

## *Backyard Bugs* Glossary

abdomen:	the third, hind section of the body of insects and other arthropods behind the thorax and the legs.
<i>Actias luna</i> :	the scientific name for the Luna moth, a very large silk moth with pale green wings.
adaptation:	a characteristic or trait of an organism that enables it to survive better in its environment; for example, the ability of monarchs to absorb poisons from milkweeds to protect themselves from their predators.
adapted:	body plan or behavior that is organized for a specific use or environment.
adult:	the life stage of a fully grown, mature organism.
aeration:	to supply with air or oxygen.
aerodynamic:	designed to promote the smooth flow of air over a surface.
anal valve:	valves at the posterior, or rear, of a millipede, which control the elimination of wastes.
anchor:	to hold or fasten securely; for example, a spider anchors its web to tree branches or other objects.
animal:	the Kingdom of organisms that have many cells and cannot make their own food.
annelid:	a segmented worm, for example the earthworm.

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antenna (pl. antennae):	one of a pair of slender, movable, segmented sensory organs on the head of insects and other arthropods.
anterior:	the front end of an organism.
antlion:	an insect belonging to the Order Neuroptera. The larvae of some species build pits to trap their prey.
anus:	an opening at the end of the digestive system that allows waste to leave the body.
Aphonopelma:	the genus containing those spiders that are commonly called tarantulas.
Apidae:	a family of insects belonging to the Order Hymenoptera, represented by the honey bee.
<i>Apis mellifera</i> :	the scientific name for the honey bee.
appendage:	any structure attached to the main body, such as an antenna, leg, or wing.
aquatic:	living in, on, or near the water.
arachnid (Arachnida):	a class of arthropods, including spiders, scorpions, mites, and ticks, with four pairs of segmented legs and a body that is divided into two parts (the cephalothorax and the abdomen).
Araneae	the Order of Arthropods containing spiders.
Archaeobacteria	the Kingdom including single celled organisms without a nucleus (bacteria-like organisms that live in harsh

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	environments without oxygen).
Areneus diadematus:	the scientific name for a variety of "garden spider".
Argiope aurantia:	the scientific name for a variety of "garden spider".
Argiope trifasciata:	the scientific name for a variety of "garden spider".
Aristotle:	a scientist and philosopher in ancient Greece who developed one of the first systems of classifying plants and animals.
arthropod (Arthropoda):	A major grouping or phylum of animals distinguished by the number of body segments and appendages, including insects, spiders, centipedes, and millipedes.
attract:	to draw in or cause to come near, e.g. Flowers attract butterflies.
backbone:	the internal skeleton (spine) of a vertebrate.
bacterium (pl. bacteria):	ancient single-celled organism.
ballooning:	using the wind to float up into the air and get blown for a considerable distance.
balance:	an instrument used in laboratories to measure the mass or weight of a body.
barb:	a short, sharply hooked bristle or spine.
behavior:	the way an organism acts, i.e. behaves, in relation to other

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	organisms or its environment.
Belostomidae:	a family of insects belonging to the Order Heteroptera, represented by the giant water bug.
binomial nomenclature:	two-word naming system that provides every organism with a unique scientific name.
biodiversity:	a short way for saying biological diversity, the overall variety of organisms in an ecosystem.
Blattidae:	a family of insects belonging to the Order Orthoptera, represented by the cockroach.
Blepharicerid/ Blephariceridae:	a family of insects belonging to the Order Diptera, represented by the net-winged midge.
blepharicerid larva:	the larval stage of insects belonging to the Order Diptera, represented by the net-winged midge.
book lungs:	specialized breathing pouches of arachnids, filled with closely packed sheets like the pages of a book.
breathing tube:	a tube that enables mosquito larvae to remain under water and breathe air from the water's surface at the same time; like a snorkel.
breed:	to produce offspring.
bridge line:	part of a spider's web. The spider makes a bridge line between two objects, such as branches, and strengthens the bridge with extra strands of silk.

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bristle:	a stiff, hair-like structure.
buoyant:	floating or moving up in a fluid.
burrow:	a hole or tunnel dug into various substrates including the ground, wood, and trees.
caddisfly:	a small moth-like insect with aquatic larvae belonging to the Order Trichoptera.
caliper:	an instrument used to measure the distance between two points.
calling:	to lure prey or a mate by making a sound or using attractive chemical substances called pheromones.
camouflage:	concealment by disguise or protective coloring.
capitulum:	a small knob.
carbon dioxide:	a colorless and odorless gas breathed out by most animals and plants.
carnivore:	an animal that eats other animals.
carrion:	a dead or decaying animal fed upon, e.g. by vultures.
case:	a protective covering built by an animal out of leaves, sand, sticks, etc.
caterpillar:	the elongated wormlike larva of a butterfly or moth.

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cell:	a small, closed space, such as a compartment, in a honeycomb.
centipede:	an arthropod belonging to the Class Chilopoda, its body is composed of many segments. Each body segment has one pair of legs. Centipedes are venomous.
cephalothorax:	one of two body parts of spiders, made up of the head and thorax joined together.
cercus (pl. cerci):	a pair of appendages at the posterior end of the abdomen.
chelicera (pl. chelicerae):	the first pair of fanglike appendages that are part of the mouth of a spider, often modified for grasping, piercing, and injecting poison into a prey.
Chelicerata	the Class of Arthropods which includes spiders and scorpions.
chewing mouthparts:	mouthparts modified for biting and grinding.
chilopod (Chilopoda):	a class of many-legged arthropods, which includes the centipedes. From the Greek <i>kheilos</i> meaning lip and <i>poda</i> meaning foot, because the first pair of legs are modified to form jaws.
chrysalis:	a pupa which metamorphoses into a butterfly.
<i>Citheronia regalis</i> :	the scientific name for the Regal moth, whose caterpillar is called the Hickory horned devil.
class:	A major category in animal and plant classification, from kingdom, phylum, class, order, family, genus, and species.

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classify:	to group things together based on a set of rules.
claw:	a sharp curved hook at the end of an appendage.
climate:	the weather conditions of an area.
cockroach	a flat-bodied, oval-shaped insect belonging to the Suborder Blattodea.
cocoon:	a protective silk case spun by the larvae of moths and other insects that serves as a covering of their pupal stage.
coil:	a tightly wound spiral.
Coleoptera:	the order of insects known as beetles with one pair of leathery wings covering a second pair of membranous wings. From the Greek <i>coleo</i> meaning sheath (or cover) and <i>ptera</i> meaning wing.
colon:	the posterior end of the digestive system, responsible for re-absorbing water and eliminating wastes.
colony:	the same kind of animals living together as a social group.
complete metamorphosis:	An insect life cycle with four stages of development from egg, to larva, to pupa (chrysalid), to adult (holometabolous).
compound eyes:	arthropod eyes made up of many separate visual units.
conclusion:	the result or outcome of an act or process.

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controlled variable:	a variable in an experiment that can be held constant or regulated and which serves as a standard against which another variable is measured.
corolla:	the collective term for all the petals of a flower.
corona:	a crown-like structure on the corolla of some flowers, as in milkweeds.
coxa (pl. coxae):	the leg segment nearest to an insect's thorax that attaches the leg to the body.
cremaster:	the little, black post which has many tiny Velcro-like hooks on it with which the chrysalis grasps the silk pad during metamorphosis from the larva to the chrysalis.
crop:	a sack-like enlargement of the digestive system in which food is stored before being digested.
crustacean:	any of the aquatic arthropods like lobsters, crabs, or shrimp.
Culex:	the genus containing the common mosquito.
<i>Culex pipiens</i> :	a mosquito species.
Culicidae:	a family of insects belonging to the Order Diptera, represented by the mosquito.
cylindrical:	shaped like a tube or cylinder.
<i>Danaus plexippus</i> :	the scientific name for the Monarch butterfly. <i>Danaus</i> is the

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	genus, <i>plexippus</i> is the species.
deciduous:	trees or plants that lose their leaves at the end of the growing season.
defecation:	to eliminate digestive wastes from the body.
dependent variable:	in an experiment, the variable that is being observed. Changes to the dependent variable depend on the changes made to independent variables in the experiment. For example, evaporation of water is dependent upon temperature.
desiccation:	Loss of moisture from the body; drying out.
deterrent:	Something, such as a bitter tasting substance or spines that keeps an enemy from attacking.
detritus:	accumulated material; debris e.g. dead leaves in the bottom of a pond.
diameter:	a straight line passing through the center of the circle, also the measured distance of a line passing through the center of a circle.
<i>Diapheromera femorata</i> :	the scientific name for a stick insect.
diatoms:	small one-celled algae with cell walls made of silica
digest:	to convert food into smaller units that can be absorbed and used by the body.

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digestive system:	the part of the body responsible for eating, digesting, and absorbing food for use by an animal.
diplopod (Diplopoda):	a class of many-legged arthropods, which includes the millipedes. From the Greek <i>diplos</i> meaning double and <i>poda</i> meaning foot, because there are two pairs of legs on each body segment.
Diptera:	an order of insects with only one pair of membranous wings. Diptera are the true flies and mosquitoes. From the Greek <i>di</i> meaning two and <i>ptera</i> meaning wing.
disperse:	to scatter in different directions.
diverse:	many and different; a variety.
dorsal:	the back side of an animal opposite its belly side.
dorsal vessel:	a central pumping blood vessel along the dorsal side of insects, acting as a heart.
dragline:	a thin, strong, line of silk that a spider leaves behind as it moves. The dragline can be used as a safety line when a spider jumps away from a predator or falls from its web.
dragonfly:	an insect belonging to the Order Odonata and Suborder Anisoptera.
drone bee:	the male bee. Drones die after mating with the queen and unmated drones are denied food and die.
echolocation:	a sensory system in bats and some insects, in which sounds are sent to bounce back to determine the direction and

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	distance of objects.
eclose:	to emerge; to come out into view, as a butterfly ecloses from its chrysalis.
ecosystem:	a natural, biological system formed by the interaction of all the organisms with each other and with their environment.
egg:	in organisms that reproduce sexually, the sex cell (gamete) from the female parent with its nourishing and protective envelopes (shells).
egg case:	a case that holds a number of eggs.
elongate:	long and narrow shape.
emerge:	to come out into view, as to emerge from a hole in the ground.
environment:	all of the circumstances surrounding an organism (including soil, temperature, rainfall, and other organisms) that affect its growth, development and survival.
enzyme:	a protein produced by a living organism to control and speed up biological functions like digestion.
esophagus:	the part of the digestive system that moves food from the back of the mouth to the stomach.
Eubacteria:	the Kingdom of organisms including single celled organisms without a nucleus (true bacteria and blue green algae).
evolution:	a change of form or behavior of a population over time. These changes may lead to different species from a common

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	ancestor over many generations.
evolve:	to change form or behavior over time; to change through evolutionary processes.
excrete:	to eliminate, or send out of, the body.
excretory system:	the part of the body responsible for eliminating wastes from the body such as the kidney in humans or the Malpighian tubules in insects.
exoskeleton:	an external, supportive covering on the outside of an animal, as in all arthropods including insects.
experiment:	a test under controlled conditions that is made to discover the truth, or to examine the validity of a hypothesis.
eye:	an organ that sees, or can detect light. Organisms can have simple or complex eyes.
eye spot:	a false eye on the wing of a butterfly that frightens a predator.
fang:	a long, sharp, pointed tooth.
fat body:	a food reserve of fatty tissue inside insects.
feathery:	looking like a bird's feather.
feeler:	one of a pair of slender, movable, segmented sensory organs on the head of insects, and other arthropods. Also called antenna.

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feigning:	pretending or imitating in order to deceive.
female:	a member of the gender that produces eggs or bears young.
fertilization:	in organisms that reproduce sexually, the fusion of an egg and a sperm starts the development of a new individual.
fertilize:	in organisms that reproduce sexually, to introduce sperm to a female.
filter feeder:	an aquatic animal that feeds by filtering small particles of food from water.
flexible:	capable of bending.
fly:	a common name for any of many two-winged insects of the order Diptera.
food chain:	a community of organisms where each member is eaten in turn by another organism.
forage:	to search for food.
fore legs:	the pair of legs closest to the insect's head (anterior).
fore wings:	the pair of wings closest to the insect's head (anterior).
fossil:	part of an organism from a long time ago, like a skeleton or footprint, which is preserved in sedimentary rocks.
framework:	the part of an orb web at the outside edge.

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Fungi:	the Kingdom of organisms including many celled organisms which absorb food from living or dead things (such as yeasts and mushrooms).
ganglia:	a bundle of nerve cells forming a nerve center, for example insects usually have a ganglion in each body segment.
gas exchange:	the process of moving oxygen into the body and producing carbon dioxide as a waste product. Gas exchange can occur through cell membranes, tracheae, gills, and lungs.
generation:	a group of organisms born at and all living at about the same time.
genetic:	of or relating to genes, the hereditary unit that determines the characteristics of an organism.
genus (pl. genera):	the second smallest grouping of organisms used in classification.
giant water bug:	a predatory insect belonging to the Family Belostomatidae.
gill (pl. gills):	the breathing organ in aquatic organisms that exchanges carbon dioxide with water.
gizzard:	a modified muscular pouch behind the stomach in the digestive system, with a thick lining and often containing sand that helps grind up food.
gland:	an organ that secretes, or makes, a substance.
gnathochilarium:	a fused plate-like structure that forms one of the two sets of the

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	millipede's mouthparts.
grasping:	catching and holding.
graze:	to feed on growing plants.
gut:	the digestive system, especially the stomach and intestines.
Gyrinidae:	a family of insects belonging to the Order Coleoptera, represented by the whirligig beetle.
habitat:	the area or place where an organism lives.
halteres:	the remains of the hind wings of insects belonging to the Order Diptera, which are used like gyroscopes for balancing during flight.
hatch:	to emerge from an egg.
hazard:	a possible source of danger.
head:	the first, or forward, section of the body of insects and other arthropods before the thorax that contains the brain.
heart:	the structure that pumps to maintain the flow of blood throughout the body of an organism, properly called a dorsal blood vessel in most arthropods.
hemimetabolous:	incomplete metamorphosis. A life cycle with three stages of development that some insects undergo from egg, to nymph, to adult, skipping the pupal or chrysalid stage.

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Hemiptera:	a large order of insects with piercing mouthparts and two pairs of wings. Hemiptera are sometimes called the true bugs, many are serious pests. From the Greek <i>hemi</i> meaning half and <i>ptera</i> meaning wing.
herbivore:	an animal that feeds on plants.
Heteroptera:	a suborder of the Order Hemiptera. From the Greek <i>hetero</i> meaning different and <i>ptera</i> meaning wing.
hickory horned devil:	a large caterpillar, with spiky horns. The larval stage of the Regal moth.
hind legs:	the pair of legs furthest from the insect's head (posterior).
hind wings:	the pair of wings furthest from the insect's head (posterior).
hive:	a structure for housing bees, especially honey bees; a group of bees living together.
holometabolous:	complete metamorphosis. A life cycle with four stages of development that some insects undergo from egg, to larva, to pupa, to adult.
honey:	a thick, sweet, golden liquid made by bees from the nectar of flowers. Bees use honey as food.
honeybee:	the common name for any of five species of bees that produce honey. Honeybees are social animals and live in large colonies.
honeycomb:	A complex booklike structure made by honey bees consisting of hundreds of adjacent six-sided cells in which honey is stored

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	and larvae are reared.
hooked:	bent or angled, like a hook.
host:	an organism on which another organism lives as a parasite.
hub:	the center part of an orb spider's web.
Hymenoptera:	an order of insects usually with two pairs of membranous wings. Some Hymenoptera, such as bees and ants, live in large colonies with a complex social structure. From the Greek <i>hymen</i> meaning skin or membrane and <i>ptera</i> meaning wing.
hypothesis:	a tentative explanation that accounts for a set of facts and can be tested by further investigation.
incomplete metamorphosis:	a life cycle with three stages of development that some insects undergo from egg, to nymph, to adult (see also hemimetabolous).
independent variable:	in an experiment, the variable that is being changed. Changes to the independent variable will result in changes to the dependent variable (the variable being observed or measured).
infertile:	not capable of producing offspring.
inherit:	to receive a characteristic from an organism's parents, such as blue or brown eyes in humans.
inject	to force a fluid into a body.
inorganic:	not living, not a product of a living organism.

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insect:	an arthropod with a well-defined head, thorax, and abdomen, three pairs of legs, and sometimes having one or two pairs of wings.
insecticide:	a substance used to kill insects.
instar:	one of several immature stages during the development of an insect - the monarch butterfly has five larval instars.
internal organs:	parts of an organism, inside its body, that perform a specific functions.
invertebrate:	an animal without a backbone or spinal column.
jaws:	hinged mouthparts for biting or chewing.
jointed:	having a point in the exoskeleton of an invertebrate at which movable parts join, as along the leg of an arthropod. Insects usually have legs with 5 joints.
kingdom:	the highest level of classification of life; the most widely accepted classification system includes six kingdoms: Eubacteria, Archaeobacteria, Protists, Fungi, Plants, and Animals.
knobbed:	having or ending in a bulge or swelling.
labium:	the ventral mouthpart of insects, often referred to as the lower lip.
lapping mouthparts:	mouthparts modified to take in food or liquid by sponging and sucking.

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larva (pl. larvae):	the immature feeding stage of an insect that undergoes a complete metamorphosis from egg to larva to chrysalis (or pupa) to adult.
latex:	a milky juice exuded from some plants.
leathery:	tough, resembling leather.
lens:	the part of an eye that focuses light rays to form an image.
Lepidoptera:	an order of insects that includes butterflies and moths, characterized by overlapping scales on the bodies and wings, which are often brightly colored. From the Greek <i>lepidos</i> meaning scales and <i>ptera</i> meaning wings.
<i>Lespesia archippivora</i> :	genus and species name of a Tachinid fly. Tachinid flies belong to a large family of parasitoid flies in the insect Order Diptera.
<i>Lethocerus americanus</i> :	the scientific name of the Giant water bug.
life cycle:	the series of changes an organism passes through during its life—including birth, growth, reproduction, growing old, and death.
<i>Limenitis archippus</i> :	the scientific name of the Viceroy butterfly.
<i>Limenitis arthemis</i> :	the scientific name for the White Banded Purple butterfly.
Linnaeus:	a Swedish scientist from the 18 <sup>th</sup> century who studied plants. He created a new system for classifying and naming

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	organisms.
liver sacks:	small sacks in the digestive system that secrete enzymes to aid with digesting food.
Luna moth:	a type of moth belonging to the Saturniidae family; also known as giant silkworm moths. Luna moths are a light green-yellow color.
macroinvertebrate:	an animal that has no backbone and is large enough to be observed without a microscope. Many freshwater macroinvertebrates are insect larvae.
maggot:	the wormlike larva of flies of the order Diptera, often found in decaying matter like carrion.
male:	a member of the gender that produces sperm and fertilizes the females.
malpighian tubules:	blind tubules inside the abdomen opening into the hindgut of nearly all insects, functioning primarily as excretory organs.
mandibles:	jaw-like mouthparts for biting or chewing.
Mantid/Mantidae:	a family of insects belonging to the Order Orthoptera, represented by the praying mantis.
mantis:	a common name for any of the predatory insects belonging to the Family Mantidae.
mate (noun):	one of a pair of male and female organisms that comes together to produce offspring.

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mate (verb):	coming together to produce offspring.
matriarchal:	a group dominated by a woman.
mature:	having reached full growth or development.
membranous	thin and more or less transparent.
mesothorax:	the middle of the three thoracic segments of an insect, usually containing the second pair of legs and the first pair of wings.
metamorphosis:	(a change in form) refers to the changes in form, shape, and functions during the stages of development that insects undergo from egg to adult.
migration:	the back and forth movements of animals over long distances between their breeding and wintering grounds. Monarchs migrate in the fall to Mexico where they overwinter without breeding, and the same individuals fly back the next spring to lay their eggs on Gulf Coast milkweeds.
milkweed:	a large family of plants containing a milky latex that is often poisonous. In North America, monarch butterflies have a choice of 106 different milkweed species on which to lay their eggs.
millipede:	an arthropod made up of many segments. All but a few segments have two pairs of legs. Millipedes are decomposers. They do not have poisonous bites.
mimicry:	the resemblance of one organism to another or to its surroundings to conceal or protect it from predators.

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model:	an unpalatable (bad tasting) animal whose appearance is copied by a mimic.
mollusk:	invertebrates with a soft, un-segmented body and a muscular foot, including clams, snails, and squids.
molt/molting:	the periodic shedding and replacing of the outgrown body covering, such as skin or an exoskeleton.
Monarch butterfly:	a large, migratory, orange, white, and black butterfly; its larva feed on milkweed plants. Often called milkweed butterfly.
Monarch caterpillar:	the larval stage of the Monarch butterfly. Monarch caterpillars feed only on milkweed plants. Monarch caterpillars have white, yellow, and black stripes.
mosaic:	many small pieces fitting together to form an image or view.
mosquito:	common name for any of about 2,000 species of two-winged insects, found worldwide. Female mosquitoes feed on the blood of mammals. Many carry and transmit diseases, such as malaria, dengue, West Nile Virus, and yellow fever.
mouthparts:	in general, the mouth parts of an organism. In insects, mouthparts perform functions, such as chewing, sucking, or piercing.
Müllerian mimicry:	the type of mimicry that occurs when two similar species are both unpalatable (bad tasting) to predators.
muscle:	a tissue made up of fibers that can contract to move an organism or part of an organism.

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Myriapoda	the Class of Arthropods with many feet, which includes centipedes and millipedes.
Myrmeleo:	genus name of antlions. Antlions are insects in the Order Neuroptera.
naiad:	the aquatic immature stage of some insects.
natural selection:	the process in nature by which only the organisms best adapted to their environment tend to survive and reproduce, while those less adapted tend to be eliminated.
nectar:	a sweet, syrupy liquid produced by some flowers as an attractant for pollinators.
nerve strand:	the cordlike bundles of fibers made up of neurons through which a stimulus or impulse travels between the brain and other parts of the body. Nerves form a network of pathways for conducting information throughout the body.
nervous system:	the part of the body responsible for regulating the body's responses to events.
net-winged midge:	the common name for an insect belonging to the Family Blephariceridae. The larval stages live in streams and rivers.
Neuroptera:	an order of insects with two pairs of large, net-like membranous wings. Antlions are members of the order Neuroptera. From the Greek <i>neuro</i> meaning nerve and <i>ptera</i> meaning wing.
nocturnal:	occurring during the night.

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nymph:	young stages in insects that have incomplete metamorphosis.
observation:	the act of noting and recording something with instruments.
Odonata:	an order of insects with two pairs of large, membranous wings, usually brightly colored. Dragonflies and damselflies have strong teeth on their mandibles and are members of Odonata. From the Greek <i>odontos</i> meaning tooth.
offspring:	the young produced by a particular organism.
ommatidia:	the functional units of the compound eye, each one of which has a lens, focusing cone, photoreceptive cells, and which together form a mosaic image.
omnivore:	an animal that eats a variety of animal and plant material.
orb web:	the classic spider web, with a center, spokes radiating out from the center, and a sticky spiral for capturing flying insects.
order:	a taxonomic rank consisting of a group of related families.
organ:	a structure composed of several different tissues, such as the heart, eye, and stomach.
organic:	living or once living material; containing carbon formed by living organisms.
organism:	a living thing that is made of one or more cells, uses energy, moves, responds to its environment, adjusts, reproduces, adapts, and has a life span.

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Orthoptera:	an order of insects with two pairs of wings, the first pair is leathery and protects the large, folded second pair that are used for flying. Mantids and stick insects are members of the order Orthoptera. From the Greek <i>ortho</i> meaning straight and <i>ptera</i> meaning wing.
ovary:	the female reproductive organ that produces eggs; most organisms have two ovaries.
overwinter:	to remain alive through the winter, or to spend the winter in a certain area.
ovipositor:	the egg-laying apparatus, normally at the posterior end of the abdomen.
oxygen:	an element that is an important part of air, water, and organic matter. Oxygen gas (O <sub>2</sub> ), composed of two oxygen atoms, is needed for breathing and is produced by plants.
oxygenated:	supplied with oxygen, usually refers to moving water or tissues in an animal that have a high oxygen content.
paddle-like:	a broad flattened appendage of some insects that is shaped like an oar from a boat.
parasite:	an organism that lives on or in another species of organism from whose body it obtains nutrients. In parasitoids only the larva lives parasitically.
parasitoid:	insect species whose larvae develop as parasites on or in other insect species. Parasitoid larvae usually kill their host. Adult parasitoids are free-living insects. Most of the parasitoid species are wasps and flies, e.g. tachinid fly.

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pedicel:	in spiders, the slender connection between the cephalothorax and the abdomen.
pedipalp:	a second pair of appendages in many spiders, modified for use as a feeler or antenna.
<i>Periplaneta americana</i> :	the scientific name for the American cockroach.
pest:	any organism that reduces the availability, quality, or value of a useful resource.
petal:	one of the parts of the corolla of a flower, usually colored; petals may be fused or separate.
Phasmatidae:	a family of insects belonging to the Order Orthoptera, represented by the Stick insect.
Phasmatodea:	a family of insects belonging to the Order Orthoptera, represented by the Stick insect.
phenotype:	the observable characteristics of an organism, like hair or eye color in humans.
pheromone:	a chemical substance released by one organism that influences the behavior of another individual of its species, e.g. the courting pheromones of the female luna moth attracts the male luna moths.
phylum:	the major primary subdivision of the animal kingdom. All of the <b><i>Backyard Bugs</i></b> are members of the Phylum Arthropoda.

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pierce:	to poke a hole in or stab something with a sharp object such as the beak of the giant water bug.
pincher:	part of an organism that is used to pinch or grab.
plant	the Kingdom of organisms that have many cells and can make their own food using photosynthesis. <b>(do we need to define photosynthesis???)</b>
poison:	a substance that is harmful or dangerous to life.
poisonous:	capable of harming or killing an organism.
pollen:	the male reproductive part of a plant that contains the sperm.
pollinate:	the process that transfers pollen grains from the stamen (male part of a flower) to the stigma (female part).
pollution:	a harmful or un-natural substance, usually introduced by human activities.
population:	a group of organisms of the same species inhabiting a specific place.
posterior:	the hind end of an organism.
pre-anal ring:	the legless final body segment of a millipede.
predator:	an animal that hunts or catches other animals for food.
prey:	an animal hunted or caught for food.

## *Backyard Bugs* Glossary

problem:	a question to be considered, solved, or answered.
proboscis:	an extendable and retractable coiled sucking organ on the ventral part of the head of adult Lepidoptera.
prolegs:	five pairs of fleshy legs on the abdomen of caterpillars, each having curved spines; used to hold onto the food plant while eating and walking.
pronotum:	the plate-like covering located on the dorsal (back) side of the forward part of the thorax of some insects.
protein:	the fundamental components of all living cells. Proteins include many substances, such as enzymes, hormones, and antibodies, which are necessary for the proper functioning of an organism. They are essential in the diet of animals for the growth and repair of tissue and can be obtained from foods such as leaves, meat, fish, eggs, and milk.
prothorax:	the first of the three thoracic segments of an insect; it usually contains the first pair of legs.
Protista:	the kingdom or organisms including single celled organisms where the cell nucleus is enclosed by a membrane.
pupa (pl. pupae):	the stage in insects in which the transformation (metamorphosis) from larval to adult features takes place. In moths, the pupa is often inside a cocoon, whereas in butterflies, it is naked and called a chrysalis.
queen bee:	the single fully developed female in a colony of insects capable of producing eggs, distinguished from workers (non-reproductive females) and males that are called drones.

## *Backyard Bugs* Glossary

radial line:	one of the "spokes" of an orb spider's web that connects the hub to the framework.
rectum:	the posterior end of the digestive system, responsible for re-absorbing water and eliminating wastes.
reduced:	to become more simple or to lose complexity.
Regal moth:	a large moth that has a wingspan of four to six inches. In its larval stage, it is known as the hickory horned devil.
regenerate:	the ability of an organism to regrow a body part that has been lost.
replicate:	a repeat of an experiment to verify results.
reproduction:	the process by which plants and animals create offspring.
reproductive system:	the parts of the body responsible for producing sperm (in males) and eggs (in females) and creating offspring.
respiratory system:	the part of the body responsible for breathing in oxygen for use by an animal and eliminating carbon dioxide.
royal jelly:	a nutritious secretion of bees that is fed to very young larvae and to bees destined to be queens.
Saturniidae:	an important and widely distributed family of insects belonging to the Order Lepidoptera, represented by the Luna moth. Also called silk moths because the larvae spin silken cocoons.

## *Backyard Bugs* Glossary

scale (pl. scales):	thin overlapping plates.
scavenger:	an animal that feeds on dead organic matter such as carrion or detritus.
scientific methods:	an objective process of approaching a problem, involving making a hypothesis, testing and observing the results, reevaluation of the hypothesis in light of new knowledge, and retesting to seek validity of the hypothesis.
scout bee:	a bee that goes out from the hive to gather information about food sources or a new hive site.
secrete:	to produce a substance that is given off from a tissue or organ of an organism.
sedge:	another name for a caddisfly
segment:	a sub-division of the body or an appendage.
sense:	a perception or feeling produced by a stimulus. Any of the faculties by which stimuli are felt, as the faculties of hearing, sight, smell, touch, taste, and equilibrium.
sensitive:	responsive to environmental conditions such as air or water pollution; easily hurt or damaged.
sensors:	a specialized organ or structure, such as the eye, ear, tongue, nose, or skin, which receives (senses) messages (stimuli) from the environment.
sexual maturity:	fully developed, ready to produce eggs or sperm and reproduce.

## *Backyard Bugs* Glossary

shed:	to throw off or get rid of. When insects grow and molt, they shed their outgrown exoskeleton.
silk:	a thread-like protein produced by many arthropods. A strand of silk is actually made of many threads, sometimes thousands, released from the spinnerets.
simple eyes:	an organ with a single lens, which guides light to light-sensitive cells; also called an ocellus (pl. ocelli).
slender:	long and thin; delicate.
social insect:	a group of brothers and sisters or related insects belonging to the same species that live and work together in a cooperative manner.
soil:	a complex mixture of weathered rocks, partially decomposed matter, and living organisms.
specialized:	developed so that an organism or part of an organism is adapted to a very specific function or environment; to have undergone specialization.
species:	the smallest grouping used in classifying an organism, for example, the song sparrow, the bluebird, the monarch butterfly, the azure butterfly, the lion, the tiger, are all separate species.
sperm:	in organisms that reproduce sexually, the sex cell (gamete) from the male parent that fertilizes the female's eggs.
spider:	an arachnid belonging to the Order Araneae. All spiders have eight legs and a two-part body.

## *Backyard Bugs* Glossary

spinneret:	a specialized nozzle-like organ connected to an internal silk gland that allows an insect larva or spider to spin a silk thread.
spiracle:	an opening for breathing in an organism.
spiral:	the distinctive feature of an orb web. The spider spins a spiral from the center of the web and continues to make larger circles as it moves between the spokes of the web.
Spirostreptida:	the Order of Arthropods containing millipedes.
sponging mouthparts:	mouthparts designed to soak up or absorb liquid food.
stage:	a period in the development or life cycle of an organism.
stamen:	the male reproductive organ of a flower made up of an anther (pollen-bearing portion) that is attached to a stalk or filament.
stick insect:	an insect of the Order Phasmida. Stick insects look like sticks or leaves.
stimulus:	an event that causes a reaction in an organism or part of an organism.
stinger:	an ovipositor that has been modified to as a stinger.
stink glands:	glands along the sides of a millipede's body which secrete a bad-tasting and smelling liquid to discourage predators.
stomach:	the enlarged, saclike portion of the digestive system, which is partly responsible for digesting food.

## *Backyard Bugs* Glossary

substrate:	the surface on which an organism grows or is attached.
suck:	to draw (liquid) into the mouth by movements of the mouthparts that create suction.
sucker:	an organ or other structure adapted for clinging to objects by suction.
suction pads:	the organs adapted for holding tightly to objects.
tachinid:	a fly that parasitizes and develops inside other insects.
Tachinidae:	a family of insects belonging to the Order Diptera, represented by the tachinid fly.
tarsus (pl. tarsi):	the fifth leg segment furthest from an insect's thorax.
taxon (pl taxa):	a taxonomic category or group, such as a phylum, order, family, genus, or species.
taxonomy:	the science of classifying and naming organisms.
<i>Tenodera aridifolia</i> :	the scientific name of the mantis.
terrestrial:	living in, or on the land.
theory:	an idea, assumption, or proposed solution, based on limited information or knowledge.
thorax:	the body section between the head and abdomen in insects that bears the wings and legs.

## *Backyard Bugs* Glossary

tissues:	a group of similar cells that perform a specialized function.
tolerant:	able to endure harsh environmental conditions such as air or water pollution.
toxic:	capable of causing injury or death, especially a chemical.
toxin:	a poisonous substance that is made by a living organism and usually injected into other organisms.
trachea:	the air tubes of insects.
tracheoles:	the fine branching tubes of the trachea of insects, which provide oxygen.
transparent:	capable of transmitting light; clear.
Trichoptera:	an order of insects with two pairs of membranous wings. Trichoptera are also called caddisflies. From the Greek <i>trikho</i> meaning hairy and <i>ptera</i> meaning wing.
tropical:	warm moist regions, immediately north and south of the equator.
true legs:	all caterpillars have three pairs of true legs attached under the thorax. The true legs are segmented with joints and have a small claw on the end.
ultrasound:	sound vibrations that are above the range of human hearing. Ultrasound is used by bats as an echolocation mechanism to catch insects..

## *Backyard Bugs* Glossary

unpalatable:	not nice or pleasant to eat or taste, bitter and sickening.
variable:	a factor in an experiment that changes.
vegetation:	the plant life of an area on land or in water.
vein:	a thickening in the wing of an insect that provides structure and support.
venom:	a poison used by animals, usually by biting or stinging another animal.
ventilate:	to move appendage to bring fresh air or water towards an individual organism.
ventral:	the underside, or belly side, of an organism. Opposite: dorsal.
vibrate:	to move rapidly back and forth, sometimes making a humming sound.
vibration:	a quick motion back and forth.
Viceroy butterfly:	a black, white, and orange butterfly that looks very much like a Monarch butterfly. Hind wings have a narrow, curved black line crossing middle of wing that is parallel to outer margin.
vital organs:	organs that are necessary for life, including the digestive organs, the heart, and brain.
warn:	to make aware of danger.

## *Backyard Bugs* Glossary

waste:	the undigested parts of food that are eliminated from the body.
weave:	to make by lacing threads together. Spiders weave webs of silk.
whirligig beetle:	a beetle belonging to the Family Gyrinidae. Whirligig beetles live mostly on the surface of water where they swim in circles.
wing:	part of an insect attached to its thorax, usually used for flying. Wings can be leathery, scaly, hairy, thin, net-like, or transparent, with many variations.
wingspan:	the distance between the tips of the wings when they are fully extended.
worker bee:	a non-reproductive female member of the hive that usually provides food, cares for the larvae, and defends the colony.
xeriscape:	dry areas without much rainfall.
xylem:	the woody parts of a plant.
yellow jacket:	the common name for small wasps that have yellow and black markings and usually make large paper nests under rocks and in the ground.
zoology:	the science of studying animals
zygote:	a cell formed by the union of an egg and sperm.