

# FONTT Earth Day Celebration Quiz

A. Insects		
1.	<b>What is an insect?</b>	<p>Insects are animals that share a more recent common ancestor with each other than with other animals.</p> <p>All insects have the same five anatomical features including:</p> <ul style="list-style-type: none"><li>● one pair of antennae attached to their heads</li><li>● three pairs of legs attached to the middle of their bodies.</li></ul>
2.	<b>Are butterflies insects?</b>	<p>Yes, butterflies are insects. Like all insects, butterflies share with other insects a more recent common ancestor than with non-insects.</p> <p>Adult butterflies therefore have the same basic and unique anatomy of all insects, including antennae and three pairs of legs.</p>
3.	<b>What two other types of insects are closely related to butterflies?</b>	<p>Moths and skippers.</p> <p>Butterflies, moths, and skippers all belong to the order Lepidoptera, one of 12 insect orders.</p>
B. Insect Life Cycles		
4.	<b>What is a life cycle?</b>	<p>A life cycle is a series of developmental stages, for example egg → larva → pupa → adult in most (but not all) insects.</p>
5.	<b>What stage in a life cycle are caterpillars?</b>	<p>Caterpillars are larvae (the plural of larva), the stage between eggs and pupae. Butterflies, moths, and skippers (Lepidoptera Order) are the only insects that produce caterpillars.</p>
6.	<b>What are the only three types of insects that are caterpillars at one stage in their life?</b>	<p>Butterflies, moths, and skippers (Lepidoptera Order) are the only insects who are caterpillars at one stage in their life.</p>
7.	<b>What is the purpose of caterpillars in the life cycle of Lepidoptera (butterflies, moths, skippers)?</b>	<p>The purpose of caterpillars is to eat. They have to take in enough nutrients and energy to power the next stage of life. The pupae will consume only what the caterpillars have stored inside their bodies from eating.</p>

		In other words, caterpillars eat in order to fuel metamorphosis, the transformation of a caterpillar into an adult butterfly during the pupal stage.
<b>C. Caterpillar Food</b>		
8.	<b>What do caterpillars eat?</b>	<p>Caterpillars eat plants, mostly leaves. The type of leaves and plants depends on the type of caterpillar and where they live.</p> <p>For example, the caterpillars of most Maryland moths and butterflies, and a few skippers, eat the leaves of trees and other woody plants, because this area was forest since before insects evolved.</p>
10.	<b>How do caterpillars find food?</b>	<p>Mothers know to lay their eggs on the specific type of plants whose leaves the caterpillars can eat. The caterpillars hatch from their eggs just as the leaves of their host plant emerge, so the caterpillars can get right to eating.</p>
11.	<b>What are larval host plants and why are they important?</b>	<p>Larval host plants are the ones that larvae, such as caterpillars, can eat. The plants “host” the larvae to a good meal, like the host of a dinner party.</p> <p>Most caterpillars can only eat one or a few plant species with which they have evolved. If there aren’t enough of the right larval host plants, then the caterpillars die from lack of food.</p>
12.	<b>If caterpillars can’t find a larval host plant, why don’t they eat leaves from another plant species?</b>	<p>To eat leaves, caterpillars have to develop digestive chemicals to overcome the defensive chemicals that plants produce to prevent being eaten.</p> <p>But as soon as the caterpillars evolve new chemicals, so do the plants. It’s an arms race, and to keep one step ahead, caterpillar species must specialize in one or a few plant species.</p> <p>Specialization also means that a caterpillar species has a protected food source that many other caterpillar species can’t eat. This is how to survive in the game of evolution.</p>

## D. Caterpillars and Me

12.	<b>Can something as small and insignificant as a caterpillar really matter in the larger scheme of things?</b>	<p>Caterpillars may be small but they are a big part of nature's food web, notably for birds. All that eating makes caterpillars nutrient-dense little food bundles available in huge numbers during peak season. Each pair of bird parents collects caterpillars by the thousands to feed a nest of baby birds not yet old enough to eat other things. If you want to have birds, you need to have caterpillars.</p> <p>Also, caterpillars grow up (if they escape the hungry birds and other predators) to be important pollinators. Lepidoptera is the second largest order of insects, which makes butterflies, moths, and skippers the largest group of insect pollinators.</p>
14.	<b>Why should I care about caterpillars?</b>	<p>Caterpillars are under severe stress – one could even say threat – in the DMV, a vast urbanized area of about 7 million people. Nature requires food, water, shelter, and space for species to live and reproduce. We have largely taken away the native forests that provided those four elements of habitat.</p> <p>But we can reintegrate native habitat into our urban/suburban neighborhoods and thereby give nature a boost. Caterpillars are a great place to start because, though small, they have an outsized impact on nature through the food web and pollination.</p>
15.	<b>What could I do to help caterpillars?</b>	<p>You could help get more native trees planted and adequately maintained. In other words, “build” and care for some really big caterpillar homes.</p> <p>For example, you could arrange for FONTT to plant a free oak tree* in your yard or the yards of neighbors, friends, parents of friends, etc. Ask Io, the Quiz Whiz Moth, where to get information on this FONTT offer.</p> <p><i>*Native oaks are the larval hosts to more than 400 species of caterpillars. Since oaks grow to be so huge, they therefore support vast quantities of caterpillars.</i></p>