

Study Guide – Texas 4-H Entomology ID Contest
Lepidoptera

1. Review the Lepidoptera YouTube video for your age level at the Bexar Entomology page.
2. Follow along with your 4-H Entomology Study Guide
(<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
3. Review the definitions for the key words for Lepidoptera.
4. Read the Lepidoptera Facts
5. Answer the study guide questions
6. Quiz yourself to identify the species of Lepidoptera and if they are a pest/beneficial/inconsequential and where they are found in nature and/or their host.

Key Words to Know for Lepidoptera:

Haustellate

Siphoning

Holometabolous

Mandibulate

Larvae

Pupae

Lepidoptera Facts:

- There are many species of Lepidoptera to know, this is a large group of insects.
- All Lepidopterans are holometabolous.
- Caterpillars (larva) have chewing mouthparts and feed on plants. Adults have haustellate/siphoning mouthparts and are nectar feeders.
- Lepidoptera are pests, beneficial, and inconsequential. They are pests because caterpillars are plant feeders. If they are beneficial, it is because they are pollinators. If they are inconsequential they don't do enough damage as caterpillars to be considered pests and probably don't pollinate enough to be considered beneficial.
- Lepidoptera wings are covered in scales, which gives them their color.

Study Guide Questions:

Name 3 Lepidopterans that are pests.

Name 3 Lepidopterans that are found on crops.

What type of mouthparts do Lepidopterans have?

What type of metamorphosis do Lepidopterans have?

Study Guide – Texas 4-H Entomology ID Contest
Lepidoptera Species to Know:

Junior Species (10):

- | | |
|--------------------------|--------------------|
| 1. Black swallowtail | 6. Monarch |
| 2. Bollworm/corn earworm | 7. Polyphemus |
| 3. Fall armyworm | 8. Red admiral |
| 4. Gray hairstreak | 9. Underwing moths |
| 5. Luna moth | 10. Wood nymphs |

Intermediate Species (18):

- | | |
|---------------------------------------|----------------------------|
| 1. Alfalfa caterpillar/clouded sulfur | 10. Luna moth |
| 2. Bagworm | 11. Monarch |
| 3. Black swallowtail | 12. Pink bollworm |
| 4. Bollworm/corn earworm | 13. Polyphemus |
| 5. Cabbage looper | 14. Red admiral |
| 6. Fall armyworm | 15. Silver spotted skipper |
| 7. Giant swallowtail | 16. Tomato hornworm |
| 8. Gray hairstreak | 17. Underwing moths |
| 9. Greater wax moth | 18. Wood nymphs |

Senior Species (37):

- | | |
|---------------------------------------|-----------------------------|
| 1. Armyworm | 20. Luna moth |
| 2. Alfalfa caterpillar/clouded sulfur | 21. Monarch |
| 3. Bagworm | 22. Mourningcloak butterfly |
| 4. Black swallowtail | 23. Peach tree borer |
| 5. Bollworm/corn earworm | 24. Pecan nut casebearer |
| 6. Buckeye | 25. Pink bollworm |
| 7. Cabbage butterfly | 26. Polyphemus |
| 8. Cabbage looper | 27. Question mark |
| 9. Cercropia | 28. Red admiral |
| 10. Cutworms | 29. Saltmarsh caterpillar |
| 11. Fall armyworm | 30. Silver spotted skipper |
| 12. Fall webworm | 31. Sorghum webworm |
| 13. Forest tent caterpillar | 32. Southwestern corn borer |
| 14. Giant swallowtail | 33. Tiger swallowtail |
| 15. Gray hairstreak | 34. Tomato hornworm |
| 16. Great leopard moth | 35. Underwing moths |
| 17. Greater wax moth | 36. Viceroy |
| 18. Indianmeal moth | 37. Wood nymphs |
| 19. Io moth | |

Study Guide – Texas 4-H Entomology ID Contest
Hymenoptera
Intermediates & Seniors Only

7. Review the Hymenoptera YouTube video for your age level at the Bexar Entomology page.
8. Follow along with your 4-H Entomology Study Guide
(<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
9. Review the definitions for the key words for Hymenoptera.
10. Read the Hymenoptera Facts
11. Answer the study guide questions
12. Quiz yourself to identify the species of Hymenoptera and if they are a pest/beneficial/inconsequential and where they are found in nature and/or their host.

Key Words to Know for Hymenoptera:

Holometabolous
Eusocial
Caste System
Parasitoid

Hymenoptera Facts:

- Hymenoptera are holometabolous
- Hymenoptera ants, bees, and wasps.
- Hymenoptera have chewing mouthparts. Bees have chewing and lapping.
- Some Hymenopterans are pollinators, others are predators, and some are pests.
- Some hymenopterans are solitary, some live in colonies, and some are truly social or eusocial.
- Eusocial Hymenopterans live in colonies and have a caste system.

Study Guide Questions:

What type of mouthparts do Hymenoptera have?

What metamorphosis do Hymenoptera have?

Are Hymenoptera beneficial or pests?

Name a truly social Hymenopteran.

Name two pollinating Hymenopterans.

Name two pest Hymenopterans – why are they pests?

Name three Hymenopterans that are wasps.

Name two Hymenopterans that are ants.

Name two Hymenopterans that are bees.

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Hymenoptera Species to Know:

Junior & Intermediate Species (8):

1. Bumblebees
2. Cicada killer
3. Honeybee
4. Mud daubers
5. Red harvester ant
6. Red imported fire ant
7. Velvet ants
8. Yellow jackets

Senior Species (8):

1. Baldfaced hornet
2. Bumblebees
3. Carpenter bees
4. Cicada killer
5. Honeybee
6. Horntails
7. Ichneumon wasps
8. Leaf cutting bees
9. Mud daubers
10. Red harvester ant
11. Red imported fire ant
12. Sawflies
13. Tarantula hawk
14. Texas leafcutting ant
15. Velvet ants
16. Yellow jackets