

ARIZONA STATE UNIVERSITY (ASU) BIO331 ANIMAL BEHAVIOR EXAM 1 PRACTICE (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://asu-bio331exam1.examzify.com>



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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. 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.

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. 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

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- 1. Which of the following factors can maintain different traits in a population?**
 - A. Random selection, frequency-dependent selection, genetic drift
 - B. Random mutation, environmental changes, selective pressures
 - C. Social structure, territory size, reproductive timing
 - D. Population bottlenecks, gene flow, environmental stability
- 2. What kind of traits can narrow sense heritability particularly apply to?**
 - A. Highly complex traits influenced by many factors
 - B. Simple Mendelian traits
 - C. Continuous traits such as height or weight
 - D. Qualitative traits that are easily observable
- 3. What is a key characteristic of experimental research methods?**
 - A. It observes natural behaviors in a wild context
 - B. It manipulates one or more variables
 - C. It relies solely on previous studies
 - D. It categorizes animals based on behavior
- 4. Which of the following would NOT be considered a fitness component?**
 - A. Probability of survival to reproduction
 - B. Ability to forage for food
 - C. Production of offspring
 - D. Probability of their survival to reproduction
- 5. Which of the following would NOT be a focus of an ethogram?**
 - A. A single behavior of a species over its lifespan
 - B. A catalog of all social interactions in a species
 - C. Discreet behaviors displayed during a specific observation time
 - D. The timing of behaviors during the day
- 6. Kin selection specifically focuses on behaviors directed at:**
 - A. Non-relatives
 - B. Close friends
 - C. Relatives
 - D. Strangers

- 7. Which of the following factors does NOT influence narrow sense heritability?**
- A. The genetic similarities among individuals
 - B. The environmental conditions affecting the population
 - C. The specific interactions between different gene loci
 - D. The average genetic contribution of parents to progeny
- 8. How do environmental changes impact animal behavior?**
- A. They can improve social interactions
 - B. They alter food availability and habitat use
 - C. They increase mating success
 - D. They reduce competition among species
- 9. What is meant by “cooperative behavior” in social species?**
- A. Individual actions that do not benefit the group
 - B. Joint actions that enhance survival and success of the group
 - C. Actions that only focus on individual gain
 - D. Behavior that is competitive in nature
- 10. What is “filtration” in the context of animal foraging?**
- A. The act of hunting specific prey types
 - B. The filtering process of selecting food items based on nutritional value
 - C. The gathering of food items for seasonal storage
 - D. The random selection of food without regard to quality

Answers

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

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Explanations

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1. Which of the following factors can maintain different traits in a population?

- A. Random selection, frequency-dependent selection, genetic drift
- B. Random mutation, environmental changes, selective pressures
- C. Social structure, territory size, reproductive timing
- D. Population bottlenecks, gene flow, environmental stability

The correct choice highlights mechanisms that can maintain different traits within a population. Random selection refers to the unpredictable variations in which alleles are passed on to the next generation, which can lead to a diversity of traits. Frequency-dependent selection occurs when the fitness of a phenotype depends on its frequency relative to other phenotypes in the population, which can help preserve multiple traits if certain traits remain advantageous at different times or in varying contexts. Genetic drift is the random fluctuation of allele frequencies in a population, which can maintain multiple traits by allowing for random changes in the prevalence of different traits. In contrast, the other options present factors that influence population dynamics and trait variation but do not solely focus on the maintenance of different traits. For example, random mutation introduces new genetic variations but doesn't necessarily maintain them unless they confer an advantage. Environmental changes and selective pressures can lead to the dominance of certain traits rather than maintaining a variety. Similarly, while social structures and reproductive timing can influence mating patterns and population dynamics, they don't inherently maintain trait diversity in the same manner as the mechanisms listed in the correct choice. Lastly, population bottlenecks tend to reduce variation by drastically decreasing population size, whereas gene flow can homogenize traits between populations, and environmental stability may lead to the

2. What kind of traits can narrow sense heritability particularly apply to?

- A. Highly complex traits influenced by many factors
- B. Simple Mendelian traits
- C. Continuous traits such as height or weight
- D. Qualitative traits that are easily observable

Narrow sense heritability is a concept used in quantitative genetics to determine the proportion of phenotypic variance in a trait that can be attributed to additive genetic variance. This type of heritability is most applicable to continuous traits, such as height or weight, since these traits are influenced by multiple genes and environmental factors. Continuous traits exhibit a range of phenotypes and can show a normal distribution in a population. This characteristic allows researchers to measure subtle variations and assess how changes in genotype can influence the phenotypic expression of the trait. The higher the narrow sense heritability, the more likely that offspring will resemble their parents in terms of that continuous trait due to the additive effects of alleles. In contrast, simple Mendelian traits, which are typically governed by one or two genes and exhibit discrete categories, do not effectively illustrate narrow sense heritability because their inheritance patterns do not typically involve additive genetic variance. Highly complex traits influenced by many factors or qualitative traits that are easily observable also do not align with the definition and application of narrow sense heritability in the same way that continuous traits do. This makes continuous traits like height or weight the most relevant for this particular concept.

3. What is a key characteristic of experimental research methods?

- A. It observes natural behaviors in a wild context
- B. It manipulates one or more variables**
- C. It relies solely on previous studies
- D. It categorizes animals based on behavior

One key characteristic of experimental research methods is the manipulation of one or more variables. This approach allows researchers to establish cause-and-effect relationships by controlling conditions and systematically changing specific factors. For instance, in a behavioral study, a researcher might manipulate environmental conditions (like light or temperature) to observe how these changes affect an animal's behavior. This type of design is critical because it helps to identify what influences behavior directly, separating it from mere correlation that might occur in observational studies. The ability to test hypotheses through controlled experimentation is fundamental to advancing our understanding of animal behavior.

4. Which of the following would NOT be considered a fitness component?

- A. Probability of survival to reproduction
- B. Ability to forage for food**
- C. Production of offspring
- D. Probability of their survival to reproduction

The choice regarding the ability to forage for food is nuanced within the context of fitness components. While foraging itself may seem like a skill or behavior, it ultimately contributes to an individual's fitness by affecting the likelihood of survival and reproductive success. Specifically, the probability of survival to reproduction and the production of offspring are straightforward components of fitness, quantifying how well an individual can pass on its genes to the next generation. In contrast, the ability to forage relates more to behavioral traits or strategies rather than a direct measure of fitness. It plays an indirect role; for example, effective foraging can lead to better nutrition, which in turn can enhance survival rates and reproductive success. Thus, while foraging is crucial for overall success in the wild, it is not itself a direct fitness component. On the other hand, the probability of survival to reproductive age and the production of offspring are direct indicators of an organism's reproductive success and, therefore, are clearly defined fitness components.

5. Which of the following would NOT be a focus of an ethogram?

- A. A single behavior of a species over its lifespan**
- B. A catalog of all social interactions in a species
- C. Discrete behaviors displayed during a specific observation time
- D. The timing of behaviors during the day

An ethogram is a comprehensive catalog or inventory of behaviors exhibited by a particular species, often documented through careful observation. It typically focuses on a range of behaviors that are observable over specific timeframes, aiming to capture the nuances of how an animal interacts with its environment and peers. The selection highlights that "A single behavior of a species over its lifespan" would not be a focus of an ethogram. An ethogram emphasizes documenting various discrete behaviors in context, rather than concentrating on a single behavior over the entire lifespan of the species. The goal is to provide a broad overview of multiple behaviors under different circumstances rather than a detailed analysis of one particular behavior's longevity or variations. The other options are indeed central to the purpose of an ethogram. Cataloging all social interactions or observing specific behaviors during set observation times aligns perfectly with an ethogram's function, as does documenting the timing and frequency of behaviors throughout the day to understand patterns and rhythms in animal activity. Each of these focuses contributes to forming a comprehensive understanding of a species' behavioral repertoire, unlike the narrower scope that a single behavior would provide.

6. Kin selection specifically focuses on behaviors directed at:

- A. Non-relatives
- B. Close friends
- C. Relatives**
- D. Strangers

Kin selection is a concept in evolutionary biology that explains how certain behaviors, particularly altruistic ones, can evolve through the benefits they confer to relatives, rather than to the individual performing the behavior. This is rooted in the idea that by helping relatives, an individual indirectly ensures the propagation of shared genes. When organisms preferentially direct their altruistic behaviors towards their relatives, they increase the survival and reproductive success of those relatives, thereby enhancing their own inclusive fitness. In this context, behaviors that are advantageous to kin—like protecting offspring, assisting siblings, or sharing resources—are examples of kin selection in action. The genetic relatedness between individuals plays a crucial role in determining how these behaviors are favored by natural selection. Thus, kin selection specifically prioritizes interactions among relatives, fostering cooperation and altruism within familial groups, which can lead to increased survival for genes shared within those familial lines.

7. Which of the following factors does NOT influence narrow sense heritability?

- A. The genetic similarities among individuals
- B. The environmental conditions affecting the population
- C. The specific interactions between different gene loci**
- D. The average genetic contribution of parents to progeny

Narrow sense heritability specifically measures the proportion of phenotypic variance in a trait that can be attributed to additive genetic variance. This concept is crucial for understanding how traits are passed from parents to offspring and how they might respond to natural selection. The correct choice indicates that the specific interactions between different gene loci, often referred to as epistatic interactions, do not influence narrow sense heritability. Instead, narrow sense heritability focuses on the additive effects of individual alleles rather than the complex interactions between genes. This means that narrow sense heritability does not account for the non-additive interactions that can occur when genes interact, which can influence other forms of heritability but are outside the scope of narrow sense heritability. In contrast, the other factors listed, such as genetic similarities among individuals, environmental conditions affecting the population, and the average genetic contribution of parents to progeny, directly contribute to the evaluation of narrow sense heritability by affecting how traits are expressed and passed on in populations. Thus, understanding these dynamics is key to estimating heritability effectively.

8. How do environmental changes impact animal behavior?

- A. They can improve social interactions
- B. They alter food availability and habitat use**
- C. They increase mating success
- D. They reduce competition among species

Environmental changes significantly impact animal behavior primarily by altering food availability and habitat use. When the environment changes—whether due to natural phenomena or human activities—animals often must adapt to new conditions that affect their survival and reproduction. For instance, changes in climate can result in shifts in the distribution of vegetation, which in turn affects the availability of food resources for herbivores and the predators that rely on them. Additionally, alterations in the environment can cause animals to modify their habitat use. They might move to new areas that provide better resources or shelter, or they may adapt their foraging or nesting behaviors based on the availability of food or safe spaces. These adaptations are essential for animals to survive in dynamic environments, leading to various behavioral changes, such as changes in foraging patterns, social interactions, and even breeding habits, as they seek out optimal conditions for their needs. Understanding this connection between environmental changes and animal behavior highlights the importance of monitoring ecological shifts and their potential consequences on wildlife.

9. What is meant by “cooperative behavior” in social species?

- A. Individual actions that do not benefit the group
- B. Joint actions that enhance survival and success of the group**
- C. Actions that only focus on individual gain
- D. Behavior that is competitive in nature

Cooperative behavior in social species refers to joint actions that enhance the survival and success of the group. This concept emphasizes the idea that individuals within a social group work together towards common goals, which can include foraging for food, defending against predators, caring for young, and other activities that contribute to the well-being of the group as a whole. Cooperation often leads to increased efficiency and effectiveness in these tasks, allowing groups to thrive in their environments. It can improve survival rates, increase reproductive success, and foster stronger social bonds, which are essential in species that rely on each other for various aspects of life. In contrast, actions that do not enhance the group's survival or goals would not constitute cooperative behavior and instead may reflect self-serving or competitive behaviors, which focus solely on individual gain without regard for the group's needs. Thus, B is the most appropriate description of cooperative behavior in social species.

10. What is “filtration” in the context of animal foraging?

- A. The act of hunting specific prey types
- B. The filtering process of selecting food items based on nutritional value**
- C. The gathering of food items for seasonal storage
- D. The random selection of food without regard to quality

In the context of animal foraging, filtration refers to the process by which animals select their food items based on various criteria, particularly their nutritional value. This involves evaluating potential food sources to determine which items will best meet their dietary needs, ensuring they obtain the necessary nutrients for survival and reproductive success. Foraging animals may assess attributes such as energy content, toxin levels, and other important factors that influence the suitability of a food item. By engaging in this filtering process, animals can optimize their foraging strategies, helping them to select the most beneficial foods available in their environment. This concept is critical in understanding how animals adapt their foraging behavior to enhance their overall fitness.

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://asu-bio331exam1.examzify.com>

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

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