

Leaf Litter

Grade 3-6

Supplies

- leaf litter
- magnifying glasses (optional)
- hand rake, trowel (optional)

Background information

Leaf litter is essential to the health and proper functioning of the ecosystem, and on a smaller scale, the local watershed. Go outside and find a spot under some trees or shrubs that has a lot of fallen leaves that haven't been raked away, and does not have any turf grass. Notice that the top leaves and twigs are very fresh and that as you uncover the top layers, the bottom layers closest to the soil have been broken down into smaller and smaller fragments. This decaying matter is sometimes known as 'duff'. You may also notice moisture as you explore the deeper layers of duff. Decomposer organisms break down the leaf litter over time until it forms part of the soil. This soil is rich in nutrients, while the undecomposed leaf litter above it helps hold in moisture. The duff also helps prevent unwanted sediment and pollutants from washing into our watershed when it rains.

Use a hand lens or magnifier to find worms, insects, fungal mycelium (white branching threads), and other signs of life. These decomposer organisms also include bacteria. There are more organisms in a handful of soil than there are people on the planet!

At the Santa Barbara Botanic Garden

You may notice that many of our garden beds have a thick layer of leaf litter covering the soil. This helps support the natural cycle of leaf drop, decay, and growth in the Garden. Check out the leaf litter box in the Arroyo Section to dig through some of our leaves. What did you find?

See **Oaks in the Garden** for more information on observations to make at the Garden.

See **Soil Experiment** for a project that allows you to observe the process of decomposition in your classroom over the course of one school year, and inspires the experimental design.

See **Springs and Seeps in the Garden** for information on mosses, fungi, and lichens.