

# DNA Structure and Gene Function



**Lots of DNA.** Genetic material bursts from this bacterium, illustrating just how much DNA is packed into a single cell.

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## Learn How to Learn

### Explain It, Right or Wrong

As you work through any multiple choice question, such as those at the end of each chapter or on an exam, make sure you can explain why each correct choice is right. You can also test your understanding by taking the time to explain why each of the other choices is wrong.

## LEARNING OUTLINE

- 7.1** DNA Is a Double Helix
- 7.2** DNA Stores Genetic Information: An Overview
- 7.3** Transcription Uses a DNA Template to Build RNA
- 7.4** Translation Builds the Protein
- 7.5** Cells Regulate Gene Expression
- 7.6** Mutations Change DNA
- 7.7** Viruses Are Genes Wrapped in a Protein Coat
- 7.8** Viruses Infect All Cell Types
- 7.9** Drugs and Vaccines Help Fight Viral Infections
- 7.10** Viroids and Prions Are Other Noncellular Infectious Agents

## APPLICATIONS

**Why We Care 7.1** *Poisons That Block Protein Production*

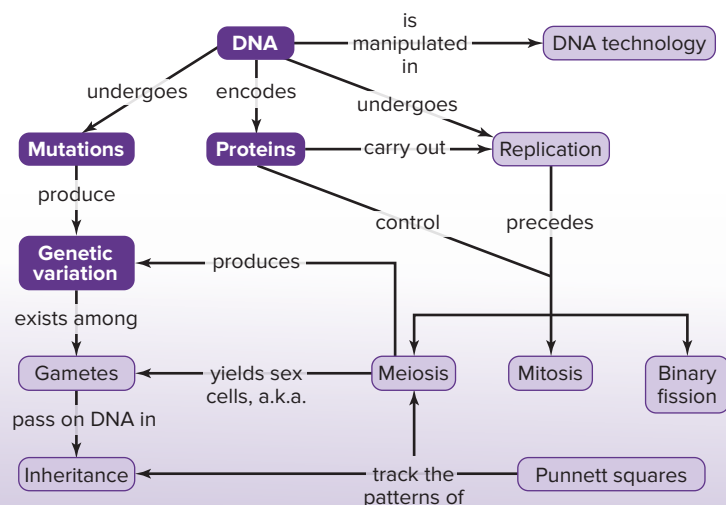
**Burning Question 7.1** *Is there a gay gene?*

**Burning Question 7.2** *Why do we get sick when the weather turns cold?*

**Investigating Life 7.1** *Clues to the Origin of Language*



## SURVEY THE LANDSCAPE DNA, Inheritance, and Biotechnology



DNA is an information storage molecule; its main function is to carry the “recipes” for the proteins that do the cell’s work. A cell will also express mutated DNA or genetic material received from viruses, producing a variety of proteins.

For more details, study the Pull It Together feature in the chapter summary.