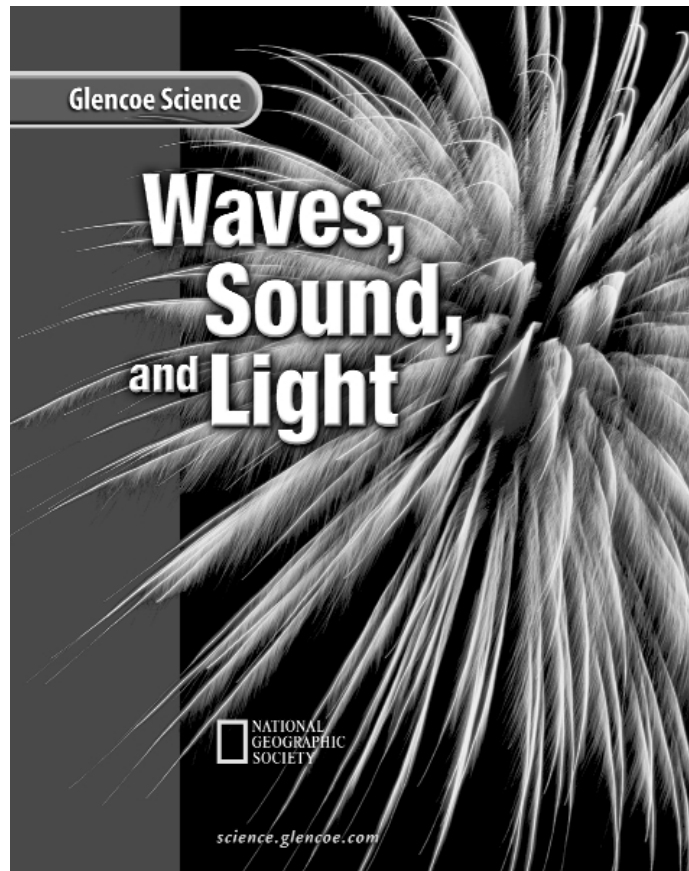


Lesson Plans



**Mc
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McGraw-Hill**

New York, New York Columbus, Ohio Woodland Hills, California Peoria, Illinois

Glencoe Science

Student Edition

Teacher Wraparound Edition

Interactive Teacher Edition CD-ROM

Interactive Lesson Planner CD-ROM

Lesson Plans

Content Outline for Teaching

Directed Reading for Content Mastery

Foldables: Reading and Study Skills

Assessment

Chapter Review

Chapter Tests

ExamView Pro Test Bank Software

Assessment Transparencies

Performance Assessment in the Science

Classroom

The Princeton Review Standardized Test

Practice Booklet

Directed Reading for Content Mastery in Spanish

Spanish Resources

Guided Reading Audio Program

Reinforcement

Enrichment

Activity Worksheets

Section Focus Transparencies

Teaching Transparencies

Laboratory Activities

Science Inquiry Labs

Critical Thinking/Problem Solving

Reading and Writing Skill Activities

Cultural Diversity

Laboratory Management and Safety in the Science

Classroom

MindJogger Videoquizzes and Teacher Guide

Interactive Explorations and Quizzes CD-ROM

Vocabulary Puzzlemaker Software

Cooperative Learning in the Science Classroom

Environmental Issues in the Science Classroom

Home and Community Involvement

Using the Internet in the Science Classroom

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To the Teacher

Lesson planning guides are provided for each section of the chapter. Within the Lesson Plans you will see Student Edition features that may have an accompanying worksheet found in the Chapter Resources Booklet (CRB). These worksheets are shown in parentheses after the feature. For example:

_____ Before You Read, p. 37 (Foldables, p. 17, **CRB**)

The Foldables worksheet can be used with the Before You Read feature in the Student Edition.

Each Lesson Plan is divided into several parts:

- **Schedule** lists the recommended number of class sessions to be devoted to each section of the chapter. Both traditional and block scheduling recommendations are given.
- **Objectives** provides the section objectives. Here you will also find the correlations to National Science Standards for the section.
- **Motivate** lists various resources to introduce the chapter or section to the students.
- **Teach** lists Student Edition and Teacher Edition features that are used as you teach the material. You'll also find worksheet pages and other resources such as transparencies or Professional Series Books that are appropriate to use with the section.
- **Assess** provides references to the section assessment in the Student Edition as well as useful pages from the *Performance Assessment in the Science Classroom*.
- **Reteach/Reinforce** is where you will find worksheets that provide students with additional reinforcement of the chapter content.
- **Enrich/Apply** provides opportunities to challenge students with materials that go beyond the chapter content.
- **Chapter Assessment** lists Student Edition, worksheet, and transparency resources that assess students' knowledge of the chapter material.
- **Multimedia Options** pulls together the many multimedia materials that can be used as reinforcement, review, extension, and assessment with your students.

Correlation to National Science Education Standards

Objectives	Book, Chapter, and Section
(UCP) Unifying Concepts and Processes	
1. Systems, order, and organization	K2-1, K4-1, M4-1, M4-2, M4-3
2. Evidence, models, and explanation	K1-1, K1-2, K1-3, K4-2, L1-1, L1-2, L3-1, L3-2, L3-3, N1-1, N1-2, N1-3, N2-1, N2-2, O1-3, O2-1, O2-2, O3-1, O3-2, O3-3
3. Change, constancy, and measurement	K2-2, K2-3, K3-1, K3-2, K4-3, L2-1, L2-2, L3-1, L3-2, L3-3, L4-1, L4-2, L4-3, M1-1, M1-2, M1-3, M2-1, M2-2, M2-3, M3-1, M3-2, M3-3, M4-1, M4-2, M4-3, M5-1, M5-2, M6-1, M6-2, M6-3, O1-2
4. Evolution and equilibrium	L3-1, L3-2, L3-3, M4-1, M4-2, M4-3
5. Form and function	M5-3, N3-1, N3-2, O1-1
(A) Science as Inquiry	
1. Abilities necessary to do scientific inquiry	K1-1, K1-2, K1-3, K2-2, K2-3, K3-1, K3-2, K4-1, K4-3, L1-1, L1-2, L2-1, L2-2, L4-1, L4-2, L4-3, M1-1, M1-2, M1-3, M2-1, M2-3, M3-1, M3-2, M3-3, M4-1, M4-3, M5-2, M5-3, M6-2, M6-3, N1-2, N1-3, N2-1, N2-2, N3-1, N3-2, O1-1, O1-2, O1-3, O2-1, O2-2, O3-1, O3-2, O3-3
2. Understandings about scientific inquiry	K4-1, M2-1, M2-2, M2-3, N3-1, N3-2
(B) Physical Science	
1. Properties and changes of properties in matter	K1-1, K1-2, K1-3, K2-1, K2-2, K2-3, K3-1, K3-2, K4-1, K4-2, K4-3, L1-1, L1-2, L2-1, L2-2, L3-1, L3-2, L3-3, L4-1, L4-2, L4-3, M5-1, M5-2, M5-3, M6-1, M6-2, M6-3, N2-1, N2-2, O1-1, O1-2, O1-3
2. Motion and forces	M1-1, M1-2, M1-3, M2-1, M2-2, M2-3, M3-1, M3-2, M3-3, M4-1, M4-2, M4-3, N2-1, N2-2, O1-1, O1-2, O1-3, O2-1
3. Transfer of energy	K2-2, L2-1, L2-2, M4-1, M4-2, M4-3, M6-1, M6-2, M6-3, N1-1, N1-2, N1-3, N2-2, N3-1, N3-2, O1-1, O1-2, O1-3, O2-1, O2-2, O3-1, O3-2, O3-3
(C) Life Science	
1. Structure and function in living systems	L4-1, L4-2, L4-3, N1-1, O2-2
(D) Earth and Space Science	
1. Structure of the Earth system	K1-3, K2-3, L3-2, M3-2, M3-3, N1-1, N3-1, N3-2
2. Earth's history	N2-2
3. Earth in the solar system	O2-1, O3-2
(E) Science and Technology	
1. Abilities of technological design	K1-1, M1-3, M2-1, M2-2, M2-3, M4-2, M4-3, M6-3
2. Understandings about science and technology	L4-1, L4-2, L4-3, M2-3, M3-2, M3-3, M4-2, M4-3, M6-2, M6-3, N1-2, N1-3, N2-1
(F) Science in Personal and Social Perspectives	
1. Personal Health	L3-2, L4-1, L4-2, L4-3, M4-3, N1-3, O1-2, O2-2
2. Populations, resources, and environments	M5-3
3. Natural hazards	M3-3, N1-1, O1-2, O2-2
4. Risks and benefits	L3-3, L4-3, M1-3, M2-3, M5-3, M6-3
5. Science and technology in society	K1-1, K3-2, K4-2, L2-2, L3-2, L3-3, L4-1, L4-2, L4-3, M2-3, M3-3, M5-2, M6-3, N1-3, N2-2, N3-1, N3-2, O2-1, O2-2, O3-2, O3-3

Correlation to National Science Education Standards (continued)

Objectives	Book, Chapter, and Section
(G) History and Nature of Science	
1. Science as a human endeavor	K1-1, K1-2, K1-3, K4-1, K4-3, L1-2, L3-3, L4-3, M1-3, M3-3, N1-3, N2-2, N3-1, N3-2
2. Nature of science	K1-1, K1-3, K2-3, K3-2, K4-1, L1-2, L4-3, M1-3, M3-3, N3-1, N3-2, O1-3
3. History of science	K1-1, K1-3, L2-2, L4-3, M1-3, M3-2, M3-3, N1-3, N3-1, N3-2, O3-3

CHAPTER
1

**Lesson
Plans**

Section 1 ■ What are waves?

Schedule

Block Schedule: 2 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 4 sessions

Objectives

1. **Explain** the relationship among waves, energy, and matter.
2. **Describe** the difference between transverse waves and compressional waves.

National Content Standards

UCP5, A1, B1, B3

Motivate

- _____ Explore Activity, p. 7
- _____ Before You Read, p. 7 (Foldables, p. 15, **CRB**)
- _____ Section Focus Transparency 1, **TCR** (Transparency Master and Study Guide, p. 42, **CRB**)

Teach

- _____ Content Background, pp. 6E–6F, **TWE**
- _____ Discussion, p. 9, **TWE**
- _____ Visual Learning, p. 9, **TWE**
- _____ Identifying Misconceptions, p. 9, **TWE**
- _____ Make a Model, p. 9, **TWE**
- _____ Activity, p. 10, **TWE**
- _____ Quick Demo, p. 10, **TWE**
- _____ Use an Analogy, p. 10, **TWE**
- _____ Inclusion Strategies, p. 11, **TWE**
- _____ Physics Integration, p. 12
- _____ Content Outline for Teaching, Section 1 (Note-taking Worksheet, pp. 31–32, **CRB**)
- _____ Science Inquiry Lab, p. 31, **TCR**
- _____ Teaching Transparency, **TCR** (Transparency Master and Study Guide, pp. 45–46, **CRB**)
- _____ Spanish Resources, Section 1, **CRB**

Assess

- _____ Section Assessment, p. 12
- _____ Skill Builder Activities, p. 12
- _____ Performance Assessment in the Science Classroom, pp. 89, 127, 197, **TCR**

Reteach/Reinforce

- _____ Directed Reading for Content Mastery, pp. 17, 18, **CRB**
- _____ Spanish Directed Reading for Content Mastery, pp. 21, 22, **CRB**
- _____ Reinforcement, p. 25, **CRB**

Enrich/Apply

- _____ Enrichment, p. 28, **CRB**

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 1
- _____ Guided Reading Audio Program (English & Spanish), Ch. 1
- _____ Interactive CD-ROM, Presentation Builder, Ch. 1
- _____ Using the Internet in the Science Classroom, **TCR**
- _____ Science Web site: science.glencoe.com

Section 2 ■ Wave Properties

Schedule

Block Schedule: 2 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 4 sessions

Objectives

3. **Describe** the relationship between the frequency and wavelength of a wave.
4. **Explain** why waves travel at different speeds.

National Content Standards

UCP3, A1, B3

Motivate

- Section Focus Transparency 2, **TCR** (Transparency Master and Study Guide, p. 43 **CRB**)

Teach

- _____ Visual Learning, p. 14, **TWE**
- _____ Activity, pp. 14, 16, **TWE**
- _____ Extension, pp. 14, 15, **TWE**
- _____ Discussion, p. 15, **TWE**
- _____ Use Science Words, p. 15, **TWE**
- _____ Curriculum Connection, p. 15, **TWE**
- _____ Health Integration, p. 16
- _____ Quick Demo, p. 16, **TWE**
- _____ Science Journal, p. 16, **TWE**
- _____ Science Online, p. 17
- Activity: Waves on a Spring, p. 18 (Activity Worksheet, pp. 5–6, **CRB**)
- _____ Content Outline for Teaching, Section 2 (Note-taking Worksheet, pp. 31–32, **CRB**)
- _____ Laboratory Activity 1, pp. 9–11, **CRB**
- _____ Home and Community Involvement, p. 42, **TCR**
- _____ Spanish Resources, Section 2, **CRB**

Assess

- Section Assessment, p. 17
- _____ Skill Builder Activities, p. 17
- _____ Performance Assessment in the Science Classroom, pp. 89, 127, **TCR**

Reteach/Reinforce

- Directed Reading for Content Mastery, p. 19, **CRB**
- _____ Spanish Directed Reading for Content Mastery, p. 23, **CRB**
- Reinforcement, p. 26, **CRB**
- _____ Reading and Writing Skill Activities, p. 33, **TCR**

Enrich/Apply

- _____ Enrichment, p. 29, **CRB**
- _____ Earth Science Critical Thinking/Problem-Solving, p. 5, **TCR**
- _____ Cultural Diversity, p. 61, **TCR**

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 1
- _____ Guided Reading Audio Program (English & Spanish), Ch. 1
- _____ Using the Internet in the Science Classroom, **TCR**
- _____ Science Web site: science.glencoe.com

CHAPTER
1

**Lesson
Plans**

Section 3 ■ Wave Behavior

Schedule

Block Schedule: 2.5 sessions (■ denotes activities recommended for block schedule.)
Single Periods: 5 sessions

Objectives

5. **Explain** how waves can reflect from some surfaces.
6. **Explain** how waves change direction when they move from one material into another.
7. **Describe** how waves are able to bend around barriers.

National Content Standards

UCP2, A1, B1, B3

Motivate

- ___ Section Focus Transparency 3, **TCR** (Transparency Master and Study Guide, p. 44, **CRB**)

Teach

- | | |
|---|---|
| ___ MiniLAB: Observing How Light Refracts, p. 20 (MiniLAB Worksheet, p. 4, CRB) | ■ ___ Activity: Wave Sound, pp. 26–27 (Activity Worksheet, pp. 7–8, CRB) |
| ___ Visual Learning, pp. 21, 24, TWE | ___ Science Stats, pp. 28–29 |
| ___ Discussion, pp. 22, 23, 28, TWE | ___ Content Outline for Teaching, Section 3 (Note-taking Worksheet, pp. 31–32, CRB) |
| ___ Activity, pp. 22, 24, TWE | ___ Laboratory Activity 2, pp. 13–14, CRB |
| ___ Science Online, p. 23 | ___ Spanish Resources, Section 3, CRB |
| ___ Problem-Solving Activity, p. 23 | |

Assess

- ___ Section Assessment, p. 25
- ___ Skill Builder Activities, p. 25
- ___ Performance Assessment in the Science Classroom, pp. 89, 127, **TCR**

Reteach/Reinforce

- ___ Directed Reading for Content Mastery, pp. 19, 20, **CRB**
- ___ Spanish Directed Reading for Content Mastery, pp. 23, 24, **CRB**
- ___ Reinforcement, p. 27, **CRB**
- ___ Mathematics Skill Activities, p. 47, **TCR**

Enrich/Apply

- ___ Enrichment, p. 30, **CRB**

Chapter Assessment

- | | |
|---|---|
| ■ ___ Chapter Study Guide, pp. 30–31 | ■ ___ Assessment Transparency, TCR , (Transparency Master and Study Guide, p. 47, CRB) |
| ■ ___ Chapter Review, pp. 35–36, CRB | ___ Standardized Test Practice by The Princeton Review, pp. 7–10, TCR |
| ■ ___ Chapter Assessment, pp. 32–33 | |
| ■ ___ Chapter Test, pp. 37–40, CRB | |

Multimedia Options

- ___ Vocabulary Puzzlemaker Software, Ch. 1
- ___ Guided Reading Audio Program (English & Spanish), Ch. 1
- ___ MindJogger Videoquiz, Ch. 1
- ___ ExamView Pro Test Bank Software, Ch. 1
- ___ Interactive CD-ROM, Exploration and Quiz, Ch. 1
- ___ Using the Internet in the Science Classroom, **TCR**
- ___ Science Web site: science.glencoe.com

TWE = Teacher Wraparound Edition,
CRB = Chapter Resources Booklet, TCR = Teacher Classroom Resources

Section 1 ■ What is sound?**Schedule**

Block Schedule: 1.5 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 3 sessions

Objectives

1. **Identify** the characteristics of sound waves.
2. **Explain** how sound travels.
3. **Describe** the Doppler effect.

National Content Standards

UCP2, A1, B3, D3, F5

Motivate

- _____ Explore Activity, p. 35
- _____ Before You Read, p. 35 (Foldables, p. 15, **CRB**)
- _____ Section Focus Transparency 1, **TCR** (Transparency Master and Study Guide, p. 40, **CRB**)

Teach

- _____ Content Background, pp. 34E–34F, **TWE**
- _____ Discussion, pp. 37, 40, 41, 44, **TWE**
- _____ MiniLAB: Comparing and Contrasting Sounds, p. 38 (MiniLAB Worksheet, p. 3, **CRB**)
- _____ Visual Learning, pp. 39, 40, 43, **TWE**
- _____ Science Online, p. 41
- _____ Astronomy Integration, p. 42
- _____ Problem-Solving Activity, p. 42
- _____ Activity: Observe and Measure Reflection of Sound, p. 46 (Activity Worksheet, pp. 5–6, **CRB**)
- _____ Content Outline for Teaching, Section 1 (Note-taking Worksheet, pp. 29–30, **CRB**)
- _____ Science Inquiry Lab, p. 27, **TCR**
- _____ Laboratory Activity 1, pp. 9–10, **CRB**
- _____ Home and Community Involvement, p. 27, **TCR**
- _____ Spanish Resources, Section 1, **CRB**

Assess

- _____ Section Assessment, p. 45
- _____ Skill Builder Activities, p. 45
- _____ Performance Assessment in the Science Classroom, pp. 111, 127, 143, **TCR**

Reteach/Reinforce

- _____ Directed Reading for Content Mastery, pp. 17, 18, **CRB**
- _____ Spanish Directed Reading for Content Mastery, pp. 21, 22, **CRB**
- _____ Reinforcement, p. 25, **CRB**
- _____ Mathematics Skill Activities, p. 9, **TCR**
- _____ Reading and Writing Skill Activities, p. 7, **TCR**

Enrich/Apply

- _____ Enrichment, p. 27, **CRB**
- _____ Physical Science Critical Thinking/Problem-Solving, p. 21, **TCR**

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 2
- _____ Guided Reading Audio Program (English & Spanish), Ch. 2
- _____ Interactive CD-ROM, Presentation Builder, Ch. 2
- _____ Science Web site: science.glencoe.com

CHAPTER
2

**Lesson
Plans**

Section 2 ■ Music

Schedule

Block Schedule: 2 sessions (■ denotes activities recommended for block schedule.)
Single Periods: 4 sessions

Objectives

4. **Explain** the difference between music and noise.
5. **Describe** how different instruments produce music.
6. **Explain** how you hear.

National Content Standards

UCP2, A1, B3, C1, F1, F5

Motivate

- Section Focus Transparency 2, **TCR** (Transparency Master and Study Guide, p. 41, **CRB**)

Teach

- | | |
|---|--|
| _____ Environmental Science Integration, p. 48 | ■ Activity: Music, pp. 56–57 |
| _____ Discussion, p. 48, TWE | (Activity Worksheet, pp. 7–8, CRB) |
| _____ Visual Learning, pp. 48, 49, 50, 51, 54, TWE | _____ Science and Society, pp. 58–59 |
| _____ Quick Demo, pp. 48, 49, 52, 54, TWE | _____ Content Outline for Teaching, Section 2 |
| _____ Inclusion Strategies, pp. 48, 53, TWE | (Note-taking Worksheet, pp. 29–30, CRB) |
| _____ Activity, pp. 49, 52, TWE | ■ Teaching Transparency, TCR (Transparency |
| _____ MiniLAB: Modeling a Stringed Instrument, | Master and Study Guide, pp. 43–44, CRB) |
| p. 50 (MiniLAB Worksheet, p. 4, CRB) | _____ Laboratory Activity 2, pp. 11–14, CRB |
| _____ Science Online, pp. 53, 59 | _____ Spanish Resources, Section 2, CRB |

Assess

- Section Assessment, p. 55
- _____ Skill Builder Activities, p. 55
- _____ Performance Assessment in the Science Classroom, pp. 97, 123, 159, **TCR**

Reteach/Reinforce

- Directed Reading for Content Mastery, pp. 19, 20, **CRB**
- _____ Spanish Directed Reading for Content Mastery, pp. 23, 24, **CRB**
- Reinforcement, p. 26, **CRB**

Enrich/Apply

- _____ Enrichment, p. 28, **CRB**
- _____ Cultural Diversity, p. 61, **TCR**

Chapter Assessment

- | | |
|---|---|
| ■ Chapter Study Guide, pp. 60–61 | ■ Assessment Transparency, TCR , (Transparency |
| ■ Chapter Review, pp. 33–34, CRB | Master and Study Guide, p. 45, CRB) |
| ■ Chapter Assessment, pp. 62–63 | _____ Standardized Test Practice by The Princeton |
| ■ Chapter Test, pp. 35–38, CRB | Review, pp. 11–14, TCR |

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 2
- _____ Guided Reading Audio Program (English & Spanish), Ch. 2
- _____ MindJogger Videoquiz, Ch. 2
- _____ ExamView Pro Test Bank Software, Ch. 2
- _____ Interactive CD-ROM, Exploration and Quiz, Ch. 2
- _____ Science Web site: science.glencoe.com

TWE = Teacher Wraparound Edition,
CRB = Chapter Resources Booklet, TCR = Teacher Classroom Resources

CHAPTER
3

Lesson
Plans

Section 1 ■ The Nature of Electromagnetic Waves

Schedule

Block Schedule: 1.5 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 3 sessions

Objectives

1. **Explain** how electromagnetic waves are produced.
2. **Describe** the properties of electromagnetic waves.

National Content Standards

UCP2, A1, B3

Motivate

_____ Explore Activity, p. 65

_____ Before You Read, p. 65 (Foldables, p. 15, **CRB**)

■_____ Section Focus Transparency 1, **TCR** (Transparency Master and Study Guide, p. 42, **CRB**)

Teach

_____ Content Background, pp. 64E–64F, **TWE**

_____ Science Online, p. 67

_____ Quick Demo, p. 67, **TWE**

_____ Science Journal, p. 67, **TWE**

_____ Lab Demonstration, p. 68, **TWE**

_____ Identifying Misconceptions, pp. 68, 70, **TWE**

_____ Make a Model, p. 68, **TWE**

_____ Visual Learning, p. 69, **TWE**

_____ Inclusion Strategies, p. 69, **TWE**

_____ MiniLAB: Observing Electric Fields, p. 69 (MiniLAB Worksheet, p. 3, **CRB**)

_____ Content Outline for Teaching, Section 1 (Note-taking Worksheet, pp. 31–33, **CRB**)

_____ Science Inquiry Lab, p. 21, **TCR**

_____ Spanish Resources, Section 1, **CRB**

Assess

■_____ Section Assessment, p. 70

_____ Skill Builder Activities, p. 70

_____ Performance Assessment in the Science Classroom, pp. 89, 159, **TCR**

Reteach/Reinforce

■_____ Directed Reading for Content Mastery, pp. 17, 18, **CRB**

_____ Spanish Directed Reading for Content Mastery, pp. 21, 22, **CRB**

■_____ Reinforcement, p. 25, **CRB**

Enrich/Apply

_____ Enrichment, p. 28, **CRB**

_____ Cultural Diversity, p. 61, **TCR**

Multimedia Options

_____ Vocabulary Puzzlemaker Software, Ch. 3

_____ Guided Reading Audio Program (English & Spanish), Ch. 3

_____ Interactive CD-ROM, Presentation Builder, Ch. 3

_____ Using the Internet in the Science Classroom, **TCR**

_____ Science Web site: science.glencoe.com

CHAPTER
3

Lesson
Plans

Section 2 ■ The Electromagnetic Spectrum

Schedule

Block Schedule: 1.5 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 3 sessions

Objectives

3. **Explain** differences among kinds of electromagnetic waves. **National Content Standards**
4. **Identify** uses for different kinds of electromagnetic waves. UCP2, A1, B3, D3, F5

Motivate

- Section Focus Transparency 2, **TCR** (Transparency Master and Study Guide, p. 43, **CRB**)

Teach

- _____ Visual Learning, pp. 72, 77, 78, **TWE**
_____ Use Science Words, pp. 72, 75, **TWE**
_____ Science Journal, pp. 72, 75, **TWE**
_____ Extension, pp. 72, 73, 75, 77, 78, **TWE**
_____ Teacher FYI, pp. 73, 74, 75, **TWE**
_____ MiniLAB: Observing the Focusing of Infrared Rays, p. 73 (MiniLAB Worksheet, p. 4, **CRB**)
_____ Activity, pp. 74, 78, **TWE**
_____ Inclusion Strategies, p. 74, **TWE**
_____ Identifying Misconceptions, pp. 74, 77, **TWE**
_____ Fun Fact, p. 74, **TWE**
_____ Curriculum Connection, p. 74, **TWE**
_____ Use an Analogy, p. 76, **TWE**
_____ Life Science Integration, p. 76
■ Activity: Prisms of Light, p. 80 (Activity Worksheet, pp. 5–6, **CRB**)
_____ Content Outline for Teaching, Section 2 (Note-taking Worksheet, pp. 31–33, **CRB**)
_____ Laboratory Activity 1, pp. 9–11, **CRB**
_____ Spanish Resources, Section 2, **CRB**

Assess

- Section Assessment, p. 79
_____ Skill Builder Activities, p. 79
_____ Performance Assessment in the Science Classroom, pp. 97, 127, 169, **TCR**

Reteach/Reinforce

- Directed Reading for Content Mastery, p. 18, **CRB**
_____ Spanish Directed Reading for Content Mastery, p. 22, **CRB**
■ Reinforcement, p. 26, **CRB**
_____ Reading and Writing Skill Activities, p. 25, **TCR**

Enrich/Apply

- _____ Enrichment, p. 29, **CRB**
_____ Earth Science Critical Thinking/Problem-Solving, pp. 8, 13, **TCR**

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 3
_____ Guided Reading Audio Program (English & Spanish), Ch. 3
_____ Using the Internet in the Science Classroom, **TCR**
_____ Science Web site: science.glencoe.com

TWE = Teacher Wraparound Edition,
CRB = Chapter Resources Booklet, **TCR** = Teacher Classroom Resources

Section 3 ■ Using Electromagnetic Waves

Schedule

Block Schedule: 2 sessions (■ denotes activities recommended for block schedule.)
Single Periods: 4 sessions

Objectives

5. Explain different methods of electronic communication.
6. Compare and contrast AM and FM signals.

National Content Standards

UCP2, A1, B3, F5, G3

Motivate

- Section Focus Transparency 3, **TCR** (Transparency Master and Study Guide, p. 44, **CRB**)

Teach

- | | |
|--|--|
| _____ Astronomy Integration, p. 82 | _____ Science and History, pp. 88–89 |
| _____ Visual Learning, pp. 82, 85, TWE | _____ Content Outline for Teaching, Section 3
(Note-taking Worksheet, pp. 31–33, CRB) |
| _____ Science Journal, p. 82, TWE | ■ Teaching Transparency, TCR (Transparency
Master and Study Guide, pp. 45–46, CRB) |
| _____ Math Skills Activity, p. 83 | _____ Laboratory Activity 2, pp. 13–14, CRB |
| _____ Activity, p. 83, TWE | _____ Home and Community Involvement, p. 45, TCR |
| _____ Science Online, p. 84 | _____ Spanish Resources, Section 3, CRB |
| _____ Discussion, p. 84, TWE | |
| _____ Use Science Words, p. 84, TWE | |
| ■ Activity: Spectrum Inspection, pp. 86–87
(Activity Worksheet, pp. 7–8, CRB) | |

Assess

- Section Assessment, p. 85
- _____ Skill Builder Activities, p. 85
- _____ Performance Assessment in the Science Classroom, pp. 97, 159, **TCR**

Reteach/Reinforce

- Directed Reading for Content Mastery, pp. 19, 20, **CRB**
- _____ Spanish Directed Reading for Content Mastery, pp. 23, 24, **CRB**
- Reinforcement, p. 27, **CRB**
- _____ Mathematics Skill Activities, p. 9, **TCR**

Enrich/Apply

- _____ Enrichment, p. 30, **CRB**

Chapter Assessment

- | | |
|---|--|
| ■ Chapter Study Guide, pp. 90–91 | ■ Assessment Transparency, TCR , (Transparency
Master and Study Guide, p. 47, CRB) |
| ■ Chapter Review, pp. 35–36, CRB | _____ Standardized Test Practice by The Princeton
Review, pp. 15–18, TCR |
| ■ Chapter Assessment, pp. 92–93 | |
| ■ Chapter Test, pp. 37–40, CRB | |

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 3
- _____ Guided Reading Audio Program (English & Spanish), Ch. 3
- _____ MindJogger Videoquiz, Ch. 3
- _____ ExamView Pro Test Bank Software, Ch. 3
- _____ Interactive CD-ROM, Exploration and Quiz, Ch. 3
- _____ Science Web site: science.glencoe.com

CHAPTER
4

**Lesson
Plans**

Section 1 ■ Properties of Light

Schedule

Block Schedule: 2 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 4 sessions

Objectives

1. **Describe** the wave nature of light.
2. **Explain** how light interacts with materials.
3. **Determine** why objects appear to have color.

National Content Standards

UCP2, A1, B3

Motivate

- _____ Explore Activity, p. 95
- _____ Before You Read, p. 95 (Foldables, p. 17, **CRB**)
- _____ Section Focus Transparency 1, **TCR** (Transparency Master and Study Guide, p. 48, **CRB**)

Teach

- _____ Content Background, pp. 94E–94F, **TWE**
- _____ Identifying Misconceptions, p. 97, **TWE**
- _____ Teacher FYI, p. 97, **TWE**
- _____ MiniLAB: Observing Colors in the Dark, p. 97 (MiniLAB Worksheet, p. 3, **CRB**)
- _____ Use Science Words, p. 98, **TWE**
- _____ Make a Model, p. 98, **TWE**
- _____ Curriculum Connection, p. 98, **TWE**
- _____ Extension, pp. 98, 99, **TWE**
- _____ Visual Learning, p. 99, **TWE**
- _____ Quick Demo, p. 99, **TWE**
- _____ Content Outline for Teaching, Section 1 (Note-taking Worksheet, pp. 35–38, **CRB**)
- _____ Laboratory Activity 1, pp. 9–12, **CRB**
- _____ Laboratory Activity 2, pp. 13–16, **CRB**
- _____ Spanish Resources, Section 1, **CRB**

Assess

- _____ Section Assessment, p. 100
- _____ Skill Builder Activities, p. 100
- _____ Performance Assessment in the Science Classroom, pp. 89, 95, 127, **TCR**

Reteach/Reinforce

- _____ Directed Reading for Content Mastery, pp. 19, 20, **CRB**
- _____ Spanish Directed Reading for Content Mastery, pp. 23, 24, **CRB**
- _____ Reinforcement, p. 27, **CRB**

Enrich/Apply

- _____ Enrichment, p. 31, **CRB**
- _____ Life Science Critical Thinking/Problem-Solving, p. 8, **TCR**

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 4
- _____ Guided Reading Audio Program (English & Spanish), Ch. 4
- _____ Interactive CD-ROM, Presentation Builder, Ch. 4
- _____ Using the Internet in the Science Classroom, **TCR**
- _____ Science Web site: science.glencoe.com

TWE = Teacher Wraparound Edition,

CRB = Chapter Resources Booklet, **TCR** = Teacher Classroom Resources

CHAPTER
4

Lesson
Plans

Section 2 ■ Reflection and Mirrors

Schedule

Block Schedule: 2.5 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 5 sessions

Objectives

4. **Explain** how light is reflected from rough and smooth surfaces.
5. **Determine** how mirrors form an image.
6. **Describe** how concave and convex mirrors form an image.

National Content Standards

UCP2, A1, B3, E1

Motivate

- Section Focus Transparency 2, **TCR** (Transparency Master and Study Guide, p. 49, **CRB**)

Teach

- Visual Learning, pp. 102, 105, **TWE**
- Quick Demo, pp. 102, 103, 104, **TWE**
- Make a Model, p. 102, **TWE**
- Teacher FYI, p. 102, **TWE**
- Physics Integration, p. 103
- Activity, pp. 103, 105, **TWE**
- Inclusion Strategies, pp. 103, 104, **TWE**
- Curriculum Connection, p. 104, **TWE**
- Extension, pp. 104, 105, **TWE**
- Discussion, p. 106, **TWE**
- Activity: Reflections from a Plane Mirror, p. 107 (Activity Worksheet, pp. 5–6, **CRB**)
- Content Outline for Teaching, Section 2 (Note-taking Worksheet, pp. 35–38, **CRB**)
- Spanish Resources, Section 2, **CRB**

Assess

- Section Assessment, p. 106
- Skill Builder Activities, p. 106
- Performance Assessment in the Science Classroom, pp. 91, 97, **TCR**

Reteach/Reinforce

- Directed Reading for Content Mastery, p. 20, **CRB**
- Spanish Directed Reading for Content Mastery, p. 24, **CRB**
- Reinforcement, p. 28, **CRB**
- Mathematics Skill Activities, p. 47, **TCR**

Enrich/Apply

- Enrichment, p. 32, **CRB**

Multimedia Options

- Vocabulary Puzzlemaker Software, Ch. 4
- Guided Reading Audio Program (English & Spanish), Ch. 4
- Using the Internet in the Science Classroom, **TCR**
- Science Web site: science.glencoe.com

CHAPTER
4

**Lesson
Plans**

Section 3 ■ Refraction and Lenses

Schedule

Block Schedule: 1.5 sessions (■ denotes activities recommended for block schedule.)

Single Periods: 3 sessions

Objectives

7. **Determine** why light rays refract.

National Content Standards

8. **Explain** how convex and concave lenses form images.

UCP2, B3, E1, F1

Motivate

■ Section Focus Transparency 3, **TCR** (Transparency Master and Study Guide, p. 50, **CRB**)

Teach

Quick Demo, p. 109, **TWE**

Cultural Diversity, p. 109, **TWE**

Teacher FYI, pp. 109, 111, 112, **TWE**

Fun Fact, p. 109, **TWE**

Science Online, p. 110

Lab Demonstration, p. 110, **TWE**

Use Science Words, p. 110, **TWE**

Identifying Misconceptions, p. 110, **TWE**

Visual Learning, p. 111, **TWE**

Activity, p. 111, **TWE**

Science Journal, p. 111, **TWE**

Extension, p. 111, **TWE**

Content Outline for Teaching, Section 3 (Note-taking Worksheet, pp. 35–38, **CRB**)

Science Inquiry Lab, p. 59, **TCR**

■ Teaching Transparency, **TCR** (Transparency Master and Study Guide, pp. 53–54, **CRB**)

Home and Community Involvement, p. 31, **TCR**

Spanish Resources, Section 3, **CRB**

Assess

■ Section Assessment, p. 112

Skill Builder Activities, p. 112

Performance Assessment in the Science Classroom, p. 89, **TCR**

Reteach/Reinforce

■ Directed Reading for Content Mastery, p. 21, **CRB**

Spanish Directed Reading for Content Mastery, p. 25, **CRB**

■ Reinforcement, p. 29, **CRB**

Enrich/Apply

Enrichment, pp. 33, **CRB**

Multimedia Options

Vocabulary Puzzlemaker Software, Ch. 4

Guided Reading Audio Program (English & Spanish), Ch. 4

Interactive CD-ROM, Exploration, Ch. 4

Using the Internet in the Science Classroom, **TCR**

Science Web site: science.glencoe.com

CHAPTER
4

**Lesson
Plans**

Section 4 ■ Using Mirrors and Lenses

Schedule

Block Schedule: 3 sessions (■ denotes activities recommended for block schedule.)
Single Periods: 6 sessions

Objectives

- 9. **Explain** how microscopes magnify objects.
- 10. **Explain** how telescopes make distant objects visible.
- 11. **Describe** how a camera works.

National Content Standards

UCP2, A1, B3, E1, E2, F1, G1, G3

Motivate

- Section Focus Transparency 4, **TCR** (Transparency Master and Study Guide, p. 51, **CRB**)

Teach

- _____ Visual Learning, pp. 114, 115, **TWE**
- _____ MiniLAB: Forming an Image with a Lens, p. 114 (MiniLAB Worksheet, p. 4, **CRB**)
- _____ Discussion, p. 115, **TWE**
- _____ Science Journal, p. 115, **TWE**
- _____ Make a Model, p. 115, **TWE**
- _____ Science Online, p. 116
- _____ Problem-Solving Activity, p. 116
- _____ Quick Demo, p. 117, **TWE**
- _____ Inclusion Strategies, p. 118, **TWE**
- Activity: Image Formation by a Convex Lens, pp. 118–119 (Activity Worksheet, pp. 7–8, **CRB**)
- _____ Oops! Accidents in Science, pp. 120–121
- _____ Content Outline for Teaching, Section 4 (Note-taking Worksheet, pp. 35–38, **CRB**)
- _____ Spanish Resources, Section 4, **CRB**

Assess

- Section Assessment, p. 117
- _____ Skill Builder Activities, p. 117
- _____ Performance Assessment in the Science Classroom, pp. 89, 103, 127, **TCR**

Reteach/Reinforce

- Directed Reading for Content Mastery, pp. 21, 22, **CRB**
- _____ Spanish Directed Reading for Content Mastery, pp. 25, 26, **CRB**
- Reinforcement, p. 30, **CRB**

Enrich/Apply

- _____ Enrichment, p. 34, **CRB**
- _____ Cultural Diversity, pp. 51, 57, **TCR**

Chapter Assessment

- Chapter Study Guide, pp. 122–123
- Chapter Review, pp. 41–42, **CRB**
- Chapter Assessment, pp. 124–125
- Chapter Test, pp. 43–46, **CRB**
- Assessment Transparency, **TCR**, (Transparency Master and Study Guide, p. 55, **CRB**)
- _____ Standardized Test Practice by The Princeton Review, pp. 19–22, **TCR**

Multimedia Options

- _____ Vocabulary Puzzlemaker Software, Ch. 4
- _____ Guided Reading Audio Program (English & Spanish), Ch. 4
- _____ MindJogger Videoquiz, Ch. 4
- _____ ExamView Pro Test Bank Software, Ch. 4
- _____ Interactive CD-ROM, Quiz, Ch. 4
- _____ Using the Internet in the Science Classroom, **TCR**
- _____ Science Web site: science.glencoe.com