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Barron's AP

生物（第4版）

Barron's AP
Biology
4th Edition

[美] 戈德堡 (Deborah T. Goldberg)

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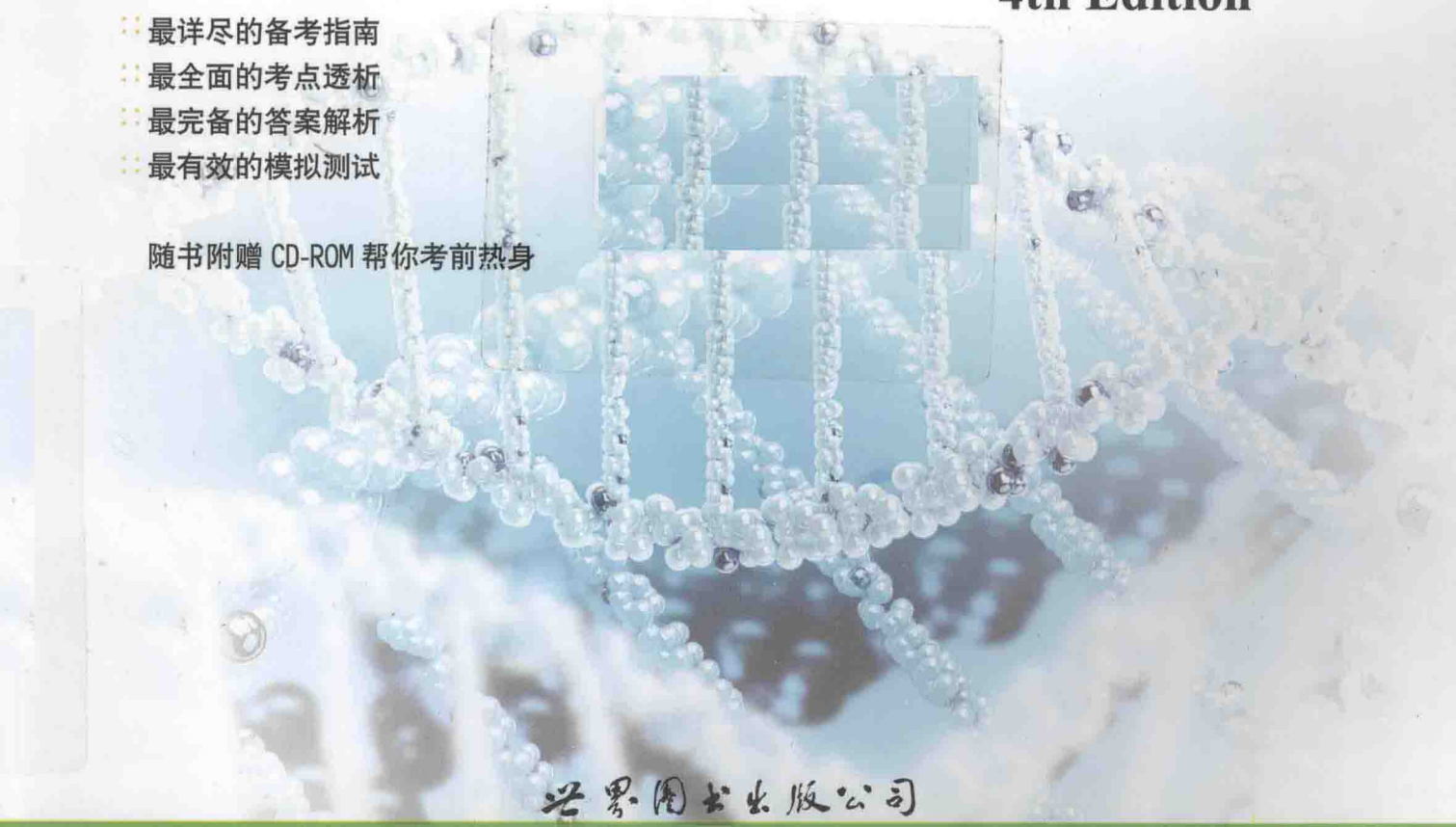

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目　录

CONTENTS

About the New Exam
关于新的考试

1

The College Board revised the AP Biology curriculum for 2012–2013 to reduce the amount of memorization and to focus on understanding broad concepts and to train students to think scientifically. Labs have been changed to encourage students to do real inquiry-based investigations that they themselves devise instead of conducting experiments merely to confirm what they already learned.

WHAT IS INCLUDED IN THE NEW CURRICULUM?
新的课程包含了什么?

The new curriculum is organized around four major concepts. They are:

1. Evolution
2. Cellular processes: energy and communication
3. Genetics
4. Interactions between molecules, cells, organs, and components of ecosystems

Even though the curriculum has been reorganized, many textbooks have not been changed and your teacher may not change what is taught. However, the structure, style of question, and emphasis of the AP Biology exam is very different.

WHAT ARE THE NEW EXAM QUESTIONS LIKE?
新版考试中的问题是什么样的?

Although the new test questions differ from past questions, they are consistent and predictable. The format of the question itself is almost always the same:

"Which of the following statements best explains. . .?"

Here is a comparison of a sample old- and new-style question.

Old-style question:

An animal that contains both male and female organs is

(A) Known as sexually dimorphic
(B) An example of parthenogenesis
(C) Found only in primitive animals
(D) Hermaphroditic
(E) An example of asexual reproduction

The answer is D. This is a question that focuses on vocabulary and not on underlying concepts.

New-style question:

Hermaphrodites are animals that serve as both male and female by producing both sperm and eggs. Hermaphrodites are often animals that are fixed to a surface (sessile) and are less often motile (free-moving) animals. Which of the following statements is the best explanation for this phenomenon?

(A) As in all examples of asexual reproduction, large numbers of offspring can be produced.
(B) This is a novel adaptation that evolved to meet the challenge of finding a mate without having the ability to move.
(C) Both the male and the female can produce offspring simultaneously.
(D) Hermaphroditism is a degenerate form of sexual reproduction and is found in primitive animals such as parasites.

The answer is B. The new-style question:

- Focuses on reasoning and analysis; not only on vocabulary.
- Contains information in the body of the question so that students do not have to recall details, but can demonstrate an understanding of a concept. In this case, the concept being tested is evolutionary adaptation, not reproduction.
- Contains only four answers from which to choose.
- Takes longer to read, think about, and answer. That's why there are only 63 multiple-choice questions on the exam.

WHAT'S IN THIS REVIEW BOOK? 这本练习册包含了什么?

1. **This book includes every topic in the new AP Biology curriculum** plus some additional ones that probably will not be directly tested on by the College Board. These supplementary topics are identified by an **OWL icon** in the margins. They are included in this book for three reasons:
   - Some teachers will continue to teach these topics because they believe they are important.
   - A student who has familiarity with these topics will be able to demonstrate a depth of knowledge and use them as illustrative examples when answering an essay question.
   - Although the College Board considers these topics background material, some students do not take a pre-AP biology course in high school.
2. **Many details have been removed from some topics** in accordance with College Board guidelines. For example, names of specific electron carriers in the electron transport chain or the names or structure of compounds in glycolysis and the citric acid cycle have been removed from review chapters.
3. **Some topics, like Molecular Biology and the Immune System, have been expanded** and include the most up-to-date scientific information.
4. **Thirteen new inquiry-based lab investigations from the College Board are featured.**

5. **Questions at the end of every review chapter test factual recall** and help you prepare for the AP exam. Although these review questions differ from the types of questions on the new exam, they nonetheless provide helpful practice. These questions are designed to reinforce the basics of each topic as you review it.
6. **Two special chapters, "Five Themes to Help You Write a Great Essay" and "Learn How to Grade an Essay"** will help you write better essays on the exam.
7. **Two practice exams mimic the questions that you will encounter on the real AP exam.**

EXAM FORMAT 考试安排

The AP Biology exam is approximately 3 hours in length and is made up of two sections.

Section I is 90 minutes and worth 50% of the total score. It consists of 63 multiple-choice questions plus 6 grid-in questions, which are short and require math. You may use a simple calculator with a square root function, but you cannot use a graphing calculator.

Section II is 90 minutes and accounts for 50% of the total score. It consists of 2 long free-response questions and 6 short free-response questions. It begins with a 10-minute reading period. The remaining 1 hour and 20 minutes is for writing. Allow 20 minutes for each of the two long free-response questions, and about 6 minutes each for the short free-response questions.

Math 数学题

Math is included on the new exam. A table of equations and formulas, including standard deviation or chi-square, is part of the exam. You simply plug numbers into formulas as needed. In previous exams, a Hardy-Weinberg question might have required that you take the square root of 16 to find the value of q. Of course, you did that in your head. Now, you might actually have to use a calculator to find the value of q when q^2 is 23. No big deal!

GRADES ON THE EXAM 考试的评分等级

Advanced placement and/or college credit is awarded by the college or university you will attend. Different institutions observe different guidelines about awarding AP credit. Success on the AP exam may allow you to take a more advanced course and bypass an introductory course, or it might qualify you for 8 credits of advanced standing and tuition credit. The best source of specific up-to-date information about an institution's policy is its catalog or web site.

Exams are graded on a scale from 1 to 5, with 5 being the best. The total raw score on the exam is translated to the AP's 5-point scale.

AP Grade	Qualification
5	Extremely Well Qualified
4	Well Qualified
3	Qualified
2	Possibly Qualified
1	No Recommendation

Here are the grade distributions for all the students who recently sat for the exam. These numbers tend to be consistent from year to year.

Exam Grade	Student Scoring that Grade
5	19.5%
4	15.5%
3	15.8%
2	15.1%
1	34%

TIPS FOR TAKING SECTION I 对于第一部分的提示

Section I consists of 63 multiple-choice questions and 6 grid-in questions. It takes 90 minutes.

Be Neat 使卷面整洁

Improperly erased pencil marks can cause the machine to misgrade your paper. On the other hand, you may write or draw anywhere in the question booklet.

Pace Yourself 安排好时间

Bring a watch and budget your time.

Answer Every Question 做完每一道题

There is no penalty for incorrect answers or for leaving an answer blank. So always guess—even if you don't know the answer.

Read Carefully 仔细读题

Questions with EXCEPT or NOT often trip up students.

TIPS FOR TAKING SECTION II 对于第二部分的提示

Section II consists of 8 questions. Questions 1 and 2 are long free-response questions that should take about 20 minutes each to answer. Questions 3–8 are short free-response questions that should take about 6 minutes to answer.

Just as an Olympic athlete must anticipate what the judges want to see, you must be prepared to give the exam readers what they want to read. If you can do that on the AP Exam, you will get a high score.

Here are things the readers **do not** particularly care about:

Spelling
Penmanship (unless they cannot read the paper)
Grammar
Wrong information—**You do not get points off for incorrect statements.**