prepared questions so that they will speak slowly and clearly and into the microphone, but not too close to the microphone either. Most students need some coaching so that they do not swallow the end of the question or speak too rapidly. The people in the forest in Panama or elsewhere will have lots of forest noises to contend with (like screeching parrots!) and so need very clear speaking from the students.
8. Students who speak should have the camera on them, preferably close-up, so that we can tell who is talking. They should give their first name.
9. Preparing questions—have the students read some of the recommended background readings, watch the slideshows and videos provided, and then ask them to brainstorm some things they would like to know about the topic for their date of participation. Pool a set of questions and guide the students in narrowing down
to several good ones. Help students edit their questions for clarity. We might not get to all, but we will try. We will be glad to take spontaneous questions.

10. The sessions will be structured so that we will do introductions at the beginning. We will want your group to identify your school’s name, school district, state, teacher’s name, and grade level. If the session will be shared with other groups, we will show all of the groups on a split screen.

11. Question and answer periods will occur several times each session, as time permits. If the session is shared with other classes, your group will be given a place in the sequence of classes that will speak with the Rainforest Connection team. Be ready to start quickly when your turn comes up. Please also listen to previous discussion so those questions are not repeated.

CLASS BACKGROUND

Show the students a map of the location that you will “visit.” Let them see where the country or state is located relative to home, and how far away it is located. For example, for Panama, show them where Panama is located and where the Panama Canal cuts through the isthmus. Barro Colorado Island is in a freshwater lake that provides water for the Canal locks. Lake Gatun is on most maps of Panama, but Barro Colorado Island, the largest island in that lake, is not often identified.

For young students it is important to ask them how far they think the location is from their school, what kind of transportation they would take to get there, and how long the trip might take (Panama, for example, is 4.5 hours flying time from Newark). Some discussion of climate and seasonal differences would be useful to them. Time in Panama in the winter is the same as in New Jersey. The usual daytime temperature on Barro Colorado Island is about 76 - 84 degrees F all year round. It is Dry Season in February, and there is little rain after Christmas.

READINGS

The various sessions have different topics, so readings are listed according to the themes. The two main sources are the website

- http://www.montclair.edu/csam/prism/rainforest-resources
- Topic-specific readings are listed and linked on our topics webpage.

For general reading be sure to see the Rainforest Journals written by scientists and teachers who visited the island.
The Rainforest Connection Live! Overview

PRISM videoconference programs feature live conversations with scientists, researchers, naturalists, teachers, and students from locations near home and far away, such as Panama, Belize, Thailand, various parts of the United States, and Australia. PRISM works with remote eco-lodges and indigenous schools to bring wildlife programs to students. The videoconference hosts explain research, answer questions, and show video clips to illustrate the flora and fauna of these habitats. Classes ask questions and provide comparative information about the topics from their own local habitats. Sessions last 30 to 40 minutes to accommodate student interaction. Each session may be shared by up to 3 classes in different locations. Sessions are conducted in Spanish or bilingually by request. Most topics can be modified for any grade level: consult with our staff to ensure a good fit for your class. See current schedule for topics offered at this time http://www.montclair.edu/csam/prism/rainforest-connection/

BACKGROUND ON THE DIRECTOR OF THE RAINFOREST CONNECTION

Dr. Jacalyn Willis, Ecologist; Montclair State University, NJ

1. What is your job and how did you end up in the field you are in today? Who or what inspired you to pursue this career?

I am the Director of PRISM at Montclair State University in New Jersey. PRISM is a center at the university called Professional Resources In Science & Mathematics. Those of us at the PRISM offices provide assistance to teachers and their schools to help them teach science and mathematics. We visit classrooms in New Jersey, offer workshops and courses for teachers, advise principals and supervisors on curriculum, and generally make ourselves useful so that every kid gets to learn science and mathematics.

I have a Ph.D. in Biology from the City University of New York, so I was not trained as a teacher. This is common among scientists-- they are expected to teach, but are not expected to take courses in how to teach. But I worried that I might not know what I was doing when it came to teaching. I became very interested in how to teach science and mathematics so that students will want to learn and
understand these subjects. I taught biology students in college while earning my degree. Later, after I had my doctorate, I took a job doing the same.

I studied flying squirrel ecology and behavior in New York when I did the research for my doctoral dissertation. After graduate school, I continued to do research on squirrels in other habitats. When I visited squirrels in rainforest in Panama, I became interested in mammal populations in the tropics, and did research in Panama during vacation breaks from the college teaching.

I’ve always been fascinated by animals and their behavior, but I grew up in Brooklyn in a neighborhood where there were no squirrels or native birds, just some English sparrows. I did my best to observe the sparrows and their nesting habits in the cracks in buildings. My uncle encouraged me: he was the only person in our family who had gone to college, where he studied physics. He, more than any other person, probably had the greatest influence on me. He fostered my passion for learning about the natural world. Other than the information in the books he gave to me, and what he taught me in conversation, I was taught no science in school until seventh grade. My Uncle Charlie taught me about stars and how they are formed and the names of constellations and the planets, and how atoms are structured, and what kinds of questions scientists ask about all these things. He stretched my imagination.

2. What research/work projects are you currently involved in? How do you conduct your research/work and what tools/technology do you use?

I do a census of mammals in the forest on Barro Colorado Island, Panama. My husband and I walk the trails (separately) to find and record the presence of mammals, in the mornings. We use binoculars and notebooks-- not much else. We record the data in databases on a laptop computer. We use certain mathematical formulas to estimate how many animals are on the island and if the populations are getting bigger or smaller or staying the same. We also do walks at night to record what animals are visible after dark. We use a quartz-beam light and headlamps. This is harder to do because of the darkness, and the wariness of the animals. To find species that are really hard to see, we have cameras on the island that take photos whenever a warm-blooded creature walks by. We get photos of ocelots and tapirs and opossums, as well as some birds and reptiles (when they warm themselves in the sun). Sometimes we get photos of animals we didn’t know for sure were on the island, such as pumas and capybaras and margays (a type of small
spotted cat).