

Chapter 7 Planning Chart: 2-D Geometry

Cross-Curricular Competency: Uses information. The Math Game and the Chapter Task provide opportunities to improve upon and demonstrate their ability to use given information to produce a solution to a problem.

Broad Area of Learning: Personal and Career Planning. Lesson 9, the Chapter Task, and the Math in Action present opportunities to discuss various careers that make use of congruent and similar figures and mathematical transformations.

General Note: Transformations that are on a Cartesian plane are beyond Cycle One, so the examples and questions suggested in the planning chart do not involve a Cartesian plane.

Content	QEP Concepts	QEP Processes	Addressing Concepts and Processes
Getting Started: Pentomino Tiles, pp. 226–227			Assessment Opportunity: Select from prompts A–C and Questions 1–5, 9.
Lesson 1: Comparing Positions on a Grid, pp. 228–231		<i>Arithmetic: Working With a Proportional Situation</i> <ul style="list-style-type: none"> Finding ordered pairs in a Cartesian plane [abscissa (<i>x</i>-coordinate) and ordinate (<i>y</i>-coordinate) of a point] 	The work with ordered pairs in this lesson does not deal with proportional situations but does provide the foundation for work with ordered pairs in a Cartesian plane. Students should learn the term “abscissa” for the <i>x</i> -coordinate and the term “ordinate” for the <i>y</i> -coordinate, as stated in the QEP.
Lesson 2: Translations, pp. 232–235	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	Exclude Examples 1–3. Use Questions 1, 2, 5, 11, 12.
Lesson 3: Reflections, pp. 236–239	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	Exclude Example 2. Use Questions 1–5, 7, 10, 11, 13–16.
Lesson 4: Rotations, pp. 240–243	<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"> Degree: angle and arc Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	Exclude Example 3. Choose from Questions 1–6, 9–11, 14, 16.
Lesson 5: Congruence and Similarity, pp. 244–245	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 		
Mid-Chapter Review: pp. 246–247			Assessment Opportunity Choose from Questions 1, 5, 11.
Lesson 6: Tessellations, pp. 248–249	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	Tessellations are not required in Secondary Cycle One. (Tessellations with reflections are covered in Elementary Cycle Two; tessellations with translations are covered in Elementary Cycle Three.) This lesson provides experience with and an application of transformations.
Lesson 7: Communicating about Geometric Patterns, pp. 250–252	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	
Curious Math: Pentomino Designs, p. 253	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	Optional
Lesson 8: Investigating Pattern Blocks, pp. 254–255	<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"> Degree: angle and arc Congruent and similar figures 	<i>Geometry</i> <ul style="list-style-type: none"> Geometric transformations <ul style="list-style-type: none"> Translation, rotation, reflection 	Tessellations are not required in Secondary Cycle One. (Tessellations with reflections are covered in Elementary Cycle Two; tessellations with translations are covered in Elementary Cycle Three.) This lesson provides experience with and an application of transformations.
Mental Imagery: Dividing Shapes into Congruent Parts, p. 256	<i>Geometry: Geometric Figures and Spatial Sense</i> <ul style="list-style-type: none"> Congruent and similar figures 		Optional

Content	QEP Concepts	QEP Processes	Addressing Concepts and Processes
Lesson 9: Tessellating Designs, pp. 257–260	<i>Geometry: Geometric Figures and Spatial Sense</i> • Congruent and similar figures	<i>Geometry</i> • Geometric transformations • Translation, rotation, reflection	Tessellations are not required in Secondary Cycle One. (Tessellations with reflections are covered in Elementary Cycle Two; tessellations with translations are covered in Elementary Cycle Three.) This lesson provides experience with and an application of transformations.
Math Game: Transformational Golf, p. 261		<i>Geometry</i> • Geometric transformations • Translation, rotation, reflection	Optional
Chapter Self-Test: p. 262			Self-Assessment Opportunity Choose from Questions 1, 2, 5–9.
Chapter Review: pp. 263–265			Assessment Opportunity Use Questions 1, 3, 5–8, 11, 13–19.
Chapter Task: Floor Designs, p. 266	<i>Geometry: Geometric Figures and Spatial Sense</i> • Congruent and similar figures	<i>Geometry</i> • Geometric transformations • Translation, rotation, reflection	Assessment Opportunity
Math in Action: Computer Animator, pp. 267–268	<i>Geometry: Geometric Figures and Spatial Sense</i> • Congruent and similar figures	<i>Geometry</i> • Geometric transformations • Translation, rotation, reflection	Optional