

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.

Day (Standard)	Day (Honors)	Lesson	Title
1	1	*Chapter Project	Theme: Art Geometric Art
2, 3, & 4	2 & 3	*9-1A	HANDS-ON LAB Cooperative Learning Measuring Angles
		9-1	Angles
5 & 6	4 & 5	*9-1B	HANDS-ON LAB Cooperative Learning Perpendicular and Parallel Lines
		*9-2A	HANDS-ON LAB Cooperative Learning Angles of a Polygon
7	6 & 7	9-2	Polygons
		*9-2B	HANDS-ON LAB Cooperative Learning Inscribed Polygons
8 & 9	8	9-3	Integration: Algebra Similar Polygons
		*9-3B	HANDS-ON LAB Cooperative Learning Dilations
10	9	*9-4A	HANDS-ON LAB Cooperative Learning Investigating Triangles and Quadrilaterals
		9-4	Triangles and Quadrilaterals
11	10	9-4B	THINKING LAB 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 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

- _____ 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.

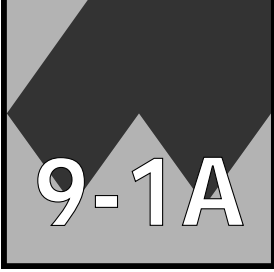
Theme: Art

- _____ 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.

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

The California Mathematics Academic Content Standards
Grade 6: Prerequisite Lesson
Grade 7: MR2.5, MR2.6 Basic Lesson

ASSESS

_____ *TWE*, p. 361

_____ ⇨ *Hands-On Lab Masters*, p. 56

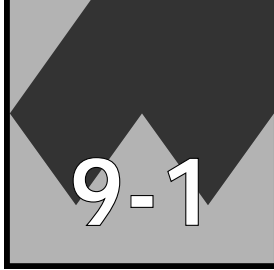
Class Activity (pp. 360-361)

_____ All: 1-9

_____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 361

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



Lesson Planning Guide (pp. 362-365)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Classify angles.

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: _____

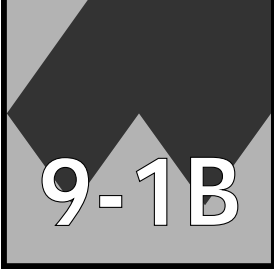
- _____ Extra Practice, *SE*, p. 592
- _____ ⇨ *Practice Masters*, p. 67
- _____ ⇨ *Science and Mathematics Lab Manual*, pp. 41-44

4 ASSESS

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

The California Mathematics Academic Content Standards	
Grade 6:	MG2.1, MG2.2
	🔑 Key Lesson
Grade 7:	MR2.3, MR2.5, MR2.6
Basic Lesson	

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



Lesson Planning Guide (pp. 366-367)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Construct perpendicular and parallel lines.

MANAGEMENT

_____ Getting Started, *TWE*, p. 366

_____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*,
Lesson 9-1B

The California Mathematics Academic Content Standards
Grade 6: Optional Lesson
Grade 7: MR2.5, MR2.6 Basic Lesson

ASSESS

_____ *TWE*, p. 367

_____ ⇨ *Hands-On Lab Masters*, p. 57

Class Activity (pp. 366-367)

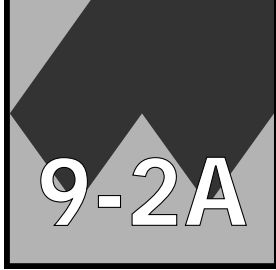
_____ All: 1-3

_____ 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.

MANAGEMENT

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

The California Mathematics Academic Content Standards
Grade 6: AF3.2, MG2.2 🔑 Key Lesson
Grade 7: MR2.5, MR2.6 Basic Lesson

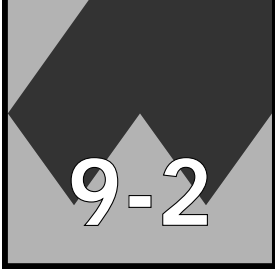
ASSESS

- _____ *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



Lesson Planning Guide (pp. 370-373)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Identify polygons and regular polygons.

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

The California Mathematics Academic Content Standards	
Grade 6:	AF3.2, MG2.2 Key Lesson
Grade 7:	MG3.4, MR2.3, MR2.5, MR2.6 Key Lesson

Homework Assignments (pp. 372-373)

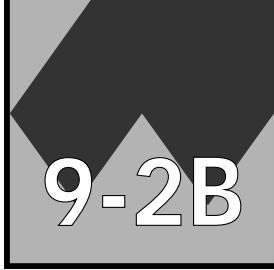
- _____ Core: 7-15 odd, 17-20 _____ Enriched: 8-12 even, 14-20
 _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 593
- _____ ⇨ *Practice Masters*, p. 68
- _____ ⇨ *Technology Masters*, Calculator Activity, p. 43
- _____ Family Activity, *SE*, p. 372

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

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



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.

**The California Mathematics
Academic Content Standards**

**Grade 6:
Optional Lesson**

**Grade 7: MR2.5, MR2.6
Basic Lesson**

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

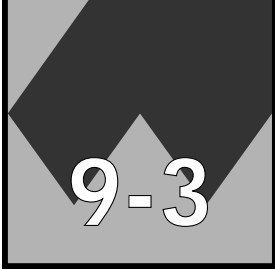
Class Activity (p. 374-375)

_____ All: 1-5

_____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 375

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



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.

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

The California Mathematics Academic Content Standards	
Grade 6:	AF3.2, MR2.5
Basic Lesson	
Grade 7:	MR2.3, MR2.5, MR2.6
Basic Lesson	

Homework Assignments (pp. 378-379)

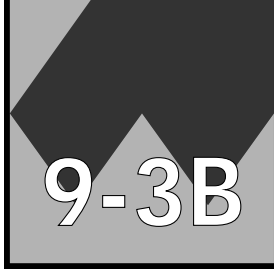
- _____ Core: 9-17 odd, 18-20 _____ Enriched: 10-14 even, 16-20
- _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 593
- _____ ⇨ *Practice Masters*, p. 69
- _____ ⇨ *Technology Masters*, Graphing Calculator Activity, p. 44

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

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



Lesson Planning Guide (p. 380)



Teacher's Name _____ Dates _____
Grade _____ Class _____ M Tu W Th F

Objectives

_____ Enlarge a figure on a coordinate plane.

The California Mathematics Academic Content Standards
Grade 6: Optional Lesson
Grade 7: MR2.5, MR2.6 Basic Lesson

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

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



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.

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

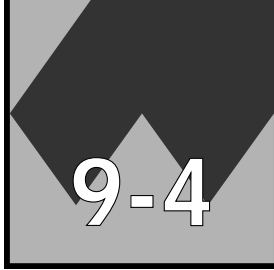
The California Mathematics Academic Content Standards
Grade 6: Optional Lesson
Grade 7: MR2.5, MR2.6 Basic Lesson

Class Activity (p. 381)

_____ All: 1-3
 _____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 381

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



Lesson Planning Guide (pp. 382-385)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Classify triangles and quadrilaterals.

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

The California Mathematics Academic Content Standards	
Grade 6:	AF3.2, MG2.2, MG2.3
🔑 Key Lesson	
Grade 7:	MR2.5, MR2.6
Basic Lesson	

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

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

KEY	<i>SE</i> = Student Edition	<i>TWE</i> = Teacher's Wraparound Edition	⇨ = Other Program Components
------------	-----------------------------	---	------------------------------



Lesson Planning Guide (pp. 386-387)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Solve problems by using logical reasoning.

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

**The California Mathematics
Academic Content Standards**

Grade 6: MR3.2
Basic Lesson

Grade 7: MR2.3, MR2.4,
MR2.5, MR2.6,
MR3.2, MR3.3

Basic Lesson

Homework Assignments (p. 387)

_____ All: 5-13

_____ Alternate Assignment: _____

_____ Extra Practice, *SE*, p. 594

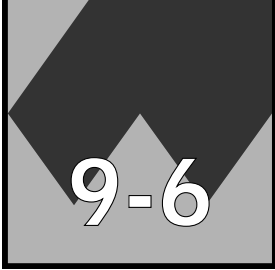
_____ Mixed Problem Solving, *SE*, p. 605-606

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



Lesson Planning Guide (pp. 392-394)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Create Escher-like drawings by using translations.

The California Mathematics Academic Content Standards
Grade 6: Optional Lesson
Grade 7: MR2.5, MR2.6 Basic Lesson

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 392
- _____ ⇨ Transparency 9-6A
- _____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 392

2 TEACH

- _____ ⇨ Transparency 9-6B
- _____ Reading Mathematics, *TWE*, p. 392
- _____ In-Class Examples, *TWE*, p. 393
- _____ ⇨ *Study Guide Masters*, p. 72
- _____ Reteaching the Lesson, *TWE*, p. 393
- _____ ⇨ *CD-ROM Program*, Resource Lesson 9-6

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 394

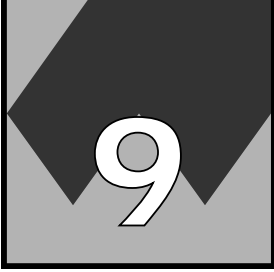
Homework Assignments (p. 394)	
_____ Core: 7-11 odd, 13-15	_____ Enriched: 6-10 even, 11, 13-15
_____ Optional: 12 (Working on the Chapter Project)	
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 594
- _____ ⇨ *Practice Masters*, p. 72

4 ASSESS

- _____ Closing Activity, Writing, *TWE*, p. 394
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz C, p. 240
- _____ Extending the Lesson, *TWE*, p. 394
- _____ ⇨ *Enrichment Masters*, p. 72

KEY	<i>SE</i> = Student Edition	<i>TWE</i> = Teacher's Wraparound Edition	⇨ = Other Program Components
------------	-----------------------------	---	------------------------------



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

- _____ Form 1A, 1B, or 1C, pp. 225-230
- _____ Standardized Test Practice, pp. 241-242

Free-Response Tests

- _____ Form 2A, 2B, or 2C, pp. 231-236
- _____ 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*
- _____ ⇔  *California Framework Practice and Sample Test Workbook*, Grade 6
- _____ ⇔  *California Framework Practice Transparencies*, Grade 6
- _____ ⇔  *California Framework Practice and Sample Test Workbook*, Grade 7
- _____ ⇔  *California Framework Practice Transparencies*, Grade 7

Interdisciplinary Investigation, SE, pp. 404-405

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

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