Texas Future Farmers of America (FFA) Entomology Career Development Events (CDE) Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Don't worry about getting everything right, your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations, and take breaks to retain information better.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning.

7. Use Other Tools

Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly — adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. What kind of metamorphosis do pillbugs undergo?

A. Holometabolous

B. Ametabolous

C. Hemimetabolous

D. Metameristic

2. Which of the following insects undergoes holometabolous metamorphosis?

A. Silverfish

B. Soft scale

C. Soldier beetle

D. Spittlebug

3. What characteristic classifies the cicada killer as beneficial?

A. Holometabolous-Chewing

B. Ametabolous-Variable

C. Holometabolous-Piercing Sucking

D. Holometabolous-Chewing

4. Which insect is classified as a pest with a chewing mouthpart and a Holometabolous life cycle?

A. Dragonfly

B. Elm Leaf Beetle

C. Firefly

D. Dung Beetle

5. Which type of mouthparts does the hellgrammite possess?

A. Siphoning

B. Chewing

C. Sponging

D. Piercing Sucking

6. What type of metamorphosis does the jerusalem cricket undergo?

A. Holometabolous

B. Ametabolous

C. Hemimetabolous

D. None of the above

7. The mouthparts of the deer fly are most accurately classified as?

A. Chewing

B. Piercing sucking

C. Cutting sponging

D. Floral feeding

8. What type of insect is the soldier beetle?

A. Coleoptera

B. Lepidoptera

C. Mecoptera

D. Hemiptera

9. What type of metamorphosis does the leaf-footed bug undergo?

A. Holometabolous

B. Hemimetabolous

C. Ametabolous

D. None of the above

10. What type of insect is the brown dog tick classified as?

A. Insect-Holometabolous

B. Non Insect-Ametabolous

C. Insect-Hemimetabolous

D. Insect-Ametabolous

Answers

1. B
2. C
3. D
4. B
5. B
6. C
7. C
8. A
9. B
10. B

Explanations

1. What kind of metamorphosis do pillbugs undergo?

A. Holometabolous

B. Ametabolous

C. Hemimetabolous

D. Metameristic

Pillbugs undergo ametabolous metamorphosis, which is a form of development characterized by a lack of a distinct larval stage. In this process, the young resemble small adults and simply grow larger and undergo a series of molts until they reach maturity. This type of development is typical of organisms that do not experience drastic changes in body form throughout their lifecycle. Ametabolous insects, such as pillbugs, do not undergo any significant transformation in their body structure, unlike holometabolous insects, which undergo complete metamorphosis involving distinct egg, larval, pupal, and adult stages. Similarly, hemimetabolous insects experience a transformation but still have a juvenile form that looks quite different from the adult. Metameristic refers to segmentation in body plan, which does not pertain to the type of metamorphosis. Understanding these differences helps clarify why ametabolous is the appropriate classification for pillbug development.

2. Which of the following insects undergoes holometabolous metamorphosis?

A. Silverfish

B. Soft scale

C. Soldier beetle

D. Spittlebug

Holometabolous metamorphosis is a type of development in insects that includes four distinct life stages: egg, larva, pupa, and adult. This process is characteristic of many insects, particularly those in the order Coleoptera (beetles), Lepidoptera (butterflies and moths), Diptera (flies), and Hymenoptera (ants, bees, and wasps). The soldier beetle undergoes holometabolous metamorphosis. After the egg hatches, the larval stage emerges, which typically looks quite different from the adult form. Following the larval stage, the insect enters a pupal stage, where significant transformations occur. Finally, the adult beetle emerges, fully developed and capable of reproduction. This complete metamorphosis allows soldier beetles, like many other holometabolous insects, to occupy different ecological niches during their larval and adult stages. In contrast, silverfish and soft scales undergo incomplete metamorphosis and do not have a distinct pupal stage, while spittlebugs follow a hemimetabolous life cycle characterized by the gradual development of the adult form without a pupal stage. Understanding these differences helps in identifying various insect life cycles and their ecological roles

3. What characteristic classifies the cicada killer as beneficial?

A. Holometabolous-Chewing

B. Ametabolous-Variable

C. Holometabolous-Piercing Sucking

D. Holometabolous-Chewing

The classification of the cicada killer as beneficial can be attributed to its holometabolous developmental cycle and its chewing mouthparts. Holometabolous insects undergo complete metamorphosis, which includes distinct life stages: egg, larva, pupa, and adult. This life cycle allows for specific ecological roles at different stages and generally leads to more effective pest management. The cicada killer, specifically, utilizes its chewing mouthparts to capture cicadas, which are often viewed as pests in many agricultural settings. By preying on cicadas, cicada killers help in controlling their populations, providing a natural means of pest management that reduces the reliance on chemical insecticides. In contrast, the other options might suggest alternative developmental types or mouthpart classifications that do not accurately represent the cicada killer's biology or the beneficial role it plays within its ecosystem. The chewing mouthparts indicate that it actively hunts and feeds, emphasizing its role in maintaining ecological balance by managing pest populations.

4. Which insect is classified as a pest with a chewing mouthpart and a Holometabolous life cycle?

A. Dragonfly

B. Elm Leaf Beetle

C. Firefly

D. Dung Beetle

The elm leaf beetle is classified as a pest with a chewing mouthpart and a Holometabolous life cycle because of its feeding behavior and developmental stages. Chewing mouthparts are characteristic of many insects that feed on plant material, allowing the elm leaf beetle to effectively consume leaves, particularly from elm trees, which can lead to significant damage in urban and forest ecosystems. Insects that undergo a Holometabolous life cycle experience complete metamorphosis, which includes four distinct stages: egg, larva, pupa, and adult. The elm leaf beetle exemplifies this process, beginning as an egg that hatches into a larva, which feeds primarily on foliage. After feeding and growth, the larva will then pupate before transforming into an adult beetle, ready to mate and lay eggs to continue the cycle. This life cycle strategy is advantageous for feeding and reproduction habits, making it a common pest in areas with suitable host trees.

5. Which type of mouthparts does the hellgrammite possess?

A. Siphoning

B. Chewing

C. Sponging

D. Piercing Sucking

The hellgrammite possesses chewing mouthparts, which is characteristic of its feeding habits. Chewing mouthparts are adapted for biting and grinding food, which is essential for the hellgrammite as it is a predatory aquatic larva of the dobsonfly. These mouthparts allow it to effectively capture and consume various prey, such as small aquatic organisms. Chewing mouthparts consist of mandibles that move sideways to help in the process of tearing apart food. This adaptation is crucial for the hellgrammite's role in its ecosystem as a predator, as it relies on being able to actively hunt and consume other animals. In contrast, the other types of mouthparts listed are specialized for different feeding strategies: siphoning mouthparts are commonly found in butterflies for feeding on nectar, sponging mouthparts are associated with flies that feed on liquids, and piercing-sucking mouthparts are seen in insects like mosquitoes and aphids that extract fluids from plants or animals. These adaptations highlight the diversity of mouthparts tailored to specific dietary needs, but the hellgrammite's chewing mouthparts are specifically suited for its predatory lifestyle.

6. What type of metamorphosis does the jerusalem cricket undergo?

A. Holometabolous

B. Ametabolous

C. Hemimetabolous

D. None of the above

The Jerusalem cricket undergoes hemimetabolous metamorphosis, which is characterized by three distinct life stages: egg, nymph, and adult. In hemimetabolous development, the nymphs resemble small adults and typically undergo several molts as they grow, gradually developing adult features such as wings and reproductive organs. This type of metamorphosis contrasts with holometabolous insects, which experience a complete transformation involving a larval stage that looks very different from both the nymph and adult stages and includes a pupal stage. Ametabolous insects, on the other hand, develop without a distinct change in form, merely growing larger as they molt into adulthood, which does not apply to the development of Jerusalem crickets. Therefore, the classification of Jerusalem crickets as undergoing hemimetabolous metamorphosis accurately describes their life cycle.

7. The mouthparts of the deer fly are most accurately classified as?

A. Chewing

B. Piercing sucking

C. Cutting sponging

D. Floral feeding

The mouthparts of the deer fly are classified as cutting sponging due to their specialized adaptations for feeding. Deer flies are known for their behavior of biting and feeding on the blood of their hosts. Their mouthparts consist of sharp mandibles and maxillae that can cut through the skin of their hosts, allowing them to access blood while also having a sponge-like component that enables them to lap up the blood that flows from the wound. This classification is significant as it distinguishes them from other insect types with different feeding strategies. For example, chewing mouthparts are adapted for grinding food and are seen in herbivorous insects, while piercing sucking mouthparts are commonly found in insects that feed on liquids without cutting, like mosquitoes. Floral feeding does not apply here, as it pertains to insects that extract nectar from flowers rather than feeding on blood. Thus, the unique structure and function of the deer fly's mouthparts match the cutting sponging classification precisely.

8. What type of insect is the soldier beetle?

A. Coleoptera

B. Lepidoptera

C. Mecoptera

D. Hemiptera

The soldier beetle belongs to the order Coleoptera, which is characterized by its hardened forewings (elytra) that cover the flying wings and the abdomen when at rest. This order is the largest group of insects, commonly referred to as beetles, and includes a vast array of species exhibiting diverse forms and habitats. Soldier beetles are typically recognized by their elongated bodies and distinct coloration, often with a mix of black and yellow or orange. They play important roles in ecosystems, notably as pollinators and as predators of other pest insects, which further underscores their ecological value within the Coleoptera order. In contrast, the other options represent different insect orders with unique characteristics: Lepidoptera includes butterflies and moths, known for their scales and wings; Mecoptera includes scorpionflies, recognized for their elongated mouthparts; and Hemiptera encompasses true bugs, characterized by their specialized mouthparts for piercing and sucking. Understanding these distinctions helps clarify the classification of soldier beetles within the broader context of insect taxonomy.

9. What type of metamorphosis does the leaf-footed bug undergo?

A. Holometabolous

B. Hemimetabolous

C. Ametabolous

D. None of the above

The leaf-footed bug undergoes hemimetabolous metamorphosis, which is characterized by an incomplete metamorphosis process. In hemimetabolous development, the life cycle consists of three stages: egg, nymph, and adult. The nymphs resemble smaller versions of the adults and undergo several molts, gradually developing into their adult form without a distinct pupal stage. Leaf-footed bugs, which belong to the family Coreidae, exhibit this type of life cycle. They hatch from eggs as nymphs, which live in the same habitats as adults and feed on the same plant materials. The lack of a pupal stage differentiates hemimetabolous insects from holometabolous insects, which do go through a complete metamorphosis involving distinct larval and pupal stages. Understanding these life cycle distinctions is crucial in entomology and pest management, as it impacts how different insect species may be controlled or studied in agricultural contexts.

10. What type of insect is the brown dog tick classified as?

A. Insect-Holometabolous

B. Non Insect-Ametabolous

C. Insect-Hemimetabolous

D. Insect-Ametabolous

The brown dog tick is properly classified as an insect under the category of hemimetabolous insects. Hemimetabolous insects undergo incomplete metamorphosis, which is characterized by three life stages: egg, nymph, and adult, without a pupal stage. Ticks, including the brown dog tick, are arachnids and do not fit within the insect classifications provided as they are not insects at all; rather, they belong to the class Arachnida. They have a different life cycle and physiological characteristics compared to insects, which includes having eight legs as adults instead of the six legs that insects possess. For clarification regarding the classifications provided: insects that exhibit holometabolous development go through complete metamorphosis, meaning they have distinct egg, larval, pupal, and adult stages. Ametabolous insects undergo very little change in body form after hatching, typically developing through a series of nymphs that resemble the adult form closely. In summary, the classification of the brown dog tick is detailed in the context of its arachnid nature rather than fitting into the classifications of hemimetabolous or ametabolous insects.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://texas-ffa-entomology-cde.examzify.com

We wish you the very best on your exam journey. You've got this!