

Genetics Study Guide

Study guide for the text Genetic Analysis: an Integrated Approach by Mark F. Sanders and John L. Bowman.

High-quality illustrations with stepped-out art to help readers visualize complex processes. * Human genetics and the role of the geneticist highlighted throughout. * Two new features in each chapter: introductory "Key Questions" and closing "Basic Exercises."

The basic principles of genetics. Reference for any student studying genetics.

This clear, concise look at the basic principles and concepts of genetics uses a human genetics perspective to discuss the methods and experiments upon which genetic principles are based, such as DNA replication.

The cover shows many facets of genetics. Top row, Left: The DNA double-helix, here imaged in a scanning tunneling micrograph, is central to all genetics research. Right: Experimentation has shown that some social behaviors, such as nest cleaning by honeybees, is under genetic control. Second row, Left: Inherited disorders such as albinism, manifested here in a bullfrog, have provided many insights about the genetic control of metabolism. Right: Gregor Mendel's 19th-century work with pea plants elucidated the basic principles of inheritance. Third row, Left: Efforts to combat HIV, the virus that causes AIDS, depend on knowing how the virus expresses its genes inside the cells of the immune system. Right: The fruit fly is ideally suited for studies on the genetic control of embryonic development and organ formation. Fourth row, Left: The identification of mutations that cause unregulated cell division facilitates the diagnosis, treatment, and prevention of breast cancer. Right: HeLa cells, derived in 1951 from Henrietta Lacks, a woman who died of cervical cancer, thrive in the laboratory and are used in research worldwide. Bottom row: The replication of chromosomes (left) is a prerequisite for cell division (right).

Chapter summaries, learning objectives, and key terms along with multiple choice, fill-in-the-blank, true/false, discussion, and case study questions help students with retention and better test results. Prepared by Nancy Shontz of Grand Valley State University. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This valuable manual provides a detailed, step-by-step solution or extended discussion for every problem in the text in a chapter-by-chapter format. The handbook also contains extra study problems and a thorough review of the concepts and vocabulary.

Answers to all Hartwell problems (odd and even-numbered) are provided in the printed Solutions Manual/Study Guide (ISBN 0-07-299587-4). The answers provided in the back of the book are brief answers to the odd-numbered questions. The answers in the printed Solutions Manual are more detailed and include answers to the even and odd-numbered questions.

Genetics: Analysis and Principles is a one-semester, introductory genetics textbook that takes an experimental approach to understanding genetics. By weaving one or two experiments into the narrative of each chapter, students can simultaneously explore the scientific method and understand the genetic principles that have been learned from these experiments. Rob Brooker, author of market leading texts in Genetics and Intro Biology for majors, brings his clear and accessible writing style to this latest edition.

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