



SMILE...YOU'RE ON INSECT CAMERA!

SUBJECTS:

math
science
language arts

TIME:

Preparation: 30 minutes
Teaching: 50 minutes (per outing)
Evaluation: 5 minutes/student

VOCABULARY:

observe
predict
data
research
conclusion
conditions
species
entomologist

MORE IDEAS:

Modifications and more ideas are located at the end of this lesson.

MORE INFORMATION:

www.orkin.com
www.mnh.si.edu
www.insectsfari.com

Creative Module #3 - Observe & Shoot

SKILLS

Observation, prediction, data collection, research

OBJECTIVE

Students will observe, make hypotheses, and draw conclusions about insects and their habitats.

MATERIALS

- 4 "Observation Record" activity sheet for each student
- 4 containers for collecting insects (optional)
- 4 clipboards or other hard writing surface
- 4 pencils
- 4 hand-held magnifying glasses
- 4 first aid kit
- 4 cameras for the class to share
- 4 insect resources (see attached bibliography)

BACKGROUND

For this lesson you will need to choose a site for an insect observation outing. You can choose a site at your school or an area within walking distance of your school.

Insects can be found just about anywhere: indoors, outdoors, around your school, and near your home. In meadows, they can be found on tall grasses and flowers. Also look for them on the ground in grassy areas. Turn over any rocks or wood you find. Don't forget to look in the air. In forests, insects are everywhere. Turn over leaves, look on tree bark and under rocks, logs, and decaying leaves. In a pond or creek area, you may need to bring nets to catch some insects underwater. Don't limit the search to underwater! Insects can be seen clinging to plants that are growing in and around the pond or creek and, of course, flying through the air. You can easily find many types of insects in and around water.

You may also find it valuable to observe a developed area that has fewer insects. This may spark a discussion about what happens to insect habitats when people move into an area.

Before you go out with your students to look for insects, make sure you discuss rules of safety and respect (for other students, the environment, and the insects). You should clearly define the boundaries within which students are expected to stay. Agree on a sound (e.g., whistle, clapping, or bell) that signals everyone to go to a certain area to meet. Be sure to bring along a first aid kit.



LESSON

Before making any observations in this lesson, students should feel comfortable in the area where they will be observing insects. Take them to the observation spot and discuss safety rules and the boundaries within which they must stay. You may want to read a short story or poem about insects (see attached bibliography) while you are there so that students get the idea that it is a place to listen and observe. Have students also begin to look for a spot of special interest to them.

Back in the classroom, prepare your students to become entomologists for a day. Students will need to know basic information about insects, like body parts and insect metamorphosis. Assign individual students or groups of students different insects to research. Then have students share their discoveries with the class. Before your observation day you may want to divide students into teams.

Now you are ready to take students out for their observational outing. When you arrive at the site, give each student or team of students an "Observation Record" activity sheet. Cameras should be made available as needed.

Let the observations begin! Have students record the date, time of day, and weather conditions on their activity sheets. Students should look for insects in the area. Give students some clues on how to find insects. (See the Background section of this lesson for some ideas.) Any insect that flies into their area counts!

They should try to determine the type of insects they are observing (e.g., beetle, ant, cricket, and caterpillar), and when the time is right they should choose an insect and draw or photograph it. In order to photograph or draw some of the insects, it may be necessary to catch a few. You may even want to have the students bring them back into the classroom for further observation. (Students should make sure the insects are returned to their homes unharmed.) The student should try to identify the insect using available resource materials.

When your students get back to the classroom, give them some time to organize their thoughts, and do some research. Then have each student or team of students give an oral report on the insect they drew or photographed. What insect did they find and photograph? Where did they find the insect (under a leaf or rock or on a tree)? Have each student put his or her activity sheet in a notebook to make a final class report. Create a class collage of all the insects photographed or drawn during your observational outing!

EVALUATION

Use students' activity sheets and oral reports as evaluation tools. Look for complete information in each observation record. The date, time, and weather conditions should be included in each record. Evaluate the oral presentation for clarity, organization and accuracy.

MORE IDEAS

Get on the Internet and share the results of your observation. Encourage other schools around the United States or in other countries to do this activity and share with you what they find. If you use digital cameras for your photographs you can post your photos on-line. You can also share your findings with other classrooms or schools in your city or state through regular mail.

Have students repeat this process over a period of days, weeks, or months. Have students predict what they will observe on the next observation outing. Have them compare their initial discoveries with later observations. Were their predictions correct? Were there any changes in the number or types of insects they observed? Why do they think these changes took place?





MODIFICATIONS

Beginning:

Rather than having individual observation areas, create large team or class study areas. Mark off the boundary of one large area or several small areas and have students work with an adult helper to look for insects and report back to the class. Work on observation records together.

Advanced:

Have students write detailed reports about the insects they photographed or drew. They should research what their insect eats, the various life stages it goes through, and any unique behaviors or adaptations.

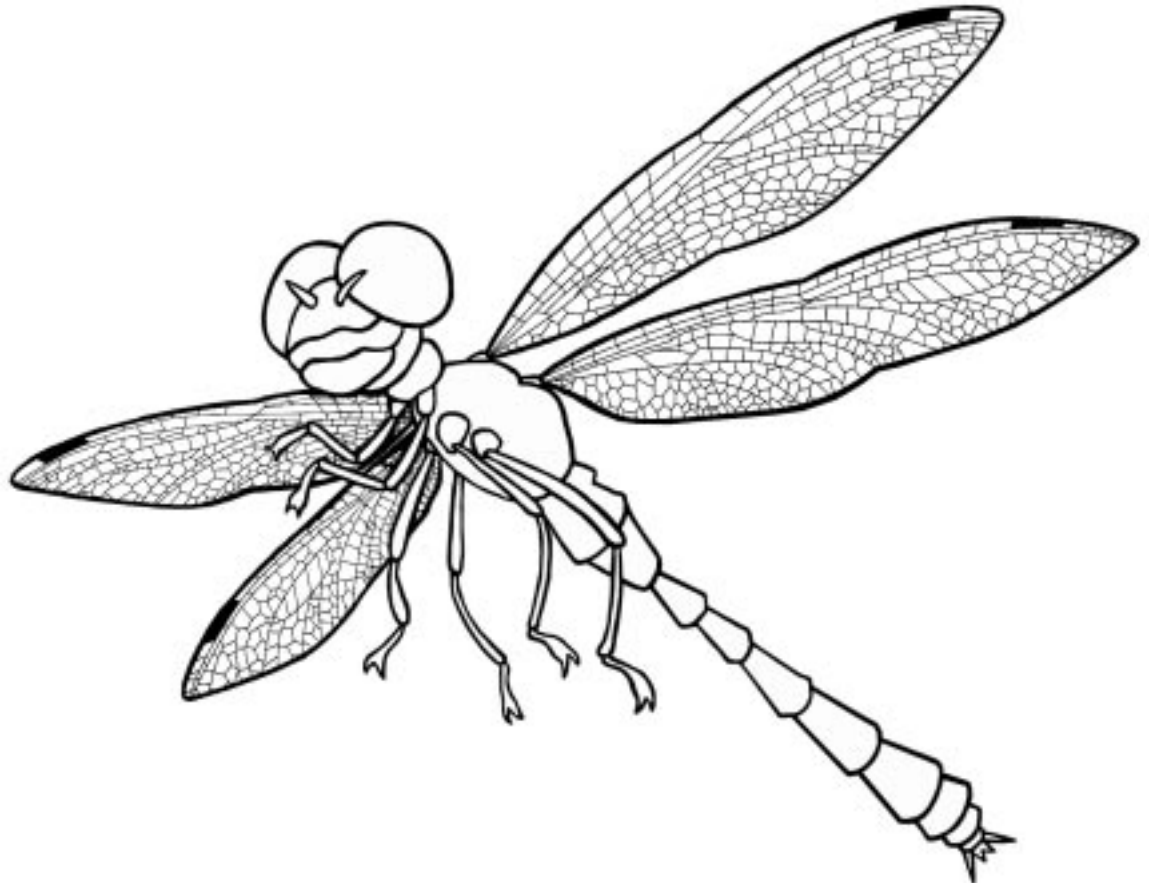
NATIONAL SCIENCE EDUCATION STANDARDS

Develop an understanding of and the abilities necessary to do scientific inquiry

Develop an understanding of the characteristics of organisms

Develop an understanding of organisms and environments

Develop an understanding of diversity and adaptations of organisms



OBSERVATION RECORD

NAME DATE

Date: _____

Time: _____

Weather conditions: _____

List the insects seen today. If you don't know its name use the description area. (Put a tally next to each name or description of insect each time you find another one like it.)

INSECT NAME	DESCRIPTION	OBSERVATIONS OF ACTIVITY

Photograph or draw an insect(s) that you saw today.

Identify and research the insect you photographed or drew (e.g., interesting facts, habitat notes, diet). Use the back of this activity sheet to record any information you find. Remember to include your source for each entry (where you found the information).

