

3-D Insect Project Overview

Dear Students,

Your upcoming project is to design and build a specimen from the phylum Arthropoda. The text gives you an overview about the phylum Arthropoda, which consists of three classes; only one is Insects, so “specimen” will be used to refer to your model. In order to have as many different models as possible to represent this phylum, there is a list to select from. Review the list on page two & select 3 specimens, then email me your 1st, 2nd, & 3rd choices. It is on a first email, first get basis. I will notify you which one you will be doing. At that time you will begin research in books & on the Internet to get the specifics about your specimen.

PLAN, PLAN, PLAN!! Materials can be inexpensive or expensive. For most families, they won't just have items lying around that are going to work, so you must coordinate with your parents as to getting to a store to purchase what you need. Do not wait until the last minute.

MODEL - It needs to be 3-D, so think through your choice of the material to use. Do not use play dough. It cracks. The specimen needs to be large enough to be easily seen by everyone in the class. Keep its body sections in the proper proportions. Extra credit can be earned by displaying your specimen in its basic environment/habitat or with its main internal organs shown & labeled on the model or on a display board.

LABELING (*Required*) - You may label directly on your model **or** utilize a board to show a sketch of your specimen with labels showing where everything is **or** make a key that has a sketch of each item followed by what it is. The labeling needs to be easy to follow and read.

SCORING - The last page of the handout is the scoring system to be used. It outlines what must be included. Take the time to read this carefully. Twenty-five points are dedicated to the presentation, fifty points are given to the actual items in your model, and fifty cover the components of the specimen that are to be discussed.

SPECIMEN COMPONENTS – There are 3 areas evaluated. **First** - Name & discuss the parts of your specimen's anatomy & make sure they are properly labeled; **Second** Detail 3 areas of your specimen: **a. habitat**, **b. food source**, & **c. method of reproduction**; **Third** – Discuss its Life Cycle & include if it is a complete or incomplete metamorphosis.

PRESENTATION - You should know the material & be able to have a conversation about it. Make sure to define in detail what characteristics classify your specimen in its phylum, class, & species. You need to also state its common name. **These 4 items need to be listed at the top of your Sources Page** that you turn in before speaking. You may refer to note cards while speaking. The best way is to number them & outline on the cards & possibly use highlighting. Long lines of text make it hard to locate information. The idea is to use the cards to make sure everything is covered & is presented in an organized manner & not just read out loud.

#5 & #6 on Scoring Sheet (Section I) – Our journey is about the Lord and science. Put some thought into these points. Pay attention to #2 and do not spend a lot of time on #9.

SOURCES PAGE – You need a minimum of **3 total resources**; the text, plus two others. Before you speak, hand me your Sources Page listing the classification of your specimen – phylum, class, species, common name – followed by your 3 sources. Preferably for the extra two use one web site & one book. For web sites, list the name of the site, who put it together, & its web address. Wikipedia is not a legitimate site. For books, list the title & author's name.

This can be a lot of fun and help you to see the intricate working of your world around you and help you to be a good steward of what God has given to us all.

I challenge you to make the most of it!

In Christ,

Mrs. Garza

Due Week 22

Module 12 Phylum Arthropoda - Assignment of Project

Select a 1st, 2nd, & 3rd choice of organism. Email your choices ASAP. Selection will be made on a first receive, first get basis. I will notify you what you will be researching & building.

UUClass Student

1. Class Arachnida, Order Araneae - spiders
2. Class Arachnida, Order Scorpiones - scorpions
3. Class Arachnida, Subclass Acari - ticks
4. Classes Chilopoda and/or Diplopoda – centipedes and millipedes
5. Class Insecta, Order Coleoptera – beetles, weevils, fireflies
6. Class Insecta, Order Dictyoptera - mantids (praying mantis)
May find under Order Mantodea
7. Class Insecta, Order Dictyoptera – cockroaches
8. Class Insecta, Order Diptera - true flies (flies, mosquitoes, lovebugs)
9. Class Insecta, Order Hemiptera, *May find under Order Homoptera* – Cicadas (locusts), leafhoppers, whiteflies, aphids
10. Class Insecta, Order Hymenoptera - ants
11. Class Insecta, Order Hymenoptera - bees, wasps
12. Class Insecta, Order Isoptera - termites / white ants
13. Class Insecta, Order Lepidoptera - butterflies, moths
14. Class Insecta, Order Odonata - dragonflies, damselflies
15. Class Insecta, Order Siphonaptera - fleas
16. Class Insecta, Order Orthoptera – crickets, grasshoppers, locusts (true locusts)
17. Class Insecta, Order Plasmida – walking stick, Javanese leaf insect
May find under Order Plasmotodea
18. Class Insecta, Order Neuroptera – antlions
antlion larva is often called "doodlebug"

M12 Test

Date: _____

Biology Project - Design & Build a 3-D Specimen from Phylum: Arthropoda

Class: _____ Species: _____ Specimen: _____

(common name)

NOTE: Projects are intended for learning in depth. Apply time & effort to earn the best grade possible.

I. PRESENTATION:

- 1. Demonstrated knowledge of specimen _____
- 2. Described CLASSIFICATION of specimen (List the Characteristics that put it here) _____
Clearly defined: a. phylum, b. class, & c. species **(Write this at top of Sources Page)**
- 3. Made eye contact, spoke clearly and loudly (no distracting movement, gum, etc.) _____
- 4. Visual aid(s) appropriate and creative model of specimen _____
- 5. Application of theology (What was learned about God from this project?) _____
- 6. New question resulting from research (What more do you want to know?) _____
- 7. Information was presented in a clear and organized manner _____
- 8. **Sources Page** - list items in #2 & 2 sources *other than text* - Turn in b4 speak _____
- 9. Described how & with what materials display was built/created/made (*brief*) _____
- 10. Presentation was 5 – 10 min. **Time:** _____

25 possible points

Presentation subtotal _____

II. MODEL: (*Plus display board, if used*)

Time spent building model: _____

- 1. Project reflects that student spent time and effort putting it together _____
- 2. Components properly labeled (*on model or a display board or a key*) _____
- 3. Specimen is 3-D and properly represents the species (*correct proportions*) _____

50 possible points

Model subtotal _____

III. SPECIMEN COMPONENTS:

- 1. Discussed and labeled (*directly or utilizing a poster*) anatomy of specimen _____
- 2. **Detailed:** a. habitat, b. food source, & c. method of reproduction _____
- 3. Detailed Life Cycle & indicated if a complete or incomplete metamorphosis _____

50 possible points

Specimen subtotal _____

Extra Credit:

Specimen displayed in its basic environment (*Up to 10 pts*) _____

Main internal organs labeled (*on model or on a display board*) (*Up to 10 pts*) _____

_____ / 125 possible points + Extra Credit _____ =

Grade
