

12 Geometry: Finding Volume and Surface Area



Chapter Pacing Guide

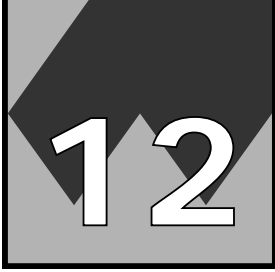
Please note that this pacing guide is based upon completing the entire text in 165 classes, approximately 50 minutes each. More time can be allotted for this chapter if you do not plan to teach the entire text.

<i>Day (Standard)</i>	<i>Day (Honors)</i>	<i>Lesson</i>	<i>Title</i>
1	1	*Chapter Project	Theme: Plants Turn Over a New Leaf
2 & 3		*12-1A	<small>HANDS-ON LAB</small> Cooperative Learning Building Three-Dimensional Figures
	2	12-1	Drawing Three-Dimensional Figures
4	3	12-1B	<small>THINKING LAB</small> Problem Solving Make a Model
5	4 & 5	12-2	Volume of Rectangular Prisms
		*12-2B	<small>HANDS-ON LAB</small> Cooperative Learning Volume of Pyramids
6	6	12-3	Volume of Cylinders
7 & 8		*12-4A	<small>HANDS-ON LAB</small> Cooperative Learning Nets and Surface Area
	7	12-4	Surface Area of Rectangular Prisms
9	8	12-5	Surface Area of Cylinders
10	9	Review: Study Guide and Assessment	
11	10	Assessment: Chapter Test	

*Optional

Chapter Resources

<p>Meeting Individual Needs <i>Investigations for the Special Education Student</i>, Exploring the Depths of the Sea, pp. 43-44 <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 14</p>	<p>Applications <i>Family Letters and Activities</i>, pp. 49-50 <i>Spanish Family Letters and Activities</i>, pp. 49-50</p>



Chapter Project (pp. 488-489)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Understand the importance of surface area in the structure and function of leaves.
- _____ Find the volume and surface area of a leaf and write a ratio of the two.

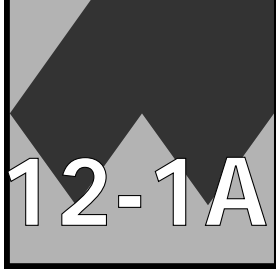
Theme: Plants

- _____ Chapter Project, *SE*, p. 489
- _____ Chapter 12 Notes, *TWE*, p. 488
- _____ Question of the Day, *TWE*, p. 488
- _____ ⇄ *Investigations and Projects Masters*, pp. 61-64

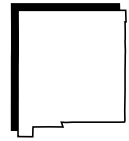
Homework Assignments

- _____ p. 501, Working on the Chapter Project, Exercise 20
- _____ p. 513, Working on the Chapter Project, Exercise 17
- _____ p. 521, Completing the Chapter Project, Alternative Assessment

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



Lesson Planning Guide (pp. 490-491)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

- _____ Build and draw three-dimensional figures given the top, side, and front views.

NCTM Standards:

1-4, 12

New Mexico Mathematics Performance Standards

Grades 5-8:

8-C-2, 9-C-1

MANAGEMENT

- _____ Getting Started, *TWE*, p. 490
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 12-1A

ASSESS

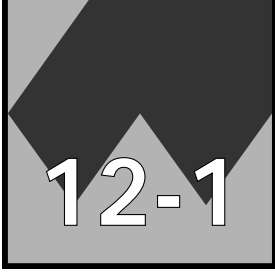
- _____ *TWE*, p. 491
- _____ ⇨ *Hands-On Lab Masters*, p. 67

Class Activity (pp. 490-491)

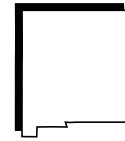
- _____ All: 1-10
- _____ Alternate Assignment: _____

- _____ Math Journal, *TWE*, p. 491

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



Lesson Planning Guide (pp. 492-495)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Draw a three-dimensional figure given the top, side, and front views.

NCTM Standards:

1-4, 12

New Mexico Mathematics Performance Standards

Grades 5-8:

2-A-1

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 492
- _____ ⇨ Transparency 12-1A
- _____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 492
- _____ Cross-Curriculum Cue, *TWE*, p. 492

2 TEACH

- _____ ⇨ Transparency 12-1B
- _____ Reading Mathematics, *TWE*, p. 492
- _____ In-Class Examples, *TWE*, p. 493
- _____ ⇨ *Study Guide Masters*, p. 88
- _____ Reteaching the Lesson, *TWE*, p. 493
- _____ ⇨ *CD-ROM Program*, Resource Lesson 12-1, Extended Activity 12-1

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 493-494

Homework Assignments (pp. 494-495)

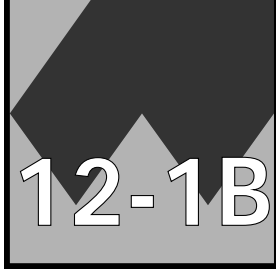
- _____ Core: 9-21 odd, 23-26
- _____ Enriched: 10-18 even, 20-26
- _____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 600
- _____ ⇨ *Practice Masters*, p. 88
- _____ Math in the Media, *SE*, p. 495

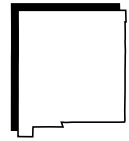
4 ASSESS

- _____ Closing Activity, Speaking, *TWE*, p. 495
- _____ Extending the Lesson, *TWE*, p. 495
- _____ ⇨ *Enrichment Masters*, p. 88

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Lesson Planning Guide (pp. 496-497)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Solve problems by making a model.

1 FOCUS

_____ Getting Started, *TWE*, p. 496

2 TEACH

- _____ Reading Mathematics, *TWE*, p. 496
- _____ In-Class Examples, *TWE*, p. 496
- _____ Reteaching the Lesson, *TWE*, p. 496

3 PRACTICE/APPLY

_____ Check for Understanding, *TWE*, p. 497

NCTM Standards: 1-5, 7, 12
New Mexico Mathematics Performance Standards Grades 5-8: 1-F-1, 8-C-2, 9-C-1

Homework Assignments (p. 497)

_____ All: 4-13

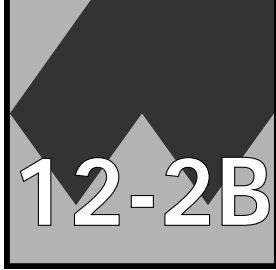
_____ Alternate Assignment: _____

- _____ Extra Practice, *SE*, p. 601
- _____ Mixed Problem Solving, *SE*, p. 605-606

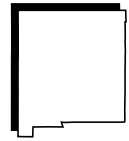
4 ASSESS

- _____ Closing Activity, Modeling, *TWE*, p. 497
- _____ Extending the Lesson, *TWE*, p. 497

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Lesson Planning Guide (p. 502)



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

Objectives

_____ Compare the volume of a pyramid with the volume of a prism.

NCTM Standards:

**New Mexico Mathematics
Performance Standards
Grades 5-8:
8-D-1**

MANAGEMENT

- _____ Getting Started, *TWE*, p. 502
- _____ ⇨ *Hands-On Lab Masters*, p. 11: centimeter grid paper
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Lesson 12-2B
- _____ ⇨ *Overhead Manipulative Resources*: centimeter grid

ASSESS

- _____ *TWE*, p. 502
- _____ ⇨ *Hands-On Lab Masters*, p. 68

Class Activity (p. 502)

_____ All: 1-5
_____ Alternate Assignment: _____

_____ Math Journal, *TWE*, p. 502

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Lesson Planning Guide (pp. 508-509)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

____ Use nets to find the surface area of rectangular prisms.

NCTM Standards:

**New Mexico Mathematics
Performance Standards**

Grades 5-8:

4-C-1, 8-D-1

MANAGEMENT

____ Getting Started, *TWE*, p. 508

____ ⇨ *Hands-On Lab Masters*, p. 12: square dot paper

____ ⇨ *Teacher's Guide for Overhead Manipulative*

Resources, Lesson 12-4A

____ ⇨ *Overhead Manipulative Resources*: rectangular dot paper

ASSESS

____ *TWE*, p. 509

____ ⇨ *Hands-On Lab Masters*, p. 69

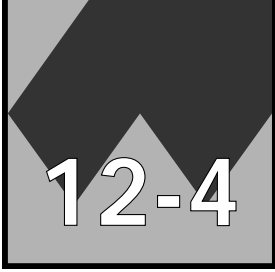
Class Activity (pp. 508-509)

____ All: 1-13

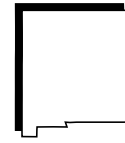
____ Alternate Assignment: _____

____ Math Journal, *TWE*, p. 509

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Lesson Planning Guide (pp. 510-513)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Find the surface area of rectangular prisms.

NCTM Standards:

1-5, 7, 9, 12

New Mexico Mathematics Performance Standards

Grades 5-8:

4-C-1, 8-D-1

1 FOCUS

_____ 5-Minute Check, *TWE*, p. 510

_____ ⇨ Transparency 12-4A

_____ Motivating the Lesson, Hands-On-Activity, *TWE*, p. 510

2 TEACH

_____ ⇨ Transparency 12-4B

_____ Using the Mini-Lab, *TWE*, p. 511

_____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Mini-Lab for Lesson 12-4

_____ In-Class Examples, *TWE*, p. 511

_____ ⇨ *Study Guide Masters*, p. 91

_____ Reteaching the Lesson, *TWE*, p. 511

_____ Error Analysis, *TWE*, p. 511

_____ ⇨ *CD-ROM Program*, Resource Lesson 12-4, Interactive Lesson 12-4

_____ ⇨ *Interactive Mathematics Tools Software*

3 PRACTICE/APPLY

_____ Check for Understanding, *SE*, p. 512

Homework Assignments (pp. 512-513)

_____ Core: 9-15 odd, 18-20

_____ Enriched: 8-14 even, 15, 16, 18-20

_____ Optional: 17 (Working on the Chapter Project)

_____ Alternate Assignment: _____

_____ Extra Practice, *SE*, p. 602

_____ ⇨ *Practice Masters*, p. 91

4 ASSESS

_____ Let the Games Begin, *SE*, p. 513

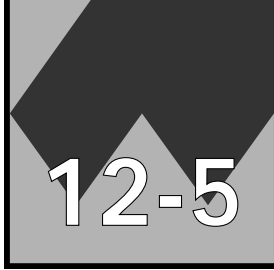
_____ Closing Activity, Writing, *TWE*, p. 513

_____ ⇨ *Assessment and Evaluation Masters*, Quiz C, p. 324

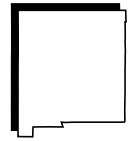
_____ Extending the Lesson, *TWE*, p. 513

_____ ⇨ *Enrichment Masters*, p. 91

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Lesson Planning Guide (pp. 514-517)



Teacher's Name _____ Dates _____

Grade _____ Class _____ M Tu W Th F

Objectives

_____ Find the surface area of cylinders.

NCTM Standards: 1-5, 7, 12
New Mexico Mathematics Performance Standards Grades 5-8: 8-D-1

1 FOCUS

- _____ 5-Minute Check, *TWE*, p. 514
- _____ ⇨ Transparency 12-5A
- _____ Motivating the Lesson, Communication, *TWE*, p. 514
- _____ Multiple Learning Styles, Visual/Spatial, *TWE*, p. 514

2 TEACH

- _____ ⇨ Transparency 12-5B
- _____ Using the Mini-Lab, *TWE*, p. 515
- _____ ⇨ *Teacher's Guide for Overhead Manipulative Resources*, Mini-Lab for Lesson 12-5
- _____ In-Class Examples, *TWE*, p. 515
- _____ ⇨ *Study Guide Masters*, p. 92
- _____ Reteaching the Lesson, *TWE*, p. 516
- _____ Error Analysis, *TWE*, p. 516
- _____ ⇨ *CD-ROM Program*, Resource Lesson 12-5, Interactive Lesson 12-5

3 PRACTICE/APPLY

- _____ Check for Understanding, *SE*, p. 516

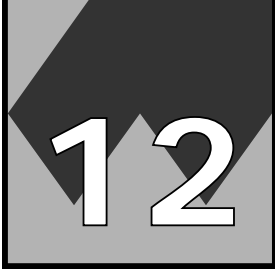
Homework Assignments (pp. 516-517)	
_____ Core: 7-17 odd, 18-21	_____ Enriched: 8-14 even, 16-21
_____ Alternate Assignment: _____	

- _____ Extra Practice, *SE*, p. 602
- _____ ⇨ *Practice Masters*, p. 92
- _____ ⇨ *Technology Masters*, Calculator Activity, p. 49
- _____ ⇨ *Classroom Games*, pp. 33-34

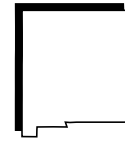
4 ASSESS

- _____ Closing Activity, Modeling, *TWE*, p. 517
- _____ ⇨ *Assessment and Evaluation Masters*, Quiz D, p. 324
- _____ Extending the Lesson, *TWE*, p. 517
- _____ ⇨ *Enrichment Masters*, p. 92

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Review and Assessment (pp. 518-523)



Teacher's Name _____ Dates _____

Grade _____ Class _____
Review M Tu W Th F
Testing M Tu W Th F

- _____ Study Guide and Assessment, *SE*, pp. 518-521
- _____ Standardized Test Practice, *SE*, pp. 522-523
- _____ Chapter Test, *SE*, p. 618

⇔ **Assessment and Evaluation Masters (pp. 309-327)**

Multiple-Choice Tests

Free-Response Tests

- | | |
|---|---------------------------------------|
| _____ Form 1A, 1B, or 1C, pp. 309-314 | _____ Form 2A, 2B, or 2C, pp. 315-320 |
| _____ Standardized Test Practice, pp. 325-326 | _____ Performance Assessment, p. 321 |
| | _____ Cumulative Review, p. 327 |

- _____ ⇔ *MindJogger Videoquizzes*, Chapter 12
- _____ ⇔ *Test and Review Software*
- _____ ⇔ *CD-ROM Assessment Game*
- _____ ⇔ *State Test Preparation CD-ROM*

Interdisciplinary Investigation, SE, pp. 524-525

- _____ Interdisciplinary Investigation, *TWE*, pp. 524-525
- _____ ⇔ *Investigations and Projects Masters*, pp. 13-16

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