

Lesson Plan 11.1

DNA: The Molecule of Heredity



KEY: *SE* = Student Edition, *TWE* = Teacher Wraparound Edition, *TCR* = Teacher Classroom Resources, *NGS* = National Geographic Society videodisc, *BDOL* = Biology: The Dynamics of Life

pp. 286–293

2 class session(s)

Section Objectives

- **Analyze** the structure of DNA.
- **Determine** how the structure of DNA enables it to reproduce itself accurately.

National Science Content Standards

UCP.1–3, UCP.5; A.1, A.2; B.2, B.3; C.2, C.5; G.1–3

Georgia QCC

1.1, 2.1, 6.1, 6.4, 8.1, 8.2, 9.3

Focus

- _____ Section Focus Transparency 26 and Master Getting Started Demo, *TWE* p. 286
- _____ Bellringer, *TWE* p. 287

Teach

- _____ Problem-Solving Lab 11-1, *SE* p. 289
- _____ Inside Story, *SE* p. 292
- _____ Quick Demo, *TWE* pp. 288, 291
- _____ Portfolio, *TWE* p. 289
- _____ Cultural Diversity, *TWE* p. 290
- _____ Biology Journal, *TWE* p. 291
- _____ *Laboratory Manual*, pp. 75–78 *TCR*
- _____ *Concept Mapping*, p. 11 *TCR*
- _____ Basic Concept Transparency 16 and Master
- _____ *Spanish Resources*

Assess/Reteach

- _____ Section Assessment, *SE* p. 293
- _____ Check for Understanding, *TWE* p. 293
- _____ Reteach, *TWE* p. 293
- _____ *Content Mastery*, pp. 53–54, 56 *TCR*
- _____ *Reinforcement and Study Guide*, p. 47 *TCR*

Enrichment/Application

- _____ Enrichment, *TWE* pp. 288, 290
- _____ Project, *TWE* pp. 288, 292
- _____ Extension, *TWE* p. 293

Close

- _____ Discussion, *TWE* p. 293

Chapter Assessment

- _____ Assessment, *TWE* pp. 289, 291, 293
- _____ *Performance Assessment in the Biology Classroom*, *TCR*
- _____ *Alternate Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **BDOL CD-ROM** Section 11.1 Summary; Animation: *DNA Replication*
- _____ **MindJogger Videoquizzes**, Ch. 11 videotape
- _____ **Videotape:** *The Secret of Life: Sex and the Single Gene*
- _____ **ExamView®Pro Software**, Ch. 11
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ **BDOL Videodisc:** *DNA Replication*
- _____ **Videodisc:** *The Secret of Life: Sex and the Single Gene*, DNA: Structure and Function
- _____ Glencoe Science Web Site:
ga.science.glencoe.com



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pp. 294–301

2 class session(s)

Section Objectives

- Relate the concept of the gene to the sequences of nucleotides in DNA.
- Sequence the steps involved in protein synthesis.

National Science Content Standards

UCP.1–3, UCP.5; A.1, A.2; B.2, B.3; C.1, C.2

Georgia QCC

1.1, 1.2, 4.3, 4.4, 6.1, 6.4, 8.2, 12.1

Focus

- _____ Section Focus Transparency 27 and Master Bellringer, *TWE* p. 284

Teach

- _____ Problem-Solving Lab 11-2, *SE* p. 297
- _____ MiniLab 11-1, *SE* p. 299
- _____ Investigate BioLab, *SE* p. 308
- _____ Alternative Lab, *TWE* p. 294
- _____ Quick Demo, *TWE* p. 295
- _____ Biology Journal, *TWE* p. 299
- _____ Portfolio, *TWE* p. 300
- _____ Basic Concepts Transparencies 17, 18 and Masters
- _____ *BioLab and MiniLab Worksheets*, pp. 49–50 *TCR*
- _____ *Spanish Resources*

Assess/Reteach

- _____ Section Assessment, *SE* p. 301
- _____ Check for Understanding, *TWE* p. 300
- _____ Reinforcement, *TWE* p. 298
- _____ Reteach, *TWE* p. 301
- _____ *Content Mastery*, pp. 53, 55–56 *TCR*
- _____ *Reinforcement and Study Guide*, pp. 48–49 *TCR*
- _____ Reteaching Skills Transparency 18 and Master

Enrichment/Application

- _____ Enrichment, *TWE* p. 296
- _____ Project, *TWE* p. 300
- _____ Extension, *TWE* p. 301
- _____ *Critical Thinking/Problem Solving*, p. 11 *TCR*

Close

- _____ Using a Table, *TWE* p. 301

Chapter Assessment

- _____ Assessment, *TWE* p. 297, 299, 300, 301
- _____ *Performance Assessment in the Biology Classroom*, *TCR*
- _____ *Alternate Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **BDOL CD-ROM** Section 11.2 Summary; Animation: *Transcription, Translation*; BioQuest: *Building a Protein*
- _____ **MindJogger Videoquizzes**, Ch. 11 videotape
- _____ **ExamView®Pro Software**, Ch. 11
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ **BDOL Videodisc:** *DNA Transcription, Translation*
- _____ Glencoe Science Web Site: ga.science.glencoe.com



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pp. 302–313

2 class session(s)

Section Objectives

- **Categorize** the different kinds of mutations that can occur in DNA.
- **Compare** the effects of different kinds of mutations on cells and organisms.

National Science Content Standards

UCP. 1–3; A.1, A.2; B.3; C.1, C.2; E.1, E.2; F.1, F.4, F.5; G.1, G.2

Georgia QCC

1.1, 1.2, 2.1, 3.2, 5.2, 6.1, 6.4, 8.1, 8.2, 11.2, 12.1, 12.3

Focus

_____ Section Focus Transparency 28 and Master
 _____ Bellringer, *TWE* p. 302

Teach

_____ Careers in Biology, <i>SE</i> p. 303	_____ Biology Journal, <i>TWE</i> p. 306
_____ Problem-Solving Lab 11-3, <i>SE</i> p. 305	_____ Portfolio, <i>TWE</i> p. 306
_____ MiniLab 11-2, <i>SE</i> p. 306	_____ <i>BioLab and MiniLab Worksheets</i> , pp. 53–56 <i>TCR</i>
_____ BioTechnology, <i>SE</i> p. 310	_____ <i>Laboratory Manual</i> , pp. 79–82 <i>TCR</i>
_____ Quick Demo, <i>TWE</i> p. 304	_____ <i>Spanish Resources</i>

Assess/Reteach

_____ Section Assessment, <i>SE</i> p. 307	_____ <i>Reinforcement and Study Guide</i> , p. 50 <i>TCR</i>
_____ Check for Understanding, <i>TWE</i> p. 307	_____ Reteaching Skills Transparencies 19a, 19b and Masters
_____ Reinforcement, <i>TWE</i> p. 304	_____ <i>Content Mastery</i> , pp. 53, 56 <i>TCR</i>
_____ Reteach, <i>TWE</i> p. 307	_____ <i>5 Days to the Georgia High School Graduation Test</i> , <i>TCR</i>

Enrichment/Application

_____ Enrichment, *TWE* p. 303
 _____ Tech Prep, *TWE* p. 303
 _____ Extension, *TWE* p. 307

Close

_____ Discussion, *TWE* p. 307

Chapter Assessment

_____ Chapter Assessment, <i>SE</i> pp. 311–313	_____ <i>Alternate Assessment in the Science Classroom</i> , <i>TCR</i>
_____ Assessment, <i>TWE</i> pp. 304, 305, 306, 307, 309	_____ BDOL Interactive CD-ROM , Chapter 11 quiz
_____ <i>Chapter Assessment</i> , pp. 61–66 <i>TCR</i>	
_____ <i>Performance Assessment in the Biology Classroom</i> , <i>TCR</i>	

Multimedia Options

_____ BDOL CD-ROM Section 11.3 Summary; Exploration: <i>Mutations</i>	_____ <i>Using the Internet in the Science Classroom</i> , <i>TCR</i>
_____ MindJogger Videoquizzes , Ch. 11 videotape	_____ Videodisc: <i>The Infinite Voyage: Unseen Worlds: The Scanning Tunneling Microscope</i>
_____ Videotape: <i>The Secret of Life: It's in the Genes</i>	_____ Glencoe Science Web Site: ga.science.glencoe.com
_____ ExamView®Pro Software , Ch. 11	