**Insect Basics/Butterflies & Moths**

 What major group of animals do butterflies and moths belong to?

 **Insects.**

 Name at least 3 other well known groups of insects besides butterflies and moths.

 **Ants, Bees, Beetles, True Bugs, Dragonflies, Flies, Grasshoppers, Praying Mantises,**

 **Termites, Wasps.**

 How many main body parts do insects have and what are they?

 **Three: Head, Thorax & Abdomen.**

 How many legs do insects have?

 **Six (attached to the thorax).**

 What is the hardened body case of an insect called?

  **Exoskeleton. Arachnids (Spiders, Scorpions & Ticks) and Crustaceans (Crabs, Lobsters and Shrimp) also have exoskeletons.**

 What covers butterfly and moth wings that no other insects have?

 **Scales. Thousands of tiny scales produce the seemingly infinite variety of colors and patterns on butterfly and moth wings. Lepidoptera (from the Greek language), which means scaly wings, is the scientific word for butterflies and moths. Butterflies and moths are very close relatives!**

What is the tube-like mouth part of butterflies and moths called and what is the main food source of many?

 **Proboscis and flower nectar.**

What is the main function of the antennae (plural of antenna)?

 **Smell.**

 Even though they are very close relatives, in general, how do butterflies and moths differ?

 **Butterflies are active in the day time (Diurnal), most moths are active at night**

 **(Nocturnal); moths usually have furrier, plumper bodies (furrier bodies keep them warm on cooler nights); different antennae structure: many moths have pinnate (feathery) antennae, most others, thin antennae all the way to the tip, butterflies have thin antennae with a thickened end (often a small club or knob); most moths rest with their wings open, most butterflies with their wings closed; moths are usually duller colored, butterflies brighter colored. When at rest, the dull colors on moths wings (and the bottom of butterflies' wings) help them camouflage from their predators, especially birds. Bright colors and distinctive patterns on butterflies and diurnal moths are for communication: mostly among their own kind (species) so they can recognize each other but also for some to warn (warning colors) their predators that they are toxic (poisonous). Many butterflies and probably most nocturnal moths communicate with their own kind by giving off scents.**

How many stages in the butterfly/moth life cycle and what are they? What is another name for the butterfly/moth life cycle that relates to the great changes that take place from stage to stage?

 **Four: Egg, Larvae (or Caterpillar), Pupae (or Chrysalis), Adult. Metamorphosis. Many moths and some butterflies encase the pupae in silk, often covered with debris such as parts of dead leaves; this is called a cocoon, which serves as an extra layer of protection.**

 What is our most famous butterfly and give two interesting facts concerning it?

 **The Monarch. It is toxic to birds. Its orange and black color and pattern are a warning that they taste bad/are toxic. Monarchs are one of our few migratory butterflies (many of our birds are migratory). In the late summer/early fall, millions of monarchs in the US and southern Canada migrate south, most to high mountains in Mexico. This migration can be seen along Long Island's south shore beaches from late August till October.**

What is the largest butterfly in NY, NJ & Ct.?

 **The Eastern Tiger Swallowtail with a wingspan (wing tip to wing tip) of up to five and a half inches. The Spicebush Swallowtail with a wingspan of up to five inches is our second biggest butterfly. Monarchs, with a wingspan of four inches and Black Swallowtails, nearly as big, are next in order. Have the students look up these native swallowtail butterflies!**

What is the largest moth in NY, NJ & Ct.?

 **Female Cecropia and Regal Moths can reach a wingspan of six and a half inches. They are not only the largest moths in our area, they are the largest in the U. S. They are Giant Silk Moths, most large to giant moths, many have silky cocoons in the pupae stage. The Polyphemus, Imperial, Luna (a very beautiful tailed green moth), Promethea and Tulip Tree Silk Moth, all Giant Silk Moths and very large to large, complete the seven biggest moths in our area. Have the students look up some of these moths!**

What are the largest butterflies and moths in the world?

 **Female Queen Alexandra's Birdwings of New Guinea can attain a wingspan of ten inches and are the world's largest butterfly. Female Goliath Birdwings, also from New Guinea, can have a wingspan of nine inches and are the world's second biggest butterfly.**

 **Females of various Atlas and Hercules moths and both male and female Ghost Moths (or the White Witch) can have wingspans over 10 inches. Some Ghost Moths supposedly have a wingspan of 12 or more inches, which gives them the largest wingspan of any butterfly or moth, but females of various Atlas and Hercules moths have a greater total wing area. The various kinds of Atlas and Hercules moths are found in southeast Asia, New Guinea (and some surrounding islands) and northern Australia; the Ghost Moth is found from South America to Mexico.**