

Name _____

Date _____

Block _____



Insect Ecology Culminating Project

Standards: SB 3b, SB 4

Due on: _____

Goal — Explain the basics of ecology (see criteria below)

Role — High School Biology Teacher

Audience – 10th grade Biology Students

Product — PowerPoint, brochure, or poster(s)

Situation --No matter what you do, your students seem to be falling asleep during your lectures and uninterested in the content. However, you remember them appearing somewhat alert and a little interested when you brought in that cool, creepy looking bug you found last week. Therefore, you decide to teach the basics of ecology with insects as a model.



Insect - _____



Criteria:

- Scientific name of insect (*Genus + species*)
 - Scientific names are always underlined if handwritten or put in *italics* if typed. Also the genus name (the first word) is always capitalized and the species name (the 2nd word) is always lowercase.
- The “Order” is part of the classification of organisms (i.e. Spiketail Dragonflies are in the order “Odonata”)
 - Name at least 2 insects that are in the same “Order” of your insect
- At least 3 pictures of insect, or related pictures (i.e. its habitat, predators, etc.)
- Insect’s niche including, but not limited to:
 - habitat
 - trophic level it occupies & what it eats (classify what type of consumer it)
 - predators
 - any ways that it is beneficial/harmful to the environment
 - any symbiotic relationships it may form (i.e. is it a parasitoid, or do parasitic insects infest it, does it help pollination of certain plants, etc.)
 - Must include: 1) the type of symbiotic relationship exhibited, such as commensalism, 2) the two types of organisms involved, 3) how each organism benefits or is harmed.
- A realistic food chain that it is a part of (Remember to start with a producer!).
 - A diagram or model of food chain is not required but can be done for up to 5 extra points
- Explain how the ecosystem would be altered if the population of your insect species dramatically decreased or became extinct.

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Rubric for Insect Ecology Culminating Project



Criteria	Excels – 10	Meets – 7	Needs Work –4	Does Not Meet – 0	Points Earned
Scientific Name, Order & Relatives	Scientific name is given and in correct format, order is given along with 2 relatives in same order.	Scientific name is correctly given but is missing either the order or names of 2 closely related insects.	A scientific name is given but is not accurate. Neither order of insect or relatives is given.	A scientific name is not given, nor order or related insects.	
Pictures	Includes 3 or more pictures of insect and/or related pictures.	Includes 2 pictures of insect and/or related pictures.	Only includes 1 picture of insect and/or related pictures.	Does not include any pictures of insect and/or related pictures.	
Habitat	Habitat of insect is explained in detail.	Habitat of insect is explained to some extent but not in detail.	The habitat is mentioned but not explained.	Habitat of insect is not mentioned or explained.	
Trophic Level	Fully explains what type of consumer the insect is, what it eats & what trophic level(s) it occupies.	Includes the type of consumer the insect is & tells what it eats, but not give its trophic level(s).	Includes the type of consumer the insect is but does not tell what it eats or its trophic level(s).	Does not explain what type of consumer the insect is, what it eats nor what trophic level(s) it occupies.	
Predators	Names all organisms that feed off of the given insect.	Names some organisms that feed off of the given insect.	Names one organism that feeds off of the given insect.	Does not name any organisms that feed off of the given insect.	
Benefits/Harm to Ecosystem	Thoroughly explains both the benefits & harm the insect has on ecosystem.	Somewhat explains both the benefits & harm the insect has on ecosystem.	Explains either the benefits OR harm that the insect has on the environment.	Does not explain neither the benefits or harm the insect has on ecosystem.	
Symbiotic Relationships	Explains the type(s) of symbiotic relationship(s) the insect has in detail (type of symbiosis, organisms involved, how each benefits/is harmed.)	Briefly tells about the type of symbiotic relationship the insect possess.	Names the type of symbiotic relationship the insect has but does not explain it at all.	Does not include any symbiotic relationships even though some exist.	
Food Chain	Includes a realistic food chain that would include the insect, starting from a producer up to a top consumer.	Includes a realistic food chain that includes the insect but is missing one component of the food chain.	Includes a food chain but is not realistic or is missing more than one component of the food chain.	Does not include a food chain.	
Decrease in population size effect on other trophic levels	Thoroughly explains how ecosystem would be affected at all trophic levels if the population of insect species dramatically decreased.	Somewhat explains how ecosystem would be affected at all trophic levels if the population of insect species dramatically decreased.	Explains how the ecosystem would be affected at one trophic level if population of insect species dramatically decreased.	Did not explain how the ecosystem would be affected at any trophic levels if population of insect species dramatically decreased.	
Format/Presentation	Product is eye-catching, included interesting info, well structured & was presented in a pleasing manner.	Product is satisfactory, had some good info, fairly organized, & was presented in a suitable manner.	Either product was average but was presented in an exciting manner or product was adequate & presented in a descent manner.	Product was not creative looking; info was dull, unorganized & presented in an unprepared manner.	
Total					