



ROMANS

Chapter 12 Transforming

- Our *R12 Journey* start with a critically important recognition of God's perspective of YOU. Romans chapter 12 begins with the word - "*THEREFORE*". The word "therefore" concludes the Apostle's doctrinal teaching on God's perspective of YOU and all His infinite provisions for YOU. God's magnificent love for YOU is validated in His grace (giving you what you can't earn and don't deserve) and mercy (not giving you what have earned and do deserve). In the preceding chapters of his letter to the church at Rome, Paul laid the doctrinal foundation before detailing the duty for the *R12 Journey*:

	Chapter 1-3	Chapters 4-5	Chapters 6-8	Chapters 9-11
Consideration	Man's Problem	God's Solution	God's Provision	God's Faithfulness
Cause	Sin	Salvation	Sanctification	Sovereignty
Conclusion	Lost	Found	Empower	Chosen
Condition	Confession	Believe	Reckoned	Praise

- The Apostle's use of the word "*transform*" to describe YOUR duty in response to God's perspective and provisions. "Transform," which translates into our English word "metamorphosis" is the process needed for YOU to see yourself and your purpose in God's eternal plan. We can understand our transformation as we observe the metamorphosis of caterpillars, butterflies, and moths. Compare and contrast your spiritual transformation to the

- a. Development stages (conception to maturity),
- b. Environment and Natural habitat and
- c. Common behaviors before, during, and after the metamorphosis.

A life cycle is made up of the stages that a living organism goes through during its lifetime from beginning to end. A butterfly undergoes a process called complete metamorphosis during its life cycle. This means that the butterfly changes completely from its early larval stage, when it is a caterpillar, until the final stage, when it becomes a beautiful and graceful adult butterfly. The butterfly life cycle has four stages: egg, larva (caterpillar), pupa (cocoon), and adult (butterfly or moth).

After caterpillars hatch from eggs, they turn into greedy little eating machines. Instead of developing as most other animals do, caterpillars have something very special inside of them: *imaginal disks*. These "disks" are just small clusters of cells that match up with the structures they'll need as adults. There's one imaginal disk for every adult body part—wing, eye, leg, etc. Caterpillars often, but not always, have several pairs of true legs, along with several pairs of false legs or prolegs. Caterpillars' only goal is to eat and grow, gaining the nutrients they need to become a butterfly ultimately. They eat so much that they grow too large for their own bodies, and they need to *shed*, or *molt*, their skin, just like a snake. The caterpillars repeat this eat-shed-eat process a few times until they reach a size where they're large enough to undergo metamorphosis. Caterpillars are very particular about what they eat, which is why the female butterfly lays her eggs only on certain plants. She instinctively knows what plants will serve as suitable food for the hungry caterpillars that hatch from her eggs. Caterpillars don't move much and may spend their entire lives on the same plant or even the same leaf! Some caterpillars are considered pests because of the damage they do to crops. Caterpillars do not need to drink additional water because they get all they need from the plants they eat. They have no way of reproducing as caterpillars, which is why they must morph into another species to continue their cycle of life.



Caterpillars are well-adapted to their natural surroundings. Most of them are camouflaged, so even though they're all around us, we usually don't see them. They are so perfectly disguised (or have such secretive habits) that we walk right by them without ever

Provoke Your Thinking

knowing they're there. But they are! Many have bright colors and patterns that may serve to warn or scare away predators, like birds. Otherwise, most caterpillars are totally defenseless, but a few species are protected by stinging spines. Some caterpillars have tiny bristles or hairs to defend themselves against predators, either as an armor of sorts, or to inject venom.

The transformation over time looks like a change from a resting caterpillar to a shell-like covering. Once a caterpillar has eaten its fill, it finds a nice little nook on a branch somewhere. It hangs itself upside down from the branch and does one of two things, depending on the species. It'll



either wrap itself tight in a silky cocoon, or molt one final time into a hard, sparkling *chrysalis*. When the larva is tucked neatly away in its cocoon or chrysalis, that's when the magic starts. During the pupa stage, enzymes are released and literally dissolve almost the entire larva into a nutrient soup. Inside the cocoon, the body is undergoing an incredible cellular transformation, or "*metamorphosis*". The transformation consumes so much energy that the

pupa loses more than half of its original weight. The parts we recognize as a butterfly are beginning to form. The limbs and organs will be transformed by the time the pupa is ready to emerge as a beautiful butterfly. The time a butterfly spends in the pupa stage varies greatly per species, ranging from a few days to a year! Only a few other things remain, the nervous system, the breathing tubes, and the imaginal disks. Now that the imaginal disks are free, they rebuild the butterfly, or moth. The disks move to the correct positions (no one wants a leg where an eye is supposed to be), and the cells in the disks start to absorb the nutrient soup to grow and multiply. Very slowly, the new insect starts to take shape. Interestingly enough, even though the entire butterfly goes through this whole process, some things do stay the same. For example, some scientists had done an experiment to prove that moths can remember things from way back when they were just caterpillars! This shows that even though the body is rearranged, most (if not all) of the nervous system remains intact. By the time the transformation is complete, the new butterfly or moth is fully-formed within its cocoon or chrysalis. It then hatches for the second time in its life. The new butterfly will pause to get its bearings and test its new body; its wings and antenna unfurl and harden. Then, it's off into the air to start its new life!

Butterflies are the adult flying stage of certain insects belonging to an order or group called Lepidoptera. Moths also belong to this group. The word "Lepidoptera" means "scaly wings" in Greek. This name perfectly suits the insects in this group because their wings are covered with

thousands of tiny scales overlapping in rows. The scales, which are arranged in colorful designs unique to each species, are what gives the butterfly its beauty. Like all other insects, butterflies have six legs and three main body parts: head, thorax (chest or mid section) and abdomen (tail end). They also have two antennae and an exoskeleton. In general, butterflies differ from moths in the following ways: (1) Butterflies usually have clubbed antennae, but moths have fuzzy or feathery antennae. (2) Butterflies normally are active during the daytime while most moths are active at night. (3) When a butterfly rests, it will do so with its wings held upright over its body. Moths, on the other hand, rest with their wings spread out flat. Butterflies will, however, bask with their wings out-stretched. (4) Butterflies are generally more brightly colored than moths.

Butterflies are complex creatures. Their day-to-day lives can be characterized by many activities. Adult butterflies are also selective about what they eat. Unlike caterpillars, butterflies can roam about and look for suitable food over a much broader territory. In most cases, adult butterflies are able to feed only on various liquids. They drink through a tube-like tongue called a proboscis. It uncoils to sip liquid food, and then coils up again into a spiral when the butterfly is not feeding. Most butterflies prefer flower nectar, but others may feed on the liquids found in rotting fruit, in ooze from trees, and in animal dung. Butterflies prefer to feed in sunny areas protected from wind. Butterflies are cold-blooded, meaning they cannot regulate their own body temperature. As a result, their body temperature changes with the temperature of their surroundings. If they get too cold, they are unable to fly and must warm up their muscles in order to resume flight. Butterflies can fly as long as the air is between 60°-108° F, although temperatures between 82°-100° F are best. If the temperature drops too low, they may seek a light-colored rock, sand or a leaf in a sunny spot and bask. Butterflies bask with their wings spread out in order to soak up the sun's heat. When butterflies get too hot, they may head for shade or for cool areas like puddles. Some species will gather at shallow mud puddles or wet sandy areas, sipping the mineral-rich water. Generally, more males than females puddle and it is believed that the salts and nutrients in the puddles are needed for successful mating. Butterflies may survive cold weather by hibernating in protected locations. They may use the peeling bark of trees, perennial plants, logs or old fences as their overwintering sites. They may hibernate at any stage (egg, larval, pupal or adult) but generally each species is dormant in only one stage. Another way that butterflies can escape cold weather is by migrating to a warmer region. Some migrating butterflies, such as the painted lady and cabbage butterfly, fly only a few hundred miles, while others, such as the monarch, travel thousands of miles. Monarchs are considered the long-distance champions of butterfly migration, traveling as many as 4000 miles round trip. They begin

their flight before the autumn cold sets in, heading south from Canada and the northern United States. Monarchs migrate to the warmer climates of California, Florida and Mexico, making the trip in two months or less and feeding on nectar along the way. Once arriving at their southern destination, they will spend the winter resting for the return flight. Few of the original adults actually complete the trip home. Instead, the females mate and lay eggs along the way and their offspring finish this incredible journey.

Butterflies and caterpillars are preyed upon by birds, spiders, lizards, and various other animals. Largely defenseless against many of these hungry predators, Lepidoptera have developed a number of passive ways to protect themselves. One way is by making themselves inconspicuous through the use of camouflage. Caterpillars may be protectively colored or have structures that allow them to seemingly disappear into the background. For example, many caterpillars are green, making them difficult to detect because they blend in with the host leaf. Some larvae, particularly those in the Tropics, bear a resemblance to bird droppings, a disguise that makes them unappealing to would-be predators. The coloration and pattern of a butterfly's wings may enable it to blend into its surrounding. Some may look like dead leaves on a twig when they are at rest with their wings closed. The underwing markings of the comma and question mark butterflies help them to go unnoticed when hibernating in leaf litter.

Compared with butterflies, moths have stouter bodies and duller coloring. Moths also have distinctive feathery or thick antennae. When at rest, moths either fold their wings tentlike over the body, wrap them around the body, or hold them extended at their sides, whereas butterflies hold their wings vertically. Moths vary greatly in size, ranging in wingspan from about 4 mm (0.16 inch) to nearly 30 cm (about 1 foot). Highly adapted, they live in all but polar habitats. The wings, bodies, and legs of moths are covered with dustlike scales that come off if the insect is handled. The bollworm and measuring worm are two of the most destructive types of moth larvae. Some moth species (especially those of the family [Tineidae](#), which includes the clothes moth) eat [wool](#), fur, [silk](#), and even feathers. Some of the better-known moth families include: [Gelechiidae](#), to which the destructive bollworms of cotton, corn, tomatoes, and other crops belong; Tortricidae, or [leaf roller moths](#), which are forest pests; Lymantriidae, the [tussock moths](#), also containing forest pests such as the [gypsy moth](#); Arctiidae, the [tiger moths](#), with many brightly colored tropical species; [Olethreutidae](#), including several destructive species such as the codling moth and the Oriental fruit moth; Noctuidae, the [owlet moths](#), one of the largest families of lepidopterans; [Saturniidae](#), the giant silkworm moths, containing the largest individual; and [Geometridae](#), [measuring worm moths](#), including the waves, pugs, and carpet moths.