

Chapter 11 Planning Chart: Geometry and Measurement Relationships

Cross-Curricular Competency: Adopts effective work methods. Lessons 2, 11A, 11B, and 11D provide students with an opportunity to think about ways to become more efficient in their work. Problems dealing with lateral area and total area can be solved in multiple ways; students should think about and practise solving the problems in ways that make the most sense to them.

Broad Area of Learning: Consumer Rights and Responsibilities. Lessons 2, 11A, 11B, and 11D provide an opportunity to discuss packaging of consumer products and how much material is used. Discussion might include what shapes seem to use less material and how using recycled material for packaging benefits consumers.

Content	QEP Concepts	QEP Processes	Addressing Concepts and Processes
Getting Started: Designing a Juice Container, pp. 370–371			Beyond Cycle One. Do not assess.
Lesson 1: Exploring Cylinders, p. 372	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> • Plane figures <ul style="list-style-type: none"> • Circle and sector <ul style="list-style-type: none"> • Radius, diameter, chord, arc • Measurement <ul style="list-style-type: none"> • Length • Perimeter, circumference • Area, lateral area, total area • Solids <ul style="list-style-type: none"> • Right prisms, right pyramids and right cylinders • Possible nets of a solid 	<i>Geometry</i> <ul style="list-style-type: none"> • Finding unknown measurements <ul style="list-style-type: none"> • Lengths <ul style="list-style-type: none"> • Circumference of a circle and arc length • Areas <ul style="list-style-type: none"> • Area of circles and sectors 	
Curious Math: Nets of Cones, p. 373			Beyond Cycle One. Do not assess.
Lesson 2: Surface Area of a Cylinder, pp. 374–377	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> • Plane figures <ul style="list-style-type: none"> • Measurement <ul style="list-style-type: none"> • Length • Perimeter, circumference • Area, lateral area, total area • Solids <ul style="list-style-type: none"> • Right prisms, right pyramids and right cylinders • Possible nets of a solid 	<i>Geometry</i> <ul style="list-style-type: none"> • Finding unknown measurements <ul style="list-style-type: none"> • Lengths <ul style="list-style-type: none"> • Circumference of a circle and arc length • Areas <ul style="list-style-type: none"> • Area of circles and sectors • Lateral or total area of right prisms, right cylinders, and right pyramids 	
Lesson A: Lateral and Surface Area of Right Prisms	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> • Plane figures <ul style="list-style-type: none"> • Triangles, quadrilaterals and regular convex polygons <ul style="list-style-type: none"> • Base, height • Measurement <ul style="list-style-type: none"> • Length • Perimeter, circumference • Area, lateral area, total area • Solids <ul style="list-style-type: none"> • Right prisms, right pyramids and right cylinders 	<i>Geometry</i> <ul style="list-style-type: none"> • Finding unknown measurements <ul style="list-style-type: none"> • Lengths <ul style="list-style-type: none"> • Perimeter of a plane figure • Areas <ul style="list-style-type: none"> • Lateral or total area of right prisms, right cylinders, and right pyramids 	New Lesson Student Resource Teacher Resource

Content	QEP Concepts	QEP Processes	Addressing Concepts and Processes
Lesson B: Lateral and Surface Area of Right Pyramids	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Plane figures <ul style="list-style-type: none"> Triangles, quadrilaterals and regular convex polygons <ul style="list-style-type: none"> Base, height Measurement <ul style="list-style-type: none"> Length Perimeter, circumference Area, lateral area, total area Solids <ul style="list-style-type: none"> Right prisms, right pyramids and right cylinders Possible nets of a solid 	<i>Geometry</i> <ul style="list-style-type: none"> Finding unknown measurements <ul style="list-style-type: none"> Lengths <ul style="list-style-type: none"> Perimeter of a plane figure Areas <ul style="list-style-type: none"> Lateral or total area of right prisms, right cylinders, and right pyramids 	New Lesson Student Resource Teacher Resource
Lesson C: Making Solids from Other Solids	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Solids <ul style="list-style-type: none"> Right prisms, right pyramids and right cylinders Decomposable solids 		New Lesson Student Resource Teacher Resource
Lesson D: Surface Area of Irregular Solids	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Plane figures <ul style="list-style-type: none"> Triangles, quadrilaterals and regular convex polygons <ul style="list-style-type: none"> Base, height Circle and sector <ul style="list-style-type: none"> Radius, diameter, chord, arc Measurement <ul style="list-style-type: none"> Length Perimeter, circumference Area, lateral area, total area Solids <ul style="list-style-type: none"> Right prisms, right pyramids and right cylinders Possible nets of a solid Decomposable solids 	<i>Geometry</i> <ul style="list-style-type: none"> Finding unknown measurements <ul style="list-style-type: none"> Lengths <ul style="list-style-type: none"> Perimeter of a plane figure Areas <ul style="list-style-type: none"> Lateral or total area of right prisms, right cylinders, and right pyramids Lateral or total area of solids that can be split into right prisms, right cylinders, and right pyramids 	New Lesson Student Resource Teacher Resource
Lesson 3: Volume of a Cylinder, pp. 378–381			Beyond Cycle One. Do not assess.
Lesson 4: Solve Problems Using Diagrams, pp. 382–384			Beyond Cycle One. Do not assess.
Mental Imagery: Calculating Surface Area of Cube Structures, p. 385	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Plane figures <ul style="list-style-type: none"> Measurement <ul style="list-style-type: none"> Area, lateral area, total area 	<i>Geometry</i> <ul style="list-style-type: none"> Finding unknown measurements <ul style="list-style-type: none"> Areas <ul style="list-style-type: none"> Lateral or total area of right prisms, right cylinders, and right pyramids 	Optional
Mid-Chapter Review: pp. 386–387			Assessment Opportunity Omit the second of the Frequently Asked Questions. Use Questions 1–5.
Lesson 5: Exploring the Platonic Solids, pp. 388–389			Beyond Cycle One. Do not assess.

Content	QEP Concepts	QEP Processes	Addressing Concepts and Processes
Lesson 6: Polyhedron Faces, Edges, and Vertices, pp. 390–393			Beyond Cycle One. Do not assess.
Math Game: The Volumizer Game!, p. 394			Beyond Cycle One. Do not assess.
Chapter Self-Test: p. 395			Self-Assessment Opportunity Select from Questions 1, 2, and the surface area part of Question 3.
Chapter Review: pp. 396–397			Assessment Opportunity Omit the Frequently Asked Questions. Use Questions 1, 3a.
Chapter Task: Storage Capacity of a Silo, p. 398	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> • Measurement <ul style="list-style-type: none"> • Length • Perimeter, circumference • Area, lateral area, total area • Solids <ul style="list-style-type: none"> • Right prisms, right pyramids and right cylinders • Decomposable solids 		Assessment Opportunity Exclude prompts D–F.