

Hungry Birds Count on Caterpillars

Student Directions

Caterpillar counting is easy! You will search in two different areas. 1) On trees or shrubs on the treelined *edge* of an open area. 2) On trees or shrubs along a *forested trail*. With these locations we're trying to look at 2 different questions concerning caterpillar abundance: do caterpillars prefer large leaves over small leaves and do caterpillars prefer plants on the forest edge or leaves deeper in the forest? Be patient, don't expect to find a caterpillar or other insect on every tree. The search will take about 20 minutes in each area.

Safety tips: *Keep your COVID distance! Take precautions against ticks and biting insects. Stay within sight of your group.*

Supplies: Clip board, field sheets, pencils. Magnifying glass optional.

Here are the steps:

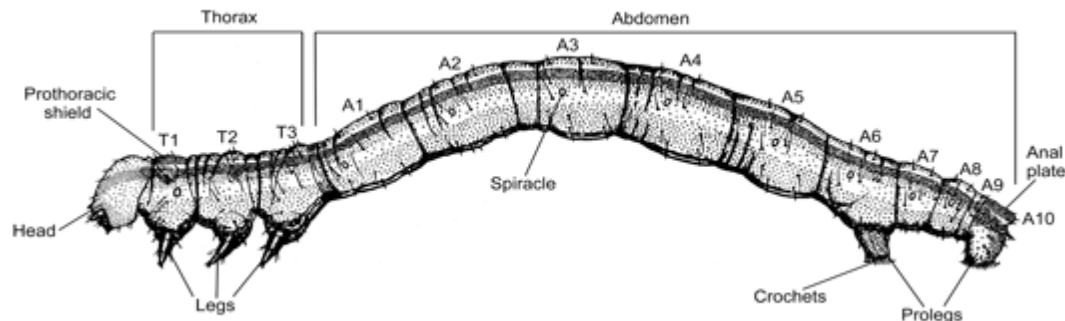
- 1) Fill in the information at the top of your field data sheet.**
- 2) Find two woody plants (tree or shrub) on the *edge* of a lawn**, sidewalk or parking lot that you can reach, with leaves at roughly eye level. Identify a large leafed plant like oak, and a smaller leafed plant like birch or maple. Make sure there are enough leaves on the plants to observe 25 leaves on each. If you can identify your study plants, write their names on your field sheet.
- 3) Sketch a leaf from the two edge tree types** that you pick, one large and one small. You can trace the outline of a leaf and add your observation of veins or rough or smoothness of the leaves. Or do a leaf rubbing. Don't forget to include the leaf stem in your drawing. You can also make note of any holes in the leaf you're sketching as an indication of insect activity. Use the attached paper.
- 4) Observe 25 leaves from the first plant.** Gently take hold of a branch and observe the top, bottom and stem of the leaves. Proceed methodically branch by branch. As you go, record two observations on the field sheet:
 - a) leaves with munching, holes, bites—make tally marks in column, write down total #
 - b) caterpillars, spiders, other bugs—tally in appropriate columns

There are 2 main types of caterpillars you're likely to observe: Geometrid and Noctuid. Geometrids ("Geos") only have legs on the very ends of their bodies. Noctuids ("Nocs") have legs on one end of their bodies *and* in the middle. See the illustrations below. Remember, most caterpillars are larvae and will change into a moth or butterfly later in the summer or fall. Observe carefully because caterpillars are often camouflaged and hard to see.

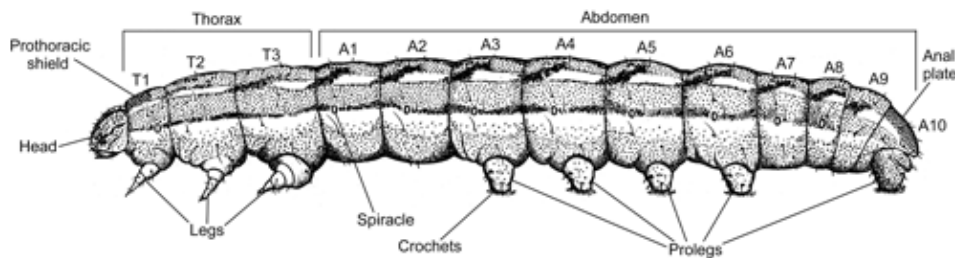
5) Draw one example of each different family group or species of caterpillars you discover on your plants on the sheet provided. Bring a magnifying glass to help you determine the number and position of legs and spines to help with identification.

Have fun!

Meet “Geo” (Geometridae Family)



Meet “Noc” (Noctuidae Family) – often have spines



6) Now observe 25 leaves on your remaining Edge plant, repeating steps #4-5 above.

7) Later you will observe leaves along a *forest trail* using the same steps.

8) When you finish making the observations, turn in your data sheets to your teacher for data analysis. Your teacher can help you figure out whether your group found more caterpillars on large or small leaves and on the edge or in the forest. Do you have any predictions?

Remember that birds depend on caterpillars, other insects, and spiders for themselves and their nestlings. How hard do the birds have to search to find food in the area you observed, based on your results? Things might look different when you come back for more observations as the summer/fall goes on.

THANK YOU FOR CONTRIBUTING TO SCIENCE!

Leaf Drawings

Your name _____

Edge Location Large Leaved Tree

Edge Location Small Leaved Tree

Tree name if you know:

Tree name if you know:

See guide on p. 5

Leaf Drawings continued

Forest Location Large Leaved Tree

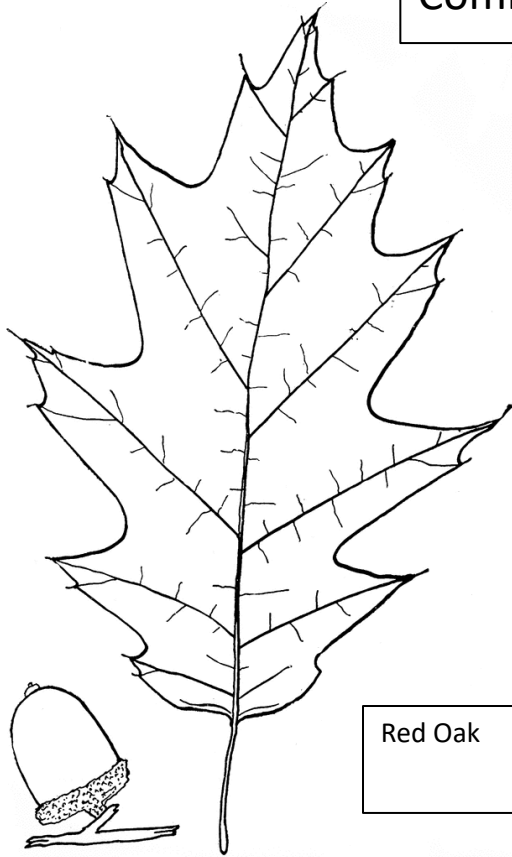
Forest Location Small Leaved Tree

Tree name if you know:

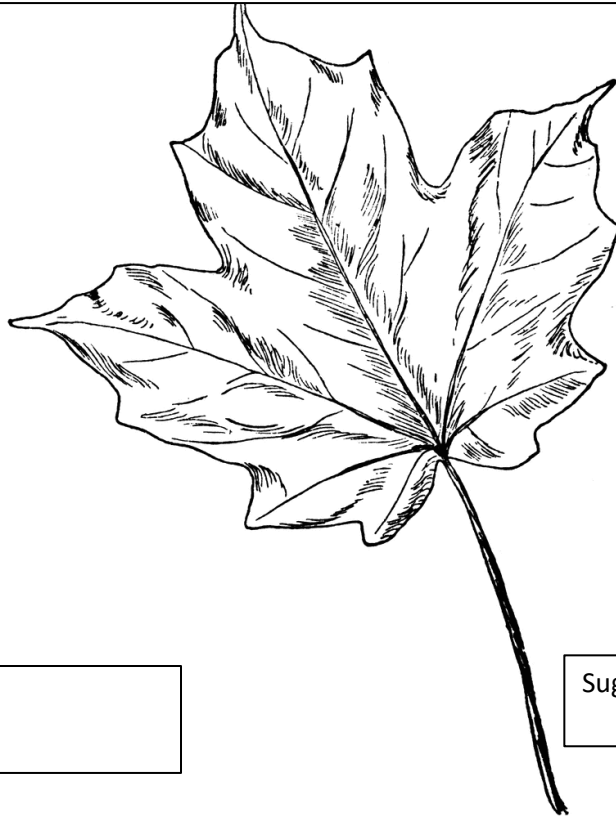
Tree name if you know:

See guide on page 5.

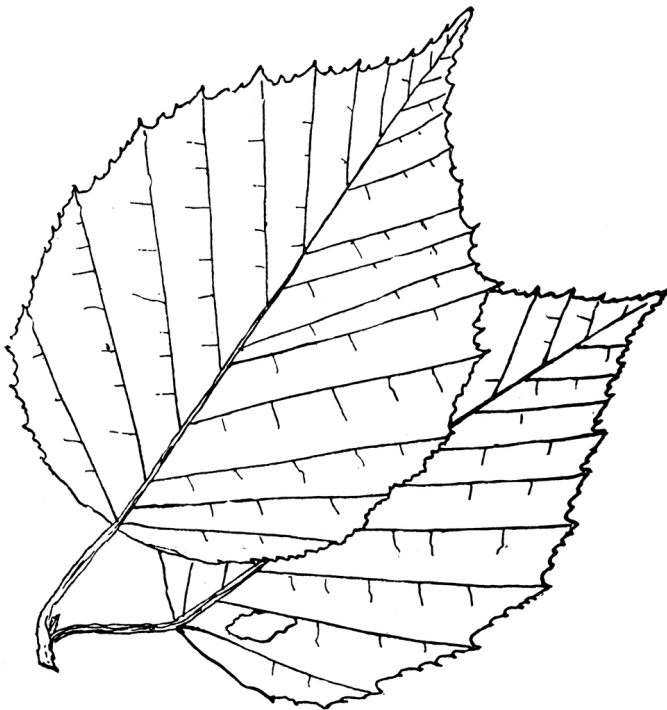
Common New England Leaves



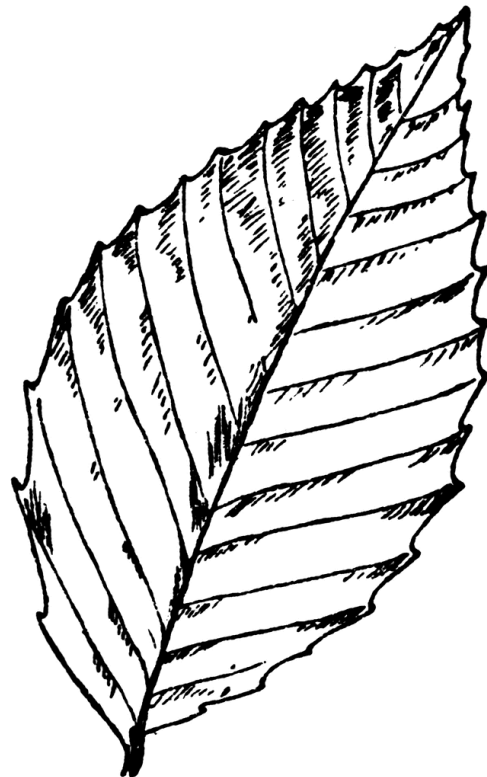
Red Oak



Sugar Maple



Paper Birch



American Beech

Drawings of Caterpillars, Spiders, other signs of insects

Your name_____

(One drawing of each type of organism observed, label with name)

See if you can find one not in the illustrations!