

9 Geometry: Investigating Patterns



Chapter Pacing Guide

Please note that this pacing guide is based upon completing the entire text in 165 classes, approximately 50 minutes each. More time can be allotted for this chapter if you do not plan to teach the entire text.

<i>Day (Standard)</i>	<i>Day (Honors)</i>	<i>Lesson</i>	<i>Title</i>
1	1	*Chapter Project	Theme: Art Geometric Art
2, 3, & 4	2 & 3	*9-1A	<small>HANDS-ON LAB</small> Cooperative Learning Measuring Angles
		9-1	Angles
5 & 6	4 & 5	*9-1B	<small>HANDS-ON LAB</small> Cooperative Learning Perpendicular and Parallel Lines
		*9-2A	<small>HANDS-ON LAB</small> Cooperative Learning Angles of a Polygon
		9-2	Polygons
7	6 & 7	*9-2B	<small>HANDS-ON LAB</small> Cooperative Learning Inscribed Polygons
		9-3	Integration: Algebra Similar Polygons
8 & 9	8	*9-3B	<small>HANDS-ON LAB</small> Cooperative Learning Dilations
		*9-4A	<small>HANDS-ON LAB</small> Cooperative Learning Investigating Triangles and Quadrilaterals
10	9	9-4	Triangles and Quadrilaterals
11	10	9-4B	<small>THINKING LAB</small> Problem Solving Use Logical Reasoning
12	11	9-5	Tessellations
13	12	9-6	Translations
14	13	9-7	Reflections
15	14	Review: Study Guide and Assessment	
		Assessment: Chapter Test	

*Optional

Chapter Resources

<p>Meeting Individual Needs <i>Investigations for the Special Education Student</i>, Hide and Seek, p. 29 <i>Spanish Study Guide and Assessment</i> <i>Study Guide and Practice Workbook</i></p>	<p>Technology <i>Electronic Teacher's Classroom</i> <i>Resources (ETCR)</i> www.glencoe.com/sec/math/mac/mathnet</p>
<p>Interactive Mathematics: Activities and Investigations Unit 4</p>	<p>Applications Family Letters and Activities, pp. 43-44 Spanish Family Letters and Activities, pp. 43-44</p>



Chapter Project (pp. 358-359)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

NCTM Standards:

- _____ Recognize and name various kinds of polygons based on the number of sides and the relationship of the sides and angles.
- _____ Measure the sides and angles of polygons and use logical reasoning to make predictions about how polygons can be combined in geometric patterns.
- _____ State/local objectives: _____

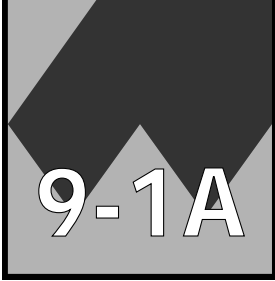
Theme: Art

- _____ Chapter Project, *SE*, p. 359
- _____ Chapter 9 Notes, *TWE*, p. 358
- _____ Question of the Day, *TWE*, p. 358
- _____ ⇔ *Investigations and Projects Masters*, pp. 49-52

Homework Assignments

- _____ p. 391, Working on the Chapter Project, Exercise 14
- _____ p. 394, Working on the Chapter Project, Exercise 12
- _____ p. 397, Working on the Chapter Project, Exercise 11
- _____ p. 401, Completing the Chapter Project, Alternative Assessment

KEY *SE* = Student Edition *TWE* = Teacher's Wraparound Edition ⇔ = Other Program Components



Lesson Planning Guide (pp. 360-361)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Measure angles by using a protractor.
- _____ State/local objectives: _____

NCTM Standards: 2, 4, 6, 8-10
South Carolina Math Curriculum Standards Grade 7: MEA II.B.1.

MANAGEMENT

- _____ Getting Started, *TWE*, p. 360
- _____ ⇨ *Hands-On Lab Masters*, p. 12: square dot paper
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-1A

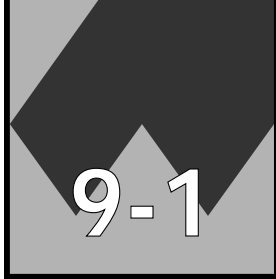
ASSESS

- _____ *TWE*, p. 361
- _____ ⇨ *Hands-On Lab Masters*, p. 56

Class Activity (pp. 360-361)
_____ All: 1-9
_____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 361

KEY	SE = Student Edition	TWE = Teacher's Wraparound Edition	⇨ = Other Program Components
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Lesson Planning Guide (pp. 362-365)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Classify angles.
- _____ State/local objectives: _____

NCTM Standards: 1-4, 6, 8, 10
South Carolina Math Curriculum Standards
Grade 7: MEA II.B.1.

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 362
- _____ ⇨ Transparency 9-1A
- _____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 362
- _____ Cross-Curriculum Cue, *TWE*, p. 362

2 TEACH

- _____ ⇨ Transparency 9-1B
- _____ In-Class Examples, *TWE*, pp. 363-364
- _____ Using the Mini-Lab, *TWE*, p. 363
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Mini-Lab for Lesson 9-1
- _____ Multiple Learning Styles, Logical, *TWE*, p. 363
- _____ ⇨ *Study Guide Masters*, p. 67
- _____ Reteaching the Lesson, *TWE*, p. 364
- _____ Error Analysis, *TWE*, p. 364
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-1, Interactive Lesson 9-1

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 364

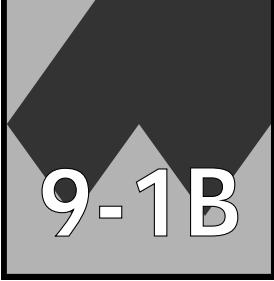
Homework Assignments (pp. 364-365)	
_____ Core: 11-25 odd, 26-29	_____ Enriched: 10-24 even, 25-29
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 592
- _____ ⇨ *Practice Masters*, p. 67
- _____ ⇨ *Science and Mathematics Lab Manual*, pp. 41-44
- _____ ⇨ *South Carolina Parent and Student Study Guide Workbook*, p. 75

4 ASSESS

- _____ Closing Activity, Speaking, *TWE*, p. 365
- _____ Extending the Lesson, *TWE*, p. 365
- _____ ⇨ *Enrichment Masters*, p. 67

KEY	<i>SE</i> = Student Edition	<i>TWE</i> = Teacher's Wraparound Edition	⇨ = Other Program Components
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Lesson Planning Guide (pp. 366-367)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Construct perpendicular and parallel lines.
- _____ State/local objectives: _____

NCTM Standards:
1, 4, 6, 8, 10

MANAGEMENT

- _____ Getting Started, *TWE*, p. 366
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*,
Lesson 9-1B

ASSESS

- _____ *TWE*, p. 367
- _____ ⇨ *Hands-On Lab Masters*, p. 57

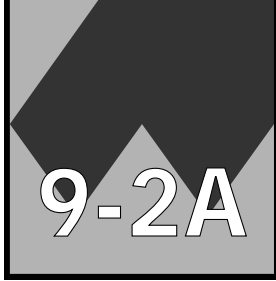
Class Activity (pp. 366-367)

_____ All: 1-3

_____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 367
- _____ School to Career, *SE*, p. 368

KEY SE = Student Edition TWE = Teacher's Wraparound Edition ⇨ = Other Program Components



Lesson Planning Guide (p. 369)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Find the sum of the angle measures of polygons.
- _____ State/local objectives: _____

NCTM Standards: 1-4, 6, 8, 10
South Carolina Math Curriculum Standards Grade 7: MEA II.B.1.

MANAGEMENT

- _____ Getting Started, *TWE*, p. 369
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-2A
- _____ ⇨ *Overhead Manipulative Resources*: protractor

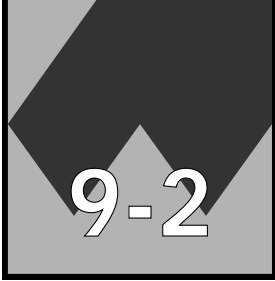
ASSESS

- _____ *TWE*, p. 369
- _____ ⇨ *Hands-On Lab Masters*, p. 58

Class Activity (p. 369)
_____ All: 1-8
_____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 369

KEY	SE = Student Edition	TWE = Teacher's Wraparound Edition	⇨ = Other Program Components
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Lesson Planning Guide (pp. 370-373)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Identify polygons and regular polygons.
- _____ State/local objectives: _____

NCTM Standards: 1-4, 6, 8-10
South Carolina Math Curriculum Standards Grade 7: GEO I.A.1., GEO I.C.1., GEO I.V.A.1.

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 370
- _____ ⇨ Transparency 9-2A
- _____ Motivating the Lesson, Communication, *TWE*, p. 370

2 TEACH

- _____ ⇨ Transparency 9-2B
- _____ Reading Mathematics, *TWE*, p. 371
- _____ In-Class Examples, *TWE*, p. 371
- _____ ⇨ *Study Guide Masters*, p. 68
- _____ Reteaching the Lesson, *TWE*, p. 371
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-2
- _____ ⇨ *Interactive Mathematics Tools Software*

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 372

Homework Assignments (pp. 372-373)

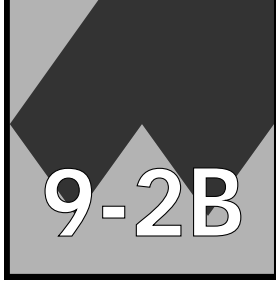
- _____ Core: 7-15 odd, 17-20 _____ Enriched: 8-12 even, 14-20
- _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 593
- _____ ⇨ *Practice Masters*, p. 68
- _____ ⇨ *Technology Masters*, Calculator Activity, p. 43
- _____ Family Activity, *SE*, p. 372
- _____ ⇨ *South Carolina Parent and Student Study Guide Workbook*, p. 76

4 ASSESS

- _____ Closing Activity, Writing, *TWE*, p. 373
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz A, p. 239
- _____ Extending the Lesson, *TWE*, p. 373
- _____ ⇨ *Enrichment Masters*, p. 68

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Lesson Planning Guide (pp. 374-375)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Inscribe triangles, squares, and hexagons in circles.
- _____ State/local objectives: _____

NCTM Standards: 3, 4, 6, 8, 10
South Carolina Math Curriculum Standards Grade 7: GEO I.A.1., GEO IV.A.1., MEA II.B.1.

MANAGEMENT

- _____ Getting Started, *TWE*, p. 374
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-2B
- _____ ⇨ *Overhead Manipulative Resources*: compass, ruler

ASSESS

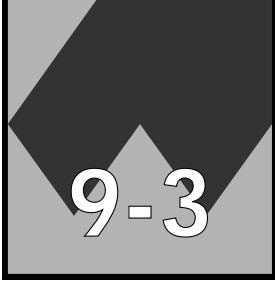
- _____ *TWE*, p. 375
- _____ ⇨ *Hands-On Lab Masters*, p. 59

Class Activity (p. 374-375)

- _____ All: 1-5
- _____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 375

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Lesson Planning Guide (pp. 376-379)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Determine whether polygons are similar and find a missing length in a pair of similar polygons.
- _____ State/local objectives: _____

NCTM Standards: 1-4, 6-8, 10
South Carolina Math Curriculum Standards Grade 7: GEO I.C.1., GEO IV.A.1., MEA II.B.1.

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 376
- _____ ⇨ Transparency 9-3A
- _____ Motivating the Lesson, Problem Solving, *TWE*, p. 377

2 TEACH

- _____ ⇨ Transparency 9-3B
- _____ Using the Mini-Lab, *TWE*, p. 377
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Mini-Lab for Lesson 9-3
- _____ In-Class Examples, *TWE*, p. 377
- _____ ⇨ *Study Guide Masters*, p. 69
- _____ Reteaching the Lesson, *TWE*, p. 378
- _____ Error Analysis, *TWE*, p. 378
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-3

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 378

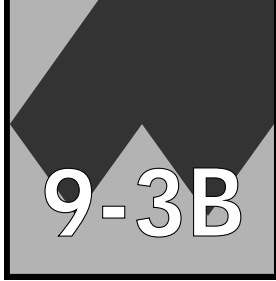
Homework Assignments (pp. 378-379)	
_____ Core: 9-17 odd, 18-20	_____ Enriched: 10-14 even, 16-20
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 593
- _____ ⇨ *Practice Masters*, p. 69
- _____ ⇨ *Technology Masters*, Graphing Calculator Activity, p. 44
- _____ ⇨ *South Carolina Parent and Student Study Guide Workbook*, p. 77

4 ASSESS

- _____ Closing Activity, Modeling, *TWE*, p. 379
- _____ Extending the Lesson, *TWE*, p. 379
- _____ ⇨ *Enrichment Masters*, p. 69
- _____ Mid-Chapter Self Test, *SE*, p. 379

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Lesson Planning Guide (p. 380)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Enlarge a figure on a coordinate plane.
- _____ State/local objectives: _____

NCTM Standards: 3, 4, 6, 8, 10
South Carolina Math Curriculum Standards Grade 7: GEO IV.A.1.

MANAGEMENT

- _____ Getting Started, *TWE*, p. 380
- _____ ⇨ *Hands-On Lab Masters*, p. 10: grid paper
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-3B
- _____ ⇨ *Overhead Manipulative Resources*: grid paper, straightedge

ASSESS

- _____ *TWE*, p. 380
- _____ ⇨ *Hands-On Lab Masters*, p. 60

Class Activity (p. 380)

- _____ All: 1-3
- _____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 380

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Lesson Planning Guide (p. 381)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Discover characteristics of various kinds of triangles and quadrilaterals.
- _____ State/local objectives: _____

NCTM Standards: 3, 4, 6, 8, 10
South Carolina Math Curriculum Standards Grade 7: MEA II.B.1.

MANAGEMENT

- _____ Getting Started, *TWE*, p. 381
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 9-4A
- _____ ⇨ *Overhead Manipulative Resources*: protractor

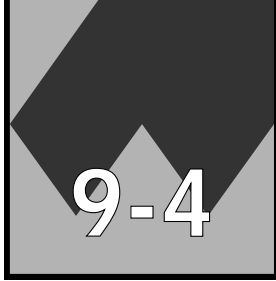
ASSESS

- _____ *TWE*, p. 381
- _____ ⇨ *Hands-On Lab Masters*, p. 61

Class Activity (p. 381)
_____ All: 1-3
_____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 381

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Lesson Planning Guide (pp. 382-385)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Classify triangles and quadrilaterals.
- _____ State/local objectives: _____

NCTM Standards: 1-4, 6-10
South Carolina Math Curriculum Standards Grade 7: GEO I.C.1., GEO IV.A.1.

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 382
- _____ ⇨ Transparency 9-4A
- _____ Motivating the Lesson, Communication, *TWE*, p. 382

2 TEACH

- _____ ⇨ Transparency 9-4B
- _____ Modeling Mathematics, *TWE*, p. 383
- _____ In-Class Examples, *TWE*, p. 383
- _____ ⇨ *Study Guide Masters*, p. 70
- _____ Reteaching the Lesson, *TWE*, p. 384
- _____ Error Analysis, *TWE*, p. 384
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-4

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 384

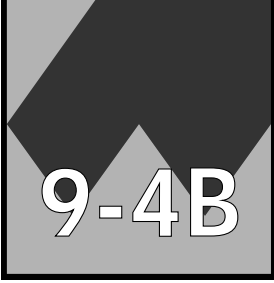
Homework Assignments (pp. 384-385)	
_____ Core: 9-19 odd, 21-24	_____ Enriched: 10-18 even, 19-24
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 593
- _____ ⇨ *Practice Masters*, p. 70
- _____ ⇨ *South Carolina Parent and Student Study Guide Workbook*, p. 78

4 ASSESS

- _____ Closing Activity, Speaking, *TWE*, p. 385
- _____ ⇨ *Assessment and Evaluation Masters*, Mid-Chapter Test, p. 238
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz B, p. 239
- _____ Extending the Lesson, *TWE*, p. 385
- _____ ⇨ *Enrichment Masters*, p. 70

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Lesson Planning Guide (pp. 386-387)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Solve problems by using logical reasoning.
- _____ State/local objectives: _____

NCTM Standards: 6-8
South Carolina Math Curriculum Standards Grade 7: GEO IV.A.1.

1 FOCUS

- _____ Getting Started, *TWE*, p. 386

2 TEACH

- _____ In-Class Examples, *TWE*, p. 386
- _____ Reteaching the Lesson, *TWE*, p. 386

3 PRACTICE/APPLY

- _____ Check for Understanding, *TWE*, p. 387

Homework Assignments (p. 387)

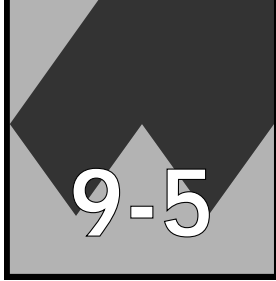
- _____ All: 5-13
- _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 594
- _____ Mixed Problem Solving, *SE*, p. 605-606

4 ASSESS

- _____ Closing Activity, Writing, *TWE*, p. 387
- _____ Extending the Lesson, *TWE*, p. 387

KEY	SE = Student Edition	TWE = Teacher's Wraparound Edition	↔ = Other Program Components
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Lesson Planning Guide (pp. 388-391)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Determine which regular figures can be used to form a tessellation.

_____ State/local objectives: _____

NCTM Standards: 2-4, 8-10
South Carolina Math Curriculum Standards
Grade 7: GEO I.A.1., GEO I.V.A.1., GEO I.V.E.1.

1 FOCUS

_____ 5-Minute Check, *TWE*, p. 388

_____ ⇨ Transparency 9-5A

_____ Multiple Learning Styles, Kinesthetic, *TWE*, p. 388

_____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 389

2 TEACH

_____ ⇨ Transparency 9-5B

_____ Using the Mini-Lab, *TWE*, p. 389

_____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Mini-Lab for Lesson 9-5

_____ In-Class Examples, *TWE*, p. 389

_____ ⇨ *Study Guide Masters*, p. 71

_____ Reteaching the Lesson, *TWE*, p. 390

_____ Error Analysis, *TWE*, p. 390

_____ ⇨ *CD-ROM Program*, Resource Lesson 9-5, Extended Activity 9-5

3 PRACTICE/APPLY

_____ Check for Understanding, *SE*, p. 390

Homework Assignments (pp. 390-391)

_____ Core: 7-13 odd, 15-17 _____ Enriched: 6-12 even, 13, 15-17

_____ Optional: 14 (Working on the Chapter Project)

_____ Alternate Assignment: _____

_____ Extra Practice, *SE*, p. 594

_____ ⇨ *Practice Masters*, p. 71

_____ ⇨ *Hands-On Lab Masters*, p. 80

_____ ⇨ *Classroom Games*, pp. 26-28

_____ ⇨ *South Carolina Parent and Student Study Guide Workbook*, p. 79

4 ASSESS

_____ Let the Games Begin, *SE*, p. 391

_____ Closing Activity, Speaking, *TWE*, p. 391

_____ Extending the Lesson, *TWE*, p. 391

_____ ⇨ *Enrichment Masters*, p. 71

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Review and Assessment (pp. 398-403)



Teacher's Name _____ Dates _____

Grade _____ Class _____

Review M Tu W Th F
Testing M Tu W Th F



- _____ Study Guide and Assessment, *SE*, pp. 398-401
- _____ Standardized Test Practice, *SE*, pp. 402-403
- _____ Chapter Test, *SE*, p. 615

⇨ **Assessment and Evaluation Masters (pp. 225-243)**

Multiple-Choice Tests

Free-Response Tests

- | | |
|---|---------------------------------------|
| _____ Form 1A, 1B, or 1C, pp. 225-230 | _____ Form 2A, 2B, or 2C, pp. 231-236 |
| _____ Standardized Test Practice, pp. 241-242 | _____ Performance Assessment, p. 237 |
| | _____ Cumulative Review, p. 243 |

- _____ ⇨ *MindJogger Videoquizzes*, Chapter 9
- _____ ⇨ *Test and Review Software*
- _____ ⇨ *CD-ROM Assessment Game*
- _____ ⇨ *State Test Preparation CD-ROM*
- _____ ⇨  *South Carolina Parent and Student Study Guide Workbook*, p. 82
- _____ ⇨  *South Carolina PACT Workbook and Test Preparation*, Grade 7

Interdisciplinary Investigation, SE, pp. 404-405

- _____ *Interdisciplinary Investigation*, TWE, pp. 404-405
- _____ ⇨ *Investigations and Projects Masters*, pp. 9-12

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