

Patterns of Heredity and Human Genetics

Chapter Pacing Guide

Please note that this pace is based on completing selected sections of the text in 90 classes, approximately 90 minutes each. Less time can be allotted for each chapter if you plan to teach the entire text.

Block	Content
0.5	12.1 Mendelian Inheritance of Human Traits
2.5	12.2 When Heredity Follows Different Rules
1	12.3 Complex Inheritance of Human Traits
0.5	Chapter Assessment

Block Schedule Planning Guide

12.1

Mendelian Inheritance of Human Traits

pages 309–314

National Science Content Standards: UCP.1–3, UCP.5; A.1, A.2; C.2; F.1, F.5; G.1–3

Pacing Guide

1/2 block

Lesson & MiniLab

KEY: SE = Student Edition, TWE = Teacher Wraparound Edition, TCR = Teacher Classroom Resources, BDOL = Biology: The Dynamics of Life, URB = Unit Resources Booklet

Objectives

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

State/local objectives: _____

Lesson Resources

- _____ Section Focus Transparency 29 and Master, TCR/URB
- _____ MiniLab Worksheet, p. 82 URB
- _____ Reinforcement and Study Guide, URB English, p. 89; Spanish, p. 93
- _____ Reteaching Skills Transparency 20 and Master, TCR/URB

- _____ MindJogger Videoquizzes, Ch.12
- _____ Guided Reading Audio Summaries MP3
- _____ Using the Internet in the Science Classroom, TCR
- _____ Glencoe Science Web site: bdol.glencoe.com

Optional Resources

- _____ Critical Thinking/Problem Solving, p. 12 URB
- _____ Real World BioApplications, pp. 87–88 URB

Multimedia Resources

- _____ Interactive Chalkboard CD-ROM: Section 12.1 Presentation

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Distribute the corrected Chapter 11 tests while students complete the Bellringer for Section 12.1. 	Section Focus Transparency 29 and Master, TCR/URB	5 minutes
Discussion <ul style="list-style-type: none"> • Answer Chapter 11 test questions. 	Chapter Assessment, pp. 175–176 URB	5 minutes
Core Lesson <ul style="list-style-type: none"> • Introduce Chapter 12 with the Two-Minute Chapter Launcher. • Teach the main concepts of Section 12.1. • Do the Quick Demo. 	TWE, p. 308 TWE, pp. 309–314 TWE, p. 312	10–15 minutes
In-Class Check <ul style="list-style-type: none"> • Have students complete MiniLab 12.1 and discuss their results. • Do the Check for Understanding and Reteach strategies. • Use the Reteaching Skills Transparency. 	SE and TWE, p. 310 TWE, p. 314 Reteaching Skills Transparency 20 and Master, TCR/URB	10–15 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 12.1 Assessment. • Assign relevant questions from Chapter 12 Assessment. 	SE, p. 314 SE, pp. 333–335	5 minutes
Closing <ul style="list-style-type: none"> • Assess students with the Chalkboard example. 	TWE, p. 313	5 minutes

[total = 45 minutes]

Block Schedule Planning Guide

12.2

When Heredity Follows Different Rules

pages 315–322

National Science Content Standards: UCP.1–3, UCP.5; A.1, A.2; C.2; F.1, F.5; G.3

Pacing Guide

2 1/2 blocks

Lesson & BioLab

KEY: SE = Student Edition, TWE = Teacher Wraparound Edition, TCR = Teacher Classroom Resources, BDOL = Biology: The Dynamics of Life, URB = Unit Resources Booklet

Objectives

- **Distinguish** between alleles for incomplete dominance and codominance.
- **Explain** the patterns of multiple allelic and polygenic inheritance.
- **Analyze** the pattern of sex-linked inheritance.
- **Summarize** how internal and external environments affect gene expression.

State/local objectives: _____

Lesson Resources

- _____ Section Focus Transparency 30 and Master, *TCR/URB*
- _____ *Concept Mapping*, p. 97 *URB*
- _____ *Reinforcement and Study Guide*, *URB* English, pp. 90–91; Spanish, pp. 94–95
- _____ Reteaching Skills Transparency 21 and Master, *TCR/URB*

- _____ *MindJogger Videoquizzes*, Ch. 12
- _____ *Guided Reading Audio Summaries MP3*
- _____ *Virtual CD-ROM*
- _____ *Virtual Lab: Sex-Linked Traits*
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Glencoe Science Web site: bdol.glencoe.com

Multimedia Resources

- _____ **Interactive Chalkboard CD-ROM:** Section 12.2 Presentation

Optional Resources

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Have students complete the Bellringer for Section 12.2. • Have students check homework answers. 	Section Focus Transparency 30 and Master, <i>TCR/URB</i> <i>TWE</i> , pp. 314, 333–335	10 minutes
Discussion <ul style="list-style-type: none"> • Answer homework questions. 	<i>TWE</i> , pp. 314, 333–335	5 minutes
Core Lesson <ul style="list-style-type: none"> • Introduce Section 12.2 with the Discussion. • Teach the main concepts of Section 12.2. • Divide students into small groups, and have each group complete Problem-Solving Lab 12.2. • Discuss students' answers to the Thinking Critically questions. 	<i>TWE</i> , p. 316 <i>TWE</i> , pp. 315–322 <i>SE</i> , p. 318 <i>TWE</i> , p. 318	80 minutes
In-Class Check <ul style="list-style-type: none"> • Have students read the BioLab, plan their experiments, and begin their procedures. (Note: this lab will take about 3 weeks to complete.) • Review the main concepts of Section 12.2 with the Reteaching Skills Transparency. 	<i>SE</i> , pp. 330–331 Reteaching Skills Transparency 21 and Master	85 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 12.2 Assessment. • Assign relevant questions from Chapter 12 Assessment. 	<i>SE</i> , p. 322 <i>SE</i> , pp. 333–335	30 minutes
Closing <ul style="list-style-type: none"> • Assess students with the Reinforcement activity. 	<i>TWE</i> , p. 319	15 minutes

[total = 225 minutes]

Block Schedule Planning Guide 12.3

Complex Inheritance of Human Traits

pages 323–329

National Science Content Standards: UCP.1–3, UCP.5; A.1, A.2; C.2; F.1, F.5; G.3

Pacing Guide

1 block

Lesson & MiniLab

KEY: *SE* = Student Edition, *TWE* = Teacher Wraparound Edition, *TCR* = Teacher Classroom Resources, *BDOL* = Biology: The Dynamics of Life, *URB* = Unit Resources Booklet

Objectives

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

State/local objectives: _____

Lesson Resources

_____ Section Focus Transparency 31 and Master, *TCR/URB*
 _____ *Reinforcement and Study Guide, URB*
 English, p. 92; Spanish, p. 96

_____ **Guided Reading Audio Summaries MP3**
 _____ *Using the Internet in the Science Classroom, TCR*
 _____ Glencoe Science Web site: bdol.glencoe.com

Multimedia Resources

_____ **Interactive Chalkboard CD-ROM:**
 Section 12.3 Presentation
 _____ **MindJogger Videoquizzes**, Ch. 12

Optional Resources

_____ *Laboratory Manual*, pp. 71–74 *TCR*

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Have students complete the Bellringer for Section 12.3. • Have students check homework answers. 	Section Focus Transparency 31 and Master, <i>TCR/URB</i> <i>TWE</i> , pp. 322, 333–335	5 minutes
Discussion <ul style="list-style-type: none"> • Answer homework questions. 	<i>TWE</i> , pp. 322, 333–335	5 minutes
Core Lesson <ul style="list-style-type: none"> • Introduce Section 12.3 with the Microscope Activity. • Teach the main concepts of Section 12.3. • Have students read the Inside Story, then discuss the Critical Thinking question. • Do the Quick Demo 	<i>TWE</i> , p. 324 <i>TWE</i> , pp. 323–329 <i>SE</i> and <i>TWE</i> , p. 325 <i>TWE</i> , p. 328	35 minutes
In-Class Check <ul style="list-style-type: none"> • Have students complete MiniLab 12.2 and assess their results. • Have students complete the Portfolio Assessment. • Do the Check for Understanding and Reteach strategies. • Answer questions on Chapter 12 in preparation for the test. 	<i>SE</i> and <i>TWE</i> , p. 327 <i>TWE</i> , p. 324 <i>TWE</i> , p. 329 <i>TWE</i> , pp. 309–335	25 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 12.3 Assessment. • Assign relevant questions from Chapter 12 Assessment. 	<i>SE</i> , p. 329 <i>SE</i> , pp. 333–335	10 minutes
Closing <ul style="list-style-type: none"> • Assess students with the Modified Assessment activity. 	<i>TWE</i> , p. 329	10 minutes

[total = 90 minutes]

Pacing Guide

1/2 block

Review/Assessment

KEY: *SE* = Student Edition,
TWE = Teacher Wraparound
Edition, *TCR* = Teacher Classroom
Resources, *BDOL* = Biology: The
Dynamics of Life, *URB* = Unit
Resources Booklet

Assessment Resources

- _____ *Chapter Assessment*, Ch. 12 *URB*
- _____ *Performance Assessment in the Biology Classroom*, *TCR*
- _____ *Alternate Assessment in the Science Classroom*, *TCR*

Multimedia Resources

- _____ *MindJogger Videoquizzes*, Ch. 12
- _____ *ExamView® Pro Testmaker CD-ROM*, Ch. 12
- _____ **Interactive Chalkboard CD-ROM:**
Ch. 12 Assessment

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Have students check homework answers. 	<i>TWE</i> , p. 329 <i>TWE</i> , pp. 333–335	5 minutes
Reviewing the Chapter <ul style="list-style-type: none"> • Answer homework questions. • Answer any final questions about Chapter 12. 	<i>TWE</i> , pp. 309–335	5 minutes
Assessment <ul style="list-style-type: none"> • Distribute the test and allow students to work quietly. 	<i>Chapter Assessment</i> , pp. 107–112 <i>URB</i>	30–35 minutes
Closing <ul style="list-style-type: none"> • As students complete the test, let them explore the Internet connection for Chapter 13. 	bdol.glencoe.com	0–5 minutes

[total = 45 minutes]

Pacing Guide

1 block

BioDigest

KEY: *SE* = Student Edition, *TWE* = Teacher Wraparound Edition, *TCR* = Teacher Classroom Resources, *BDOL* = Biology: The Dynamics of Life, *URB* = Unit Resources Booklet

National Science Content Standards: UCP.2, UCP.5; A.2; C.1, C.2, C.5; G.1–3

Lesson Resources

_____ *Reinforcement and Study Guide, URB*
English, pp. 151–152; Spanish, pp. 153–154

Multimedia Resources

_____ *Using the Internet in the Science Classroom, TCR*
_____ Glencoe Science Web site: bdol.glencoe.com

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> Have students complete the Focus Bellringer activity. 	<i>TWE</i> , p. 360	5 minutes
Discussion <ul style="list-style-type: none"> If the BioDigest is being used as an introduction for Unit 4 or in place of Unit 4, return Chapter 9 tests and answer any test questions. 	<i>Chapter Assessment</i> , p. 190 <i>URB</i>	5 minutes
Core Lesson <ul style="list-style-type: none"> Introduce BioDigest 4 with the Quick Demo. Teach the main concepts of BioDigest 4. Use the Discussion questions. Do the Quick Demo. 	<i>TWE</i> , p. 362 <i>TWE</i> , pp. 360–363 <i>TWE</i> , pp. 361–362 <i>TWE</i> , p. 362	35 minutes
In-Class Check <ul style="list-style-type: none"> Do the Check for Understanding and Reteach strategies. 	<i>TWE</i> , p. 363	25 minutes
Homework <ul style="list-style-type: none"> Assign the Portfolio: Punnett Squares. Assign the Assessment. 	<i>TWE</i> , p. 363 <i>SE</i> , p. 363	10 minutes
Closing <ul style="list-style-type: none"> Assess students with the Inquiry activity. 	<i>TWE</i> , p. 361	10 minutes

[total = 90 minutes]