

Sense of Adaptation !

Thank you for participating in the Virtual Outreach Program at the Michigan State University Museum. Virtual visits are an innovative way to provide a fun and meaningful learning experience without the expense, permission forms and geographic limitations of ordinary field trips. Using videoconferencing technology, you and your students have the opportunity to visit MSU Museum, a Smithsonian Affiliate and Michigan's largest natural history and cultural museum. We hope you enjoy *Sense of Adaptation!* If you have any questions please do not hesitate to contact us at virtualoutreach@museum.msu.edu or at 517-353-3882.

What you should receive in your fieldtrip pack

- One peacock feather (a sense of sight activity)
- Paper napkins for each student (demonstrating egg thickness)
- A master observation sheet (please make copies, one for each student)

Note: The materials you will receive will be used **during** the fieldtrip. Do not worry about using anything prior to your virtual trip.

What you should prepare for the virtual fieldtrip

- Crickets (one for each student, or one for a pair of students)
- Small, clear, zip-lock bag (one for each cricket)
- Pencils/crayons or other coloring utensils for student's observations

Description of the cricket activity: The cricket activity integrates all of the lessons learned during the virtual trip. Students will be asked to sketch their crickets in the *observation # 1* section of the worksheet. They may sketch from as many angles as they wish. Observations are based on the five senses. For example, a student may ask, "What do I see?" (large hind legs, wings, antennae, etc.). Once the drawings are completed, we will discuss the students' observations.

Next, students will be asked to imagine an environment (cold, without vegetation, with many predators, a mountainous terrain, etc.). Students will use their knowledge of adaptations to sketch a new "imaginary" cricket in *observation # 2* area on the worksheet. They will be asked to think about what they know about the new environment to create unique adaptations that will help their imaginary cricket survive there. In the past, we have had students come up with brightly colored crickets to indicate that they are poisonous, crickets with large, sharp teeth to eat meat, or even crickets that do not need oxygen in order to survive in space. This is an excellent opportunity for students to be creative and reflect on what we have discussed and what they have learned throughout the virtual trip.

Where to get crickets: Your local pet store or other large pet supply stores like Petco usually sell crickets. Stores typically sell crickets in 10s or 12s, usually costing no more than \$1.00/dozen. If the store has crickets of different sizes, ask for the **largest** ones. These will be the easiest to observe. The pet store usually hands over the crickets in a plastic bag. In order to avoid a mass of crickets jumping around your classroom during the activity, we recommend putting the crickets in the refrigerator an hour or so immediately before the field trip. Doing so will slow them down considerably and make them easier to handle (but be advised they will become quite active after 20-25 minutes of being removed from the refrigerator). You can place crickets in small individual bags (such as Ziplocs) so that students can manipulate crickets during the program. If you are not comfortable using live crickets, we recommend putting the crickets in a bag and placing the bag in a freezer overnight. This will kill the crickets in a humane manner. After the program is done, we discourage releasing any live pet store insects into the environment; rather we advocate disposing the dead crickets into any waste receptacle.

If you are not able to buy crickets, the students will also be able to see a cricket on the television screen while performing *observation #1*. However, in our experience, the students really enjoy the tangible experience of observing their own cricket.

Please dial in at the time and date of your scheduled field trip. Our IP address is **35.8.122.60**.

Once again thank you for requesting your virtual fieldtrip from the MSU Museum's Virtual Outreach Program. We look forward to meeting you and your young scientists!