Insect Collection Project

Your first semester project in this class will be an insect collection. This project will be equivalent to one exam grade. (100 points)

Insect Collecting

You can find insects everywhere. There are more species of insects in the world than all other animals combined. You will need at least 24 insects in 9 different orders as well as 2 Arachnids (no tarantulas, black widows or brown recluses will be accepted). When you find an insect for your collection you will need to kill it. That does not mean smashing it into oblivion!

To kill your insect, put it in an airtight jar with one or two cotton balls that are damp (not dripping) with fingernail polish remover (the kind that contains acetone). Put the jar in a dark closet to keep the insects from moving around too much. Leave them overnight.

When the insect is dead, then you can pin it. Use very thin, long pins, the kind used for sewing. (Silk pins 1 1/4” to 1 1/2” long work well. You can get these at any fabric store, or Wal-Mart.)

Pin each insect with a pin through the thorax. If the insect is too small to pin, cut a small piece of paper in the shape of a triangle. Glue the insect onto the triangle. Put a pin through the paper.

Pin butterflies and moths within 1 day of killing them. Spread their wings and pin them for a day or two until they are dry. This way the wings will stay open. (Note: you can also pin grasshoppers this way to show the color in their wings.)

Organizing Your Collection

Any cardboard box with a lid will be fine to hold your collection. A minimum size of 20”x20” will be accepted because anything smaller is likely to be too crowded (which will hurt your grade). Having more room will make it easier to present your insects in an attractive and organized manner. Cut a piece of stiff Styrofoam to fit in the bottom of the box. Make sure there is 1” to 2” of air space above the Styrofoam to leave room for your insects.

Labels

All insects must be labeled in the following way. (Yes, I mean exactly this way.) Cut a small piece of paper into a rectangle and label it as follows:

Order: ________________________  
Common Name: ____________________  
Date Collected: _______________  
Location Collected: _______________  
Collected By: ____________________

Place a label below each insect in your collection.

You must collect at least 2 different insects in 9 different orders (that makes 18). You will need to collect more than 2 insects in some orders to complete the requirement of 24. NO MORE THAN 5 INSECTS MAY BE COLLECTED BY SOMEONE OTHER THAN YOU. (btw – if you are present at the time of the capture you may say that you collected the insect)

Your grade will depend on the quality and quantity of your collection...

Neatness  25 points  
Labels  25 points  
Insects  40 points  
Grouping by order  10 points  
TOTAL  100 points

Due Date:  (1st week of October, 2017)

Remember God’s creativity is displayed in these insects. Take pride in presenting them!
Some common insect orders found in southern New Mexico:

Kingdom: **Animalia**

Phylum: **Arthropoda** (Have segmented bodies with paired, many jointed legs.)

Class: **Insecta** (Have 3 major body sections with 3 pairs of legs.)

Order: **Coleoptera**
Beetles are the largest order of insects. Three fourths of all animals in the world are insects. There are more than 250,000 species of beetles. **Coleoptera** means "sheath wing". These insects have a hard, outer, forewing that covers and protects most of the body as well as the thin membranous wings used for flying. **Ladybug, rice weevil, Japanese beetle, stag beetle, cotton boll weevil, blister beetles, potato beetle, firefly, June bug, etc.**

Order: **Odonata**
**Dragonflies** and **damselflies** are the only kinds of insects in this order. The name means "toothed". It refers to the toothlike projections on the mouth used for chewing.

Order: **Lepidoptera**
One of the most colorful and popular orders of insects, **Lepidoptera** includes the **butterflies** and **moths**. The name means "scale wings" and refers to the thousands of tiny scales that cover the wings.

Order: **Blattaria**
This recently named order includes the infamous **cockroach**. There are over 2,000 species of roaches in the world! Until recently the roaches were included with the order **Orthoptera** or order **Dictyoptera**.

Order: **Diptera**
**Diptera** means "two wings" and describes the major characteristic of this group. This group includes one of the most deadly of all animals known to man . . . the mosquito. The mosquito carries the deadly malaria parasite that is responsible for hundreds of thousands of deaths every year. **Flies, mosquitoes, gnats.**

Order: **Orthoptera**
These insects have straight leathery wings that fold in a straight line along their bodies covering a pair of membranous wings. **Orthoptera** means "straight wings". **Grasshoppers, locusts, crickets, mantids.**

Order: **Hymenoptera**
These insects have two pairs of membranous wings. They are the only insects that have a true stinger that is injected into a victim. These are social insects that live together in colonies that exhibit social classes or castes. **Bees, wasps, ants.**

Order: **Hemiptera**
These are really the only insects you can truly call "bugs." These "true bugs" are known for the way they suck fluids from plants and animals with their piercing mouth parts. **Hemiptera** means "half wings" because their outer wings often look like half wings. **Insects whose forewings cross over t form an X or a V at the base of the abdomen are usually true bugs. Bed bug, stinkbug, water strider, water bugs, squash bug, chinch bugs.**

Order: **Homoptera**
These insects do not fly and their wings rest on their back in the shape of a tent. These insects are significant to man because of the damage they cause to plants and crops. **Cicada, aphid, tree hopper, leaf hopper, scale insects.**

Order: **Thysanura**
These insects do not have wings. They have long, thread-like antennae and 3 long, tail-like appendages at the tip of the abdomen. **Silverfish.**

Class: **Arachnida** (Have 2 major body sections and 4 pairs of legs.)
Arachnids are not insects. They include spiders, ticks, mites, scorpions, and the like.

http://bugguide.net/node/view/15740 is an example of a web site that might help you identify your insects. I also have some reference books in the lab.