

# Lesson Plan 12.1

## Mendelian Inheritance of Human Traits



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

pp. 314–320

1 class session(s)

### Section Objectives

- Interpret a pedigree.
- Determine human genetic disorders that are caused by inheritance of recessive alleles.
- Predict how a human trait can be determined by a simple dominant allele.

### National Science Content Standards

UCP.2, UCP.3; A.1, A.2; C.2; F.1; G.1, G.2

### Georgia QCC

1.1, 2.1, 3.2, 10.1, 10.2

### Focus

- \_\_\_\_\_ Section Focus Transparency 29 and Master Getting Started Demo, *TWE* p. 314
- \_\_\_\_\_ Bellringer, *TWE* p. 315

### Teach

- \_\_\_\_\_ MiniLab 12-1, *SE* p. 316
- \_\_\_\_\_ Problem-Solving Lab 12-1, *SE* p. 317
- \_\_\_\_\_ Portfolio, *TWE* p. 316
- \_\_\_\_\_ Quick Demo, *TWE* p. 318
- \_\_\_\_\_ Biology Journal, *TWE* p. 319
- \_\_\_\_\_ *BioLab and MiniLab Worksheets*, p. 57 *TCR*
- \_\_\_\_\_ *Spanish Resources*

### Assess/Reteach

- \_\_\_\_\_ Section Assessment, *SE* p. 320
- \_\_\_\_\_ Check for Understanding, *TWE* p. 320
- \_\_\_\_\_ Reteach, *TWE* p. 320
- \_\_\_\_\_ *Content Mastery*, pp. 57–58, 60 *TCR*
- \_\_\_\_\_ Reteaching Skills Transparency 20 and Master *Reinforcement and Study Guide*, p. 51 *TCR*

### Enrichment/Application

- \_\_\_\_\_ Tech Prep, *TWE* p. 317
- \_\_\_\_\_ Extension, *TWE* p. 320
- \_\_\_\_\_ *Critical Thinking/Problem Solving*, p. 12 *TCR*
- \_\_\_\_\_ *Tech Prep Applications*, pp. 19–20 *TCR*

### Close

- \_\_\_\_\_ Discussion, *TWE* p. 320

### Chapter Assessment

- \_\_\_\_\_ Assessment, *TWE* pp. 316, 317, 318, 320
- \_\_\_\_\_ *Alternate Assessment in the Science Classroom*, *TCR*
- \_\_\_\_\_ *Performance Assessment in the Biology Classroom*, *TCR*

### Multimedia Options

- \_\_\_\_\_ **BDOL CD-ROM** Section 12.1 Summary; Exploration: *Trait Inheritance*
- \_\_\_\_\_ **MindJogger Videoquizzes**, Ch. 12 videotape
- \_\_\_\_\_ **Videotape:** *The Secret of Life: Tinkering with our Genes*
- \_\_\_\_\_ **ExamView®Pro Software**, Ch. 12
- \_\_\_\_\_ **Videodisc:** *The Secret of Life: Pedigree/Family-PKU, Tinkering with our Genes; The Infinite Voyage: A Taste of Health, The Geometry of Life*
- \_\_\_\_\_ *Using the Internet in the Science Classroom*, *TCR*
- \_\_\_\_\_ Glencoe Science Web Site: [ga.science.glencoe.com](http://ga.science.glencoe.com)

# Lesson Plan 12.2

## When Heredity Follows Different Rules



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pp. 321–328

3 class session(s)

### Section Objectives

- **Distinguish** between incompletely dominant and codominant alleles.
- **Compare** multiple allelic and polygenic inheritance.
- **Analyze** the pattern of sex-linked inheritance.
- **Summarize** how internal and external environments affect gene expression.

### National Science Content Standards

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

### Georgia QCC

1.1, 10.1, 11.1

### Focus

\_\_\_\_\_ Section Focus Transparency 30 and Master  
\_\_\_\_\_ Bellringer, *TWE* p. 321

### Teach

\_\_\_\_\_ Problem-Solving Lab 12-2, *SE* p. 324  
\_\_\_\_\_ Design Your Own BioLab, *SE* p. 336  
\_\_\_\_\_ Biology Journal, *TWE* p. 321  
\_\_\_\_\_ Portfolio, *TWE* pp. 321, 325  
\_\_\_\_\_ Alternative Lab 12.1, *TWE* p. 322  
\_\_\_\_\_ Quick Demo, *TWE* p. 323  
\_\_\_\_\_ *Concept Mapping*, p. 12 *TCR*  
\_\_\_\_\_ *Laboratory Manual*, pp. 83–86 *TCR*  
\_\_\_\_\_ *Spanish Resources*

### Assess/Reteach

\_\_\_\_\_ Section Assessment, *SE* p. 328  
\_\_\_\_\_ Reinforcement, *TWE* p. 325  
\_\_\_\_\_ Check for Understanding, *TWE* p. 327  
\_\_\_\_\_ Reteach, *TWE* p. 327  
\_\_\_\_\_ *Content Mastery*, pp. 57, 59–60 *TCR*  
\_\_\_\_\_ Reteaching Skills Transparency 21 and Master  
\_\_\_\_\_ *Reinforcement and Study Guide*, pp. 52–53 *TCR*

### Enrichment/Application

\_\_\_\_\_ Project, *TWE* p. 327  
\_\_\_\_\_ Extension, *TWE* p. 328

### Close

\_\_\_\_\_ Activity, *TWE* p. 328

### Chapter Assessment

\_\_\_\_\_ Assessment, *TWE* pp. 323, 324, 328  
\_\_\_\_\_ *Alternate Assessment in the Science Classroom*, *TCR*  
\_\_\_\_\_ *Performance Assessment in the Biology Classroom*, *TCR*

### Multimedia Options

\_\_\_\_\_ **BDOL CD-ROM** Section 12.2 Summary;  
Video: *Fruit Fly Genetics*  
\_\_\_\_\_ **MindJogger Videoquizzes**, Ch. 12 videotape  
\_\_\_\_\_ **Videotape:** *The Secret of Life: Sex and the  
Single Gene*  
\_\_\_\_\_ **ExamView®Pro Software**, Ch. 12  
\_\_\_\_\_ **Videodisc:** *The Secret of Life: Incomplete  
Dominance, Sex and the Single Gene*  
\_\_\_\_\_ *Using the Internet in the Science Classroom*, *TCR*  
\_\_\_\_\_ Glencoe Science Web Site:  
[ga.science.glencoe.com](http://ga.science.glencoe.com)

# Lesson Plan 12.3

## Complex Inheritance of Human Traits



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pp. 329–341

2 class session(s)

### Section Objectives

- Compare codominance, multiple allelic, sex-linked, and polygenic patterns of inheritance in humans.
- Distinguish among conditions in which extra autosomal or sex chromosomes exist.

### National Science Content Standards

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

### Georgia QCC

1.1, 1.2, 2.1, 3.2, 4.4, 10.1, 10.2, 11.1, 11.2

### Focus

- \_\_\_\_\_ Section Focus Transparency 31 and Master
- \_\_\_\_\_ Bellringer *TWE* p. 329

### Teach

- \_\_\_\_\_ Inside Story, *SE* p. 331
- \_\_\_\_\_ Problem-Solving Lab 12-3, *SE* p. 332
- \_\_\_\_\_ MiniLab 12-2, *SE* p. 333
- \_\_\_\_\_ Social Studies Connection, *SE* p. 338
- \_\_\_\_\_ Cultural Diversity, *TWE* p. 329
- \_\_\_\_\_ Portfolio, *TWE* p. 330
- \_\_\_\_\_ Biology Journal, *TWE* p. 331
- \_\_\_\_\_ Alternative Lab 12.2, *TWE* p. 332
- \_\_\_\_\_ Quick Demo, *TWE* p. 334
- \_\_\_\_\_ *BioLab and MiniLab Worksheets*, pp. 58–60 *TCR*
- \_\_\_\_\_ *Laboratory Manual*, pp. 87–90 *TCR*
- \_\_\_\_\_ *Spanish Resources*

### Assess/Reteach

- \_\_\_\_\_ Section Assessment, *SE* p. 335
- \_\_\_\_\_ Check for Understanding, *TWE* p. 335
- \_\_\_\_\_ Reteach, *TWE* p. 335
- \_\_\_\_\_ *Content Mastery*, pp. 57, 60 *TCR*
- \_\_\_\_\_ *Reinforcement and Study Guide*, p. 54 *TCR*
- \_\_\_\_\_ *5 Days to the Georgia High School Graduation Test*, *TCR*

### Enrichment/Application

- \_\_\_\_\_ Extension, *TWE* p. 335

### Close

- \_\_\_\_\_ Discussion, *TWE* p. 335

### Chapter Assessment

- \_\_\_\_\_ Chapter Assessment, *SE* pp. 339–341
- \_\_\_\_\_ Assessment, *TWE* pp. 330, 332, 333, 334, 337
- \_\_\_\_\_ **BDOL Interactive CD-ROM**, Chapter 12 quiz
- \_\_\_\_\_ *Chapter Assessment*, pp. 67–72 *TCR*
- \_\_\_\_\_ *Alternate Assessment in the Science Classroom*, *TCR*
- \_\_\_\_\_ *Performance Assessment in the Biology Classroom*, *TCR*

### Multimedia Options

- \_\_\_\_\_ **BDOL CD-ROM** Section 12.3 Summary; Exploration: *Blood Types*; Animation: *Sex-Linked Traits*
- \_\_\_\_\_ **MindJogger Videoquizzes**, Ch. 12 videotape
- \_\_\_\_\_ **Videotape:** *The Secret of Life: It's in the Genes*
- \_\_\_\_\_ **ExamView®Pro Software**, Ch. 12
- \_\_\_\_\_ **BDOL Videodisc:** *Sex-Linked Traits*
- \_\_\_\_\_ **Videodisc:** *The Secret of Life: Blood Types*
- \_\_\_\_\_ *Using the Internet in the Science Classroom*, *TCR*
- \_\_\_\_\_ Glencoe Science Web Site:  
[ga.science.glencoe.com](http://ga.science.glencoe.com)