

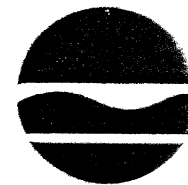
# New York State Department of Environmental Conservation

## Five Rivers Environmental Education Center

Game Farm Road, Delmar, New York 12054

Phone: (518) 475-0291 • FAX: (518) 439-8044

Website: [www.dec.state.ny.us](http://www.dec.state.ny.us)



Denise M. Sheehan  
Commissioner

## INSECTS

The information below is designed to assist you in planning for your trip to the Five Rivers Center. A general outline of the lesson is included so that you can plan related classroom activities. Please read the information on this page carefully. It is your responsibility to make sure that parents receive clothing information, and that chaperones are informed of their duties.

### Lesson Outline

The lesson will involve hands-on discovery by the students who will use nets and other methods of capturing and observing insects in forest and meadow. The following concepts will be discussed:

1. The definition of what makes an insect an insect
2. Insects can be identified and classified into groups
3. Insects have special adaptations to help them survive
4. Insects are an important part of the food chain.

### Clothing Information

Appropriate clothing is *very important*. **Students will be out-of-doors for the entire lesson.** We offer these suggestions for a more comfortable visit:

1. Bring an extra sweater or jacket
2. Wear a bandanna or a hat for protection from sun and insects
3. Wear socks and long pants to avoid contact with poison ivy and brambles
4. Wear comfortable walking shoes
5. In cold weather, wear or bring mittens and warm hats
6. If the possibility of rain is predicted, be prepared by bringing some kind of raincoat or poncho.

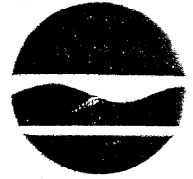
### Information for Chaperones

The success of the trail walk depends a great deal on the chaperone. The chaperone is responsible for the following:

1. Maintaining discipline and keeping the students quiet
2. Keeping the group together
3. Participating and assisting in the activities conducted by the instructor
4. Keeping the group moving when needed or holding the group in a certain place, as indicated by the instructor.

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## *Parents' Page*

## *Guided Lesson*

Your child will soon be visiting Five Rivers Environmental Education Center to learn about the natural environment and the wildlife within it. We're delighted to welcome you and share these hints to make your visit more fun.

Help us take care of Five Rivers!

### Clothing:

- Trails may be wet or muddy, so students should wear **appropriate footwear**.
- Long pants** are recommended.
- Bring **rain gear** if there may be rain: the lesson is geared for the out-of-doors!
- Bring a **hat** and a **water bottle**.
- Most importantly: wear **comfortable clothes**, for whatever the weather may be!

### Chaperones: You are an important part of this program!

- Encourage students to **participate** in class activities and be part of them yourself.
- Your help with **discipline** and **safety issues** will make the class more successful.
- Remain **attentive** to the lesson & save conversations for outside the class.
- Please do not use **cell phones** except in emergency.
- Above all, **enjoy** this experience along with the students!

### Insect Repellent: Many insect repellants contain powerful chemicals. If you choose to use it:

- Please use it carefully and read all instructions.
- We suggest that you **wait to apply** repellent until it is needed.
- Insect repellent should never be applied to hands or face, and should be washed off before eating.
- Students with repellent on should **not touch amphibians**, who can be harmed from repellent.

### Stream Lesson:

- If you are chaperoning a stream class you will be expected to **wade in the stream**.
- Bring rubberized **boots** or **old sneakers** and a change of footwear.

### Wildlife:

- Help groups to keep the noise down so they can see more wildlife.
- Encourage students to watch animals **quietly** and at a **respectful distance**, for the safety of all.

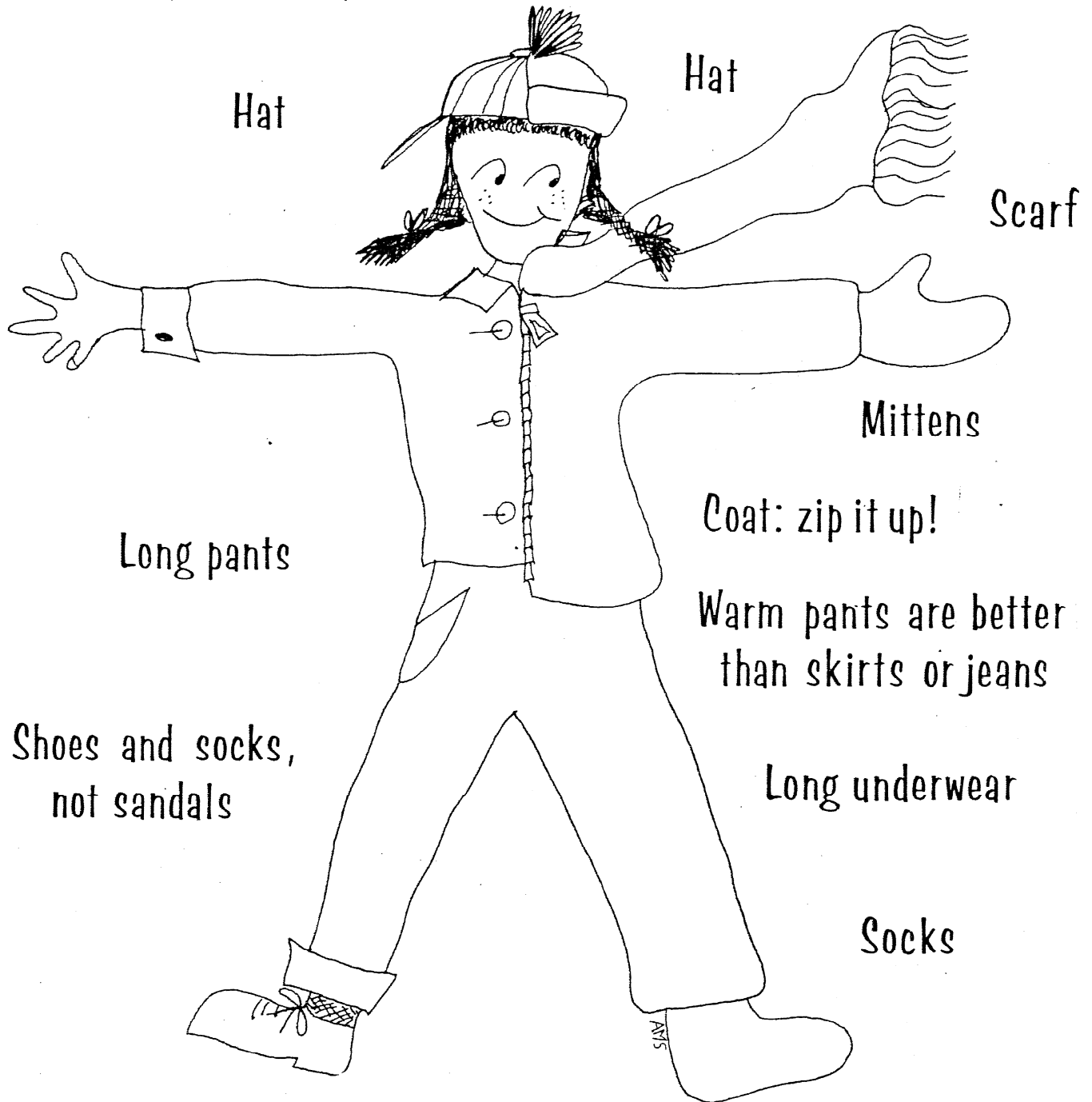
*We look forward to seeing you and your child at Five Rivers and hope it will be a fun-filled and exciting experience. Please call the Center at 475-0291 if you have any questions or if you or your child have special needs; we will be happy to talk with you.*

DRESS LIKE ME IN:



SPRING, SUMMER, FALL

WINTER



Hat

Hat

Scarf

Mittens

Long pants

Coat: zip it up!

Warm pants are better than skirts or jeans

Shoes and socks, not sandals

Long underwear

Socks

Old sneakers or boots for aquatic lessons

Boots: at least ankle-high

## MYSTERY CREATURES

**Method:** Students listen to an insect story and try to draw the mystery creature described.

**Procedure:** Read story to the kids. Tell them to try to form a picture in their minds of what is being described. Have them draw a picture of the insect.

Afterward, show them a picture of the real thing. (In the first story it's an assassin bug. And in the second story, it's a monarch butterfly. Look in Simon and Schuster's Guide to Insects by Dr. Ross Arnett: page 53 for assassin bug; page 239 for monarch butterfly.)

### Silent Stalker

The creature crawled slowly through the field. Its long jointed legs were colored with bands of black and white. Tiny claws on the end of each leg grasped the stalks of grasses and weeds tightly as it moved along.

The creature had one giant bulging eye on each side of its conelike head. The eyes were made up of hundreds of tiny lenses. The cone-like head was followed by a flattened, triangular back, and wings folded over the rest of its body. The armor was brown with orange markings. Hairs and short bristles stuck up from its head and legs.

The creature moved stiffly, its hard armor shielding it from springing stems of grass and weeds. As it moved, two long stalks on top of its head swayed from side to side and up and down. Just like its legs, the stalks were ringed with black and white.

Suddenly the creature halted, motionless except for the two stalks moving ever so slightly as they tested the air. One moment...two...then POUNCE! The creature reached out and grabbed its prey, piercing the smaller creature's smooth armor with a long sucking tube. As if using a straw, the larger creature drained the juices from the body of its prey.

When the creature was no longer hungry, it left the carcass lying in the dew-soaked field and clambered away through the tangled weeds.

Again the creature stopped. Since it was not feeding, its long sucking tube lay folded under its chin and body. The field was almost silent, except for an occasional rustle in the weeds. It was time for the creature to rest.

### Wings of Orange and Black

Jeffrey sat on the edge of his porch. He was bored. Nothing exciting had happened all day. Suddenly a bright, colorful creature appeared in front of him. It flew past the porch and disappeared around the corner of the house.

Jeffrey jumped up and ran to the side of the house. The creature was perched on top of a big yellow flower. Its four wings, shaped like triangles, were bright orange with black along the edges. Its body was narrow and black and had six long legs.

A breeze gently rocked the creature but it held on tightly. It bent its head down, uncoiled its long tongue, and stuck it into the center of the flower. Sweet, sugary nectar flowed into its mouth.

Jeffrey wanted to get a close look. It would be great to tell his family all about the creature. He took one step and then another. Whoosh...the creature took off. It slowly flapped its orange and black wings and landed on another flower farther away.

Quietly Jeffrey tiptoed toward the creature. As he got closer and closer he could see the creature's head. Two big black eyes stared at him. Swaying back and forth on top of the creature's head were two long stalks with knobs on the ends. Then whoosh...the creature took off again. This time it flew over the fence and disappeared. Jeffrey smiled and waved. The creature had brightened his day.

## A TASTE OF HONEY

**Method:** Students taste honey and make simple honey recipes as well as learning how bees make honey.

**Materials:** several different types of honey (you can get these at a health food store)  
crackers or spoons  
honey bears (plastic squeeze bottles -- optional)  
ingredients for honey balls (see "Natural Nibbles" below)



Honey is a natural sweetener. Only honey bees can make it. Here's how they do it:

1. First the worker bees collect nectar from flowers, sucking it up with their tongues and storing it in their honey stomachs, called crops.
2. Once their stomachs are full, the worker bees go back to the hive and transfer the nectar to other worker bees. The hive bees then store the nectar in cells in the comb.
3. To make honey, the hive bees work with one drop of nectar at a time. Each bee takes a drop into its mouth, adds a chemical called an enzyme, and blows air into the drop. The blowing gets rid of some of the water (by evaporation), and, with the enzyme, turns the drop into honey.

Each type of nectar makes a different flavor and color of honey. For example, if the bees collect nectar only from clover, they'll make clover honey, which is a light, mild honey. If the beehive is in a buckwheat patch, the bees will make buckwheat honey. Buckwheat honey has a very strong, bold taste and is much darker than clover honey. In the wild, many bees collect nectar from different kinds of wildflowers and blossoms. These bees make a honey called wildflower honey.

### Taste Test

Describe this honey-making process to your group and then have a taste test. Try to have a light-colored, a dark-colored, and an exotic honey, such as lime or palmetto honey. Pour the honey into honey bears (plastic squeeze jars) so it will be easier to give all the kinds a taste.

Pass out crackers (or spoons) and put some honey on each. Have the kids taste one kind of honey at a time.

Have them describe the differences in taste. Which did they like best? What are some adjectives that describe honey? Can they guess why one type of honey is a light color while another is darker? (The color and flavor depend on the type of nectar.) What other animals like to eat honey? (ants, flies, mice, and bears) Ask what they like to eat with honey.

### Natural Nibbles: Honey Balls

Use the leftover honey to make honey balls with your group. It's a nutritious snack that uses honey as the sweetener. You will need:

1/3 cup honey                      1/2 cup peanut butter                      1/2 cup powdered milk  
Granola, wheat germ, sunflower seeds, raisins, or anything else you want to add

Mix the first 3 ingredients together. Have the kids each roll a ball of the sticky mixture in granola which has been spread out on paper plates.



# BUILD A GRASSHOPPER

Turn this mixed-up insect into a grasshopper! Cut out the pieces along the dotted lines and glue them down on another sheet of paper to make a grasshopper. Then label these parts: HEAD, THORAX, ABDOMEN, EYE, ANTENNAE, WINGS, LEGS, and SPIRACLES (breathing holes). Here's what it should look like when you're done.

