Science Act Practice Test

Passage I

A study was conducted to examine whether female *Blattella germanica* (a species of cockroach) prefer to eat cat food, cheese, ham, or peanuts. First, 200 mg of each of the 4 foods was separately placed into a single box. Then, adult female *B. germanica* were added to the box. Figure 1 shows how the mass, in mg, of each food in the box changed over time after the addition of the *B. germanica*. Table 1 shows the percent by mass of carbohydrates, lipids, proteins, and water, respectively, present in each of the 4 foods tested in the study.

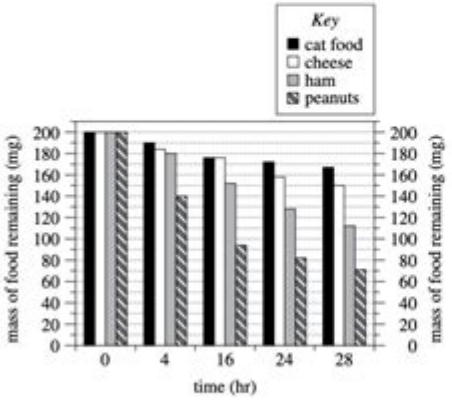

Figure 1

Figure adapted from Prachumporn Lauprasert et al., "Food Preference and Feeding Behavior of the German Cockroach, *Blattella germanica* (Linnaeus)." ©2006 by the Faculty of Science, Chulalongkorn University.

Table 1

Food	Percent by mass			
	carbohydrates	lipids	proteins	water
Cat food	1.2	6.0	16.9	66.2
Cheese	0.5	27.7	20.8	48.4
Ham	0.0	18.2	23.6	57.1
Peanuts	15.8	49.6	26.2	6.4

Table adapted from U.S. Department of Agriculture, *USDA National Nutrient Database for Standard Reference, Release 24*. 2011.

1. According to Figure 1, the mass of cheese remaining at 4 hr was closest to which of the following values?
   - **A.** 140 mg
   - **B.** 176 mg
   - **C.** 185 mg
   - **D.** 190 mg

2. Suppose a company wants to use food as bait in a trap designed to capture female *B. germanica*. Based on Figure 1, which of the 4 foods should the company place in the trap to maximize the chance of capturing female *B. germanica*?
   - **F.** Cat food
   - **G.** Cheese
   - **H.** Ham
   - **J.** Peanuts

Science ACT practice test is an essential preparation tool for students aiming to excel in the Science section of the ACT exam. The ACT Science test evaluates a student's ability to interpret, analyze, and evaluate scientific information, primarily through data representation, research summaries, and conflicting viewpoints. This section is often a source of anxiety for many students, as it requires not only a solid understanding of scientific concepts but also the ability to think critically under time constraints. In this article, we will explore the structure of the Science ACT, strategies for effective preparation, common types of questions, and the benefits of using practice tests.

Understanding the ACT Science Section

The ACT Science section comprises 40 questions that must be completed within 35 minutes. The questions are derived from various scientific disciplines, including biology, chemistry, physics, and Earth/space sciences.

Structure of the ACT Science Section

The Science section is divided into three main types of passages:

1. Data Representation: These passages present data in the form of graphs,

tables, or charts. Students are required to interpret and analyze the data to answer questions.

2. Research Summaries: This type involves descriptions of scientific experiments and the results obtained. Students must evaluate experimental design and conclusions drawn from the data.

3. Conflicting Viewpoints: These passages present differing perspectives on a scientific issue. Students must analyze the arguments and evidence provided to identify strengths and weaknesses.

Each passage is accompanied by several questions that assess different skills, such as critical thinking, data interpretation, and scientific reasoning.

The Importance of Practice Tests

Using a Science ACT practice test is crucial for several reasons:

1. Familiarization with the Format: Practice tests help students become accustomed to the format of the Science section, including the types of passages and questions.

2. Time Management Skills: Since students have a limited amount of time to answer questions, practice tests allow them to develop strategies for managing their time effectively.

3. Identifying Weaknesses: Taking practice tests helps students identify areas where they may need additional study or practice, allowing them to focus their preparation efforts.

4. Building Confidence: Regular practice can alleviate test anxiety and build confidence in a student's ability to perform well on the actual exam.

Strategies for Effective Preparation

To maximize the benefits of a Science ACT practice test, students should implement targeted strategies during their study sessions:

Create a Study Schedule

1. Set Specific Goals: Determine how many practice tests you will take and what topics you need to focus on.

2. Allocate Time for Review: Include time for reviewing incorrect answers to

understand mistakes.

3. Break Down Study Sessions: Divide your study time into manageable chunks, focusing on specific skills or content areas.

Utilize Quality Resources

1. Official ACT Prep Materials: Use resources from the ACT organization, including official practice tests and study guides.

2. Online Platforms: Explore reputable online platforms that offer practice tests and instructional videos.

3. Study Groups: Join or form study groups with peers to discuss challenging concepts and share resources.

Practice Active Reading Skills

1. Skim Passages: Quickly skim through the passage to get an overview before diving into the questions.

2. Highlight Key Information: While reading, highlight important data points and keywords that may be relevant to the questions.

3. Take Notes: Jot down quick notes on the main ideas or results to help with understanding and recall.

Common Types of Questions on the ACT Science Section

Understanding the types of questions that appear on the ACT Science section can help students prepare more effectively. Here are some common question types:

1. Data Interpretation Questions: These questions may ask students to analyze trends or make predictions based on data presented in graphs or tables.

2. Experimental Design Questions: Students might be asked to evaluate the effectiveness of a given experimental setup or suggest improvements.

3. Comparison Questions: These questions require students to compare two or more viewpoints or findings to determine which is more supported by the evidence.

4. Cause and Effect Questions: Students may be asked to identify potential causes for observed phenomena based on the provided information.

5. Inference Questions: These questions require students to make logical inferences based on the data or information presented in the passages.

Tips for Taking the Science ACT Practice Test

When practicing with a Science ACT practice test, consider these tips to enhance your performance:

1. Simulate Test Conditions: Take practice tests in a quiet environment and adhere strictly to the time limit to simulate actual testing conditions.

2. Review After Each Test: After completing a practice test, review your answers, especially the ones you got wrong, to understand your mistakes.

3. Focus on Process of Elimination: When unsure of an answer, use the process of elimination to narrow down choices.

4. Stay Calm and Focused: Practice mindfulness techniques to maintain focus and reduce anxiety during the test.

5. Regularly Assess Progress: Track your scores over time to assess your improvement and adjust your study plan as needed.

Benefits of Using a Science ACT Practice Test

Engaging with a Science ACT practice test has numerous benefits that can significantly enhance a student's chances of success:

1. Improved Test Scores: Consistent practice can lead to improved scores, as students become more familiar with the types of questions and the test format.

2. Enhanced Critical Thinking Skills: Regularly analyzing scientific data and arguments sharpens critical thinking skills, which are valuable beyond the ACT.

3. Increased Scientific Literacy: Exposure to various scientific concepts and experiments can bolster a student's overall understanding of science.

4. Greater Test Familiarity: Familiarity with the test format can alleviate anxiety and help students perform at their best on test day.

Conclusion

In conclusion, a Science ACT practice test is an invaluable tool for students preparing for the ACT exam. By understanding the structure of the Science section, employing effective study strategies, and regularly practicing with high-quality materials, students can enhance their chances of achieving their desired scores. The benefits extend beyond mere test preparation; they foster critical thinking, scientific literacy, and confidence in one's ability to tackle challenging material. As students approach the ACT, taking the time to engage with practice tests can make all the difference in their performance and overall success.

Frequently Asked Questions

What is the purpose of the Science ACT Practice Test?

The Science ACT Practice Test is designed to help students familiarize themselves with the types of questions they will encounter on the actual ACT science section, allowing them to improve their test-taking skills and strategies.

How can I access free Science ACT Practice Tests?

Many educational websites and organizations, including the official ACT website, offer free downloadable practice tests. Additionally, libraries and schools may provide access to test prep resources.

What types of content are covered in the Science ACT Practice Test?

The Science ACT Practice Test covers content related to scientific reasoning, data interpretation, experiments, and analysis of scientific information across various fields such as biology, chemistry, physics, and Earth science.

How should I prepare for the Science section of the ACT using practice tests?

To prepare effectively, take timed practice tests to simulate test conditions, review your answers to understand mistakes, focus on improving your weaknesses, and practice reading and interpreting scientific data quickly.

What score should I aim for on the Science ACT

Practice Test?

Your target score should depend on your personal goals and the requirements of the colleges you are interested in. Research the average scores for admitted students at those institutions, and aim to score at or above that level on practice tests.

Science Act Practice Test

Science | AAAS
6 days ago · Science/AAAS peer-reviewed journals deliver impactful research, daily news, expert commentary, and career resources.

Targeted MYC2 stabilization confers citrus Huanglongbing
Apr 10, 2025 · Huanglongbing (HLB) is a devastating citrus disease. In this work, we report an HLB resistance regulatory circuit in Citrus composed of an E3 ubiquitin ligase, PUB21, and its substrate, the MYC2 transcription factor, which regulates jasmonate-mediated ...

In vivo CAR T cell generation to treat cancer and autoimmune
Jun 19, 2025 · Chimeric antigen receptor (CAR) T cell therapies have transformed treatment of B cell malignancies. However, their broader application is limited by complex manufacturing processes and the necessity for lymphodepleting chemotherapy, restricting patient ...

Tellurium nanowire retinal nanoprosthesis improves vision in
Jun 5, 2025 · Present vision restoration technologies have substantial constraints that limit their application in the clinical setting. In this work, we fabricated a subretinal nanoprosthesis using tellurium nanowire networks (TeNWNs) that converts light of both the ...

Reactivation of mammalian regeneration by turning on an
Mammals display prominent diversity in the ability to regenerate damaged ear pinna, but the genetic changes underlying the failure of regeneration remain elusive. We performed comparative single-cell and spatial transcriptomic analyses of rabbits and ...

Programmable gene insertion in human cells with a laboratory
Programmable gene integration in human cells has the potential to enable mutation-agnostic treatments for loss-of-function genetic diseases and facilitate many applications in the life sciences. CRISPR-associated transposases (CASTs) catalyze RNA-guided ...

A symbiotic filamentous gut fungus ameliorates MASH via a
May 1, 2025 · The gut microbiota is known to be associated with a variety of human metabolic diseases, including metabolic dysfunction–associated steatohepatitis (MASH). Fungi are increasingly recognized as important members of this community; however, the role of ...

Deep learning–guided design of dynamic proteins | Science
May 22, 2025 · Deep learning has advanced the design of static protein structures, but the controlled conformational changes that are hallmarks of natural signaling proteins have remained inaccessible to de novo design. Here, we describe a general deep learning–guided ...

Acid-humidified CO2 gas input for stable electrochemical CO2
Jun 12, 2025 · (Bi)carbonate salt formation has been widely recognized as a primary factor in poor operational stability of the electrochemical carbon dioxide reduction reaction (CO2RR). We demonstrate that flowing CO2 gas into an acid bubbler—which carries trace ...

Rapid in silico directed evolution by a protein language ... - Science
Nov 21, 2024 · Directed protein evolution is central to biomedical applications but faces challenges such as experimental complexity, inefficient multiproperty optimization, and local maxima traps. Although in silico methods that use protein language models (PLMs) can ...

Science | AAAS
6 days ago · Science/AAAS peer-reviewed journals deliver impactful research, daily news, expert commentary, and career resources.

Targeted MYC2 stabilization confers citrus Huanglongbing
Apr 10, 2025 · Huanglongbing (HLB) is a devastating citrus disease. In this work, we report an HLB resistance regulatory circuit in Citrus composed of an E3 ubiquitin ligase, PUB21, and its …

In vivo CAR T cell generation to treat cancer and autoimmune
Jun 19, 2025 · Chimeric antigen receptor (CAR) T cell therapies have transformed treatment of B cell malignancies. However, their broader application is limited by complex manufacturing …

Tellurium nanowire retinal nanoprosthesis improves vision in
Jun 5, 2025 · Present vision restoration technologies have substantial constraints that limit their application in the clinical setting. In this work, we fabricated a subretinal nanoprosthesis using …

Reactivation of mammalian regeneration by turning on an
Mammals display prominent diversity in the ability to regenerate damaged ear pinna, but the genetic changes underlying the failure of regeneration remain elusive. We performed …

Programmable gene insertion in human cells with a laboratory
Programmable gene integration in human cells has the potential to enable mutation-agnostic treatments for loss-of-function genetic diseases and facilitate many applications in the life …

A symbiotic filamentous gut fungus ameliorates MASH via a
May 1, 2025 · The gut microbiota is known to be associated with a variety of human metabolic diseases, including metabolic dysfunction–associated steatohepatitis (MASH). Fungi are …

Deep learning–guided design of dynamic proteins | Science
May 22, 2025 · Deep learning has advanced the design of static protein structures, but the controlled conformational changes that are hallmarks of natural signaling proteins have …

Acid-humidified CO2 gas input for stable electrochemical CO2
Jun 12, 2025 · (Bi)carbonate salt formation has been widely recognized as a primary factor in poor operational stability of the electrochemical carbon dioxide reduction reaction (CO2RR). …

Rapid in silico directed evolution by a protein language ... - Science
Nov 21, 2024 · Directed protein evolution is central to biomedical applications but faces challenges such as experimental complexity, inefficient multiproperty optimization, and local …