

Study Guide – Texas 4-H Entomology ID Contest
General Entomology

1. Review the Wonderful World of Insects Video on an unlisted YouTube Chanel - <https://youtu.be/belUKvS0ZSU>
2. Follow along with your 4-H Entomology Guidelines. Study Materials for All Age Groups & Page 1 of All Orders. (<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
3. Review the Key Words to Know
4. Answer the study guide questions

Key Words to Know:

Entomology
Exoskeleton
Arthropoda
Head, Thorax, Abdomen
Chewing/Mandibulate
Piercing Sucking

Study Guide Questions:

What Class are insects in?
What Phylum are insects in?
What Kingdom are insects in?
How many body regions do insects have? Name them.
How many legs do insects have? Where are legs attached?
How many wings can insects have? Where are they attached?
What types of mouthparts can insects have? How are they different?
What covers an insect's body?

Study Guide – Texas 4-H Entomology ID Contest
Mouthparts

1. Review the Lifecycle Video on Bexar Entomology YouTube - <https://youtu.be/ZpJWnAps3VY>
2. Follow along with your 4-H Entomology Guidelines. Study Materials for All Age Groups, page 3. (<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
3. Review the Key Words to Know
4. Answer the study guide questions

Key Words to Know:

Chewing

Piercing Sucking

Haustellate

Mandibulate

Study Guide Questions:

What type of mouthparts are haustellate?

What type of mouthparts are mandibulate?

Name three insects with haustellate mouthparts.

Name three insects with mandibulate mouthparts.

Study Guide – Texas 4-H Entomology ID Contest Lifecycles

1. Review the Lifecycle Video on Bexar Entomology YouTube - <https://youtu.be/64K2ivmJRpk>
2. Follow along with your 4-H Entomology Guidelines. Study Materials for All Age Groups, pages 6-7. (<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
3. Review the Key Words to Know
4. Answer the study guide questions

Key Words to Know:

Metamorphosis
Ametabolous
Paurometabolous
Hemimetabolous
Holometabolous
Nymph
Naiad
Larva
Pupa

Study Guide Questions:

What does metamorphosis mean?
What do insects have to do to grow?
What stage of insects molt?
What are the stages of an insect with no metamorphosis or ametamorphosis?
What are the stages of an insect with an incomplete metamorphosis or hemimetabolous?
What are the stages of an insect with a gradual metamorphosis or paurometabolous?
What are the stages of an insect with a complete metamorphosis or holometabolous?
Name three insects that are hemimetabolous.
Name three insects have are paurometabolous.
Name three insects that are holometabolous.

Insect Metamorphosis Worksheet

Watch the YouTube Video on Metamorphosis and answer these questions as you watch.

YouTube – Bexar Entomology

1. Insects are covered in an _____.
2. In order to get bigger, insects have to _____ their skin.
3. The definition of metamorphosis is _____
_____.
4. There are _____ different types of metamorphosis that insects can have.
5. No metamorphosis is also called _____.
6. Insects with ametamorphosis only have _____ life stages and have no
_____ as adults.
7. Paurometabolous insects have _____ life stages. An _____,
_____ and _____.
8. Circle the insects that are hemimetabolous:

Crickets	Lice
Beetles	True Bugs
Dragonflies	Stoneflies
Bees	Butterflies
9. Hemimetabolous insects have _____ life stages. An _____,
_____ and _____.

10. What is the difference between Hemimetabolous and Paurometabolous?

11. Circle the insects that are hemimetabolous:

Crickets

Mayflies

Beetles

True Bugs

Dragonflies

Stoneflies

Bees

Butterflies

12. If an insect lives in water and has an incomplete lifecycle we call the second stage a

_____.

13. If an insect lives on land and has a gradual lifecycle, we call the second stage a

_____.

14. Holometabolous insects have _____ life stages called the _____,
_____, _____, and _____.

15. Circle the insects that are holometabolous:

Butterflies

Flies

Walkingsticks

Moths

Fleas

Wasps

True Bugs

Lice

16. The four type of metamorphosis are: _____,
_____, and _____.

17. Match the metamorphosis name to the correct lifecycle name/description:

Ametabolous

Gradual Metamorphosis/Lifecycle

Paurometabolous

No Metamorphosis

Hemimetabolous

Complete Metamorphosis/Lifecycle

Holometabolous

Incomplete Metamorphosis/Lifecycle

18. Which type of metamorphosis produces adults that are never winged?

19. Which lifestage is non feeding and inactive?