

Created: Fall 2020 by the National FFA Organization

DIRECTIONS:

Part 1

Read the article "Protecting Pollinators" in the fall 2020 issue of *FFA New Horizons* and complete the following activities.

1. Populations of the iconic pollinator have experienced significant _____ over the last _____ years.
2. A group of scientists, conservationists, corporate leaders and farmers are working to increase them through habitat creation and restoration. What is the group known as? _____
 - a. What groups are part of this collaboration? _____, _____ Agriscience and _____
3. In the space below, explain what each of these companies has done for the pollinator initiatives:

Blank lined paper with a butterfly illustration in the top right corner.



Summarize the article in one sentence:

4.

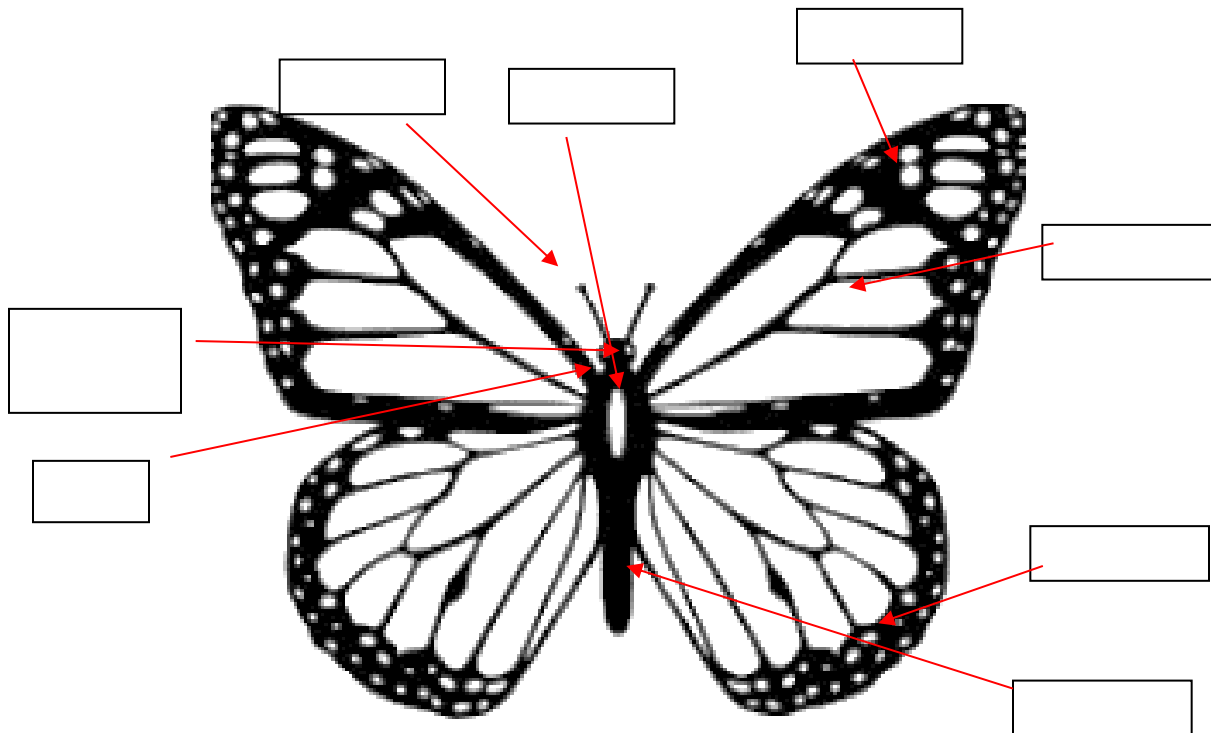
NAME: _____

DIRECTIONS:

Part 2

Use the following website, or a similar one, to label the different parts of the butterfly:

<https://www.enchantedlearning.com/subjects/butterfly/allabout/>.



What is the life cycle of a butterfly? Draw each step of the life cycle in the boxes below (one in each box). Then, describe each step.

	What type of habitats are most butterfly species found in?	

NAME: _____

DIRECTIONS:

Part 3

Use the space below to design a pollinator garden. Use the following websites, or similar ones, to aid in your research and design: <https://www.basf.com/us/en/media/featured-articles/Sustainability/BASF-gets-farmers--golf-courses-on-board-to-revive-monarch-butterfly-population.html>, <https://www.fws.gov/midwest/news/PollinatorGarden.html> and <https://www.gardeners.com/how-to/pollinator-garden-design-for-bees/9144.html>.

Before designing your garden, let's do some research about what you will need. Use this website to help with your research: <https://www.fws.gov/midwest/news/PollinatorGarden.html>.

What is the best location for your garden?



What is the best type of plants and why?

What do you need to know to prep your garden area?



Use this space to design your pollinator garden.

List the supplies (specific plants) you will need for your garden:

Research where you can buy the supplies needed for the butterfly pollinator garden. What is one place you can purchase the items from?



DIRECTIONS:

Part 4

Use the following website to complete the activities below: FFA.org/value-chain/.

Complete the questions below to learn the impact of a pollinator garden on the Agriculture, Food and Natural Resources (AFNR) Value Chain.



1. What role/impact do pollinators have in each step of the chain? Provide your answer next to each step of the chain identified below.



R&D



Pre-Production



Production

Value Chain



Supply Chain



End Product

What is one fact you learned about the AFNR Value Chain?



Sales, Service
& Support

After reviewing and learning about each step in the value chain, what is one question that you still have?



Consumers

KEY — Appendix 4: Protecting Pollinators

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DIRECTIONS:

Part 1

Read the article "Protecting Pollinators" in the fall issue of *FFA New Horizons* and complete the following activities.

1. Populations of the iconic pollinator have experienced significant declines over the last 20 years.
2. A group of scientists, conservationists, corporate leaders and farmers are working to increase them through habitat creation and restoration. What is the group known as? Monarch Collaborative
 - a. What groups are part of this collaboration? BASF, Corteva Agriscience and Syngenta
3. In the space below, explain what each of these companies has done for the pollinator initiatives:

Each company has launched its own pollinator initiatives. In 2015, BASF established The Living Acres #MonarchChallenge and has provided 60,000 milkweed stems. Corteva planted pollinator habitat at many of its U.S. locations as part of its national program, Corteva Grows Pollinator Habitat. Syngenta created Operation Pollinator, a global initiative that provides wildflower seed mixtures for pollinators. Each recognized the potential of joining together for an even bigger impact.



4.

Summarize the article in one sentence:

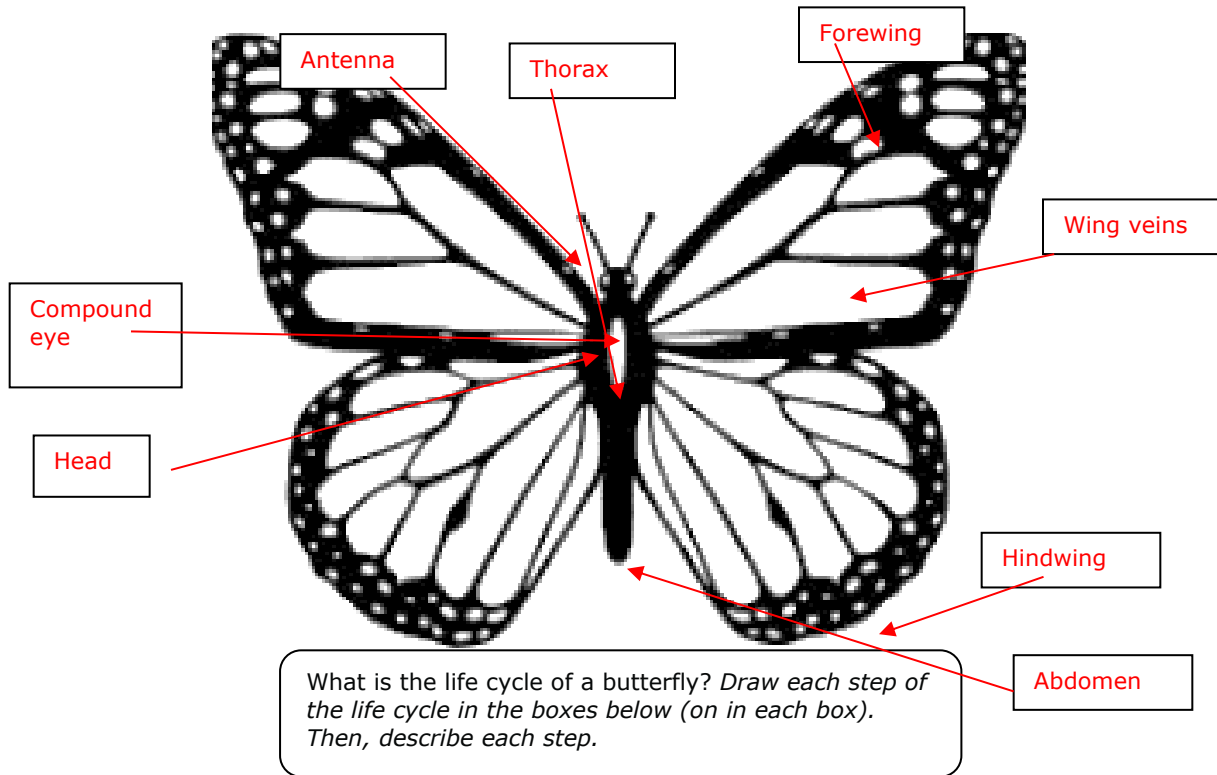
Answers will vary.

DIRECTIONS:

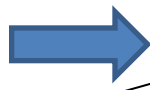
Part 2

Use the following website, or a similar one, to label the different parts of the butterfly:

<https://www.enchantedlearning.com/subjects/butterfly/allabout/>.



Egg – A butterfly starts its life as an egg, often laid on a leaf.



Larva – The larva (caterpillar) hatches from an egg and eats leaves or flowers almost constantly. The caterpillar molts (loses its old skin) many times as it grows. The caterpillar will increase up to several thousand times in size before pupating.



Pupa – It turns into a pupa (chrysalis); this is a resting stage.



Adult (butterfly) – A beautiful, flying adult emerges. This adult will continue the cycle.



What type of habitats are most butterfly species found in?
Tropical areas, especially tropical rainforests

DIRECTIONS:

Part 3

Use the space below to design a pollinator garden. Use the following websites, or similar ones, to aid in your research and design: <https://www.basf.com/us/en/media/featured-articles/Sustainability/BASF-gets-farmers--golf-courses-on-board-to-revive-monarch-butterfly-population.html>, <https://www.fws.gov/midwest/news/PollinatorGarden.html> and <https://www.gardeners.com/how-to/pollinator-garden-design-for-bees/9144.html>.

Before designing your garden, let's do some research about what you will need. Use this website to help with your research: <https://www.fws.gov/midwest/news/PollinatorGarden.html>.

What is the best location for your garden?

Some butterflies' favorite wildflowers grow best in full or partial sun with some protection from the wind.



What do you need to know to prep your garden area?

If you are converting an existing lawn, you will need to remove grass and current plant cover and loosen your soil. You will want to be sure to add nutrient-rich compost or soil to improve the success of your garden.



What is the best type of plants and why?

Research which varieties of milkweed and wildflowers are native to your area and do well in your soil and sunlight conditions. Native plants are ideal as they require less maintenance and tend to be heartier. You will want to focus on perennials to ensure your plants come back each year and don't require a lot of maintenance.

Use this space to design your pollinator garden.

Here is an example of a pollinator garden: <https://www.gardeners.com/how-to/pollinator-garden-design-for-bees/9144.html>



Research where you can buy the supplies needed for the butterfly pollinator garden. What is one place you can purchase the items from?

Example: <https://www.lowes.com/n/how-to/plant-a-butterfly-garden>

List the supplies (specific flowers) you will need for your garden:

-Variety of plants (wildflowers, milkweed, butterfly bush, daylily, bachelor's buttons, coneflowers, black-eyed Susans, Miscanthus, Verticillata, Gloriosa daisy, etc. Answers will vary.

DIRECTIONS:

Part 4

Use the following website to complete the activities below: [FFA.org/value-chain/](https://ffa.org/value-chain/).

Complete the questions below to learn the impact of a pollinator garden on the Agriculture, Food and Natural Resources (AFNR) Value Chain.



1. What role/impact do pollinators have in each step of the chain? Provide your answer next to each step of the chain identified below.



Research and development companies perform research with pollinators to make sure that their agricultural products are pollinator and environmentally safe.



During this stage, farmers and homeowners prepare the area for the pollinator garden.



Pollinator gardens are implemented in this stage and the purpose of the gardens is to help increase production of fruits and vegetables.

Value Chain



During this stage, because of the pollinator gardens, the fruits and vegetables have higher yield and are

Supply Chain

harvested and prepared for sale/use.



End Product

Once the fruits and vegetables have been harvested and prepared, they are taken to a farmers market, for

example, or are sold to fellow neighbors door-to-door.

What is one fact you learned
about the AFNR Value
Chain?
Answers will vary.



Sales, Service & Support

In this stage, the owners can advertise for the sale of the harvest

products. For example, they can advertise through social media that their products will be available at the local farmers market.

After reviewing and learning
about each step in the value
chain, what is one question that
you still have?

Answers will vary.



Consumers

In this final stage, the consumer purchases the products.