GRADE K • MODULE 6
Analyzing, Comparing, and Composing Shapes

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Listen to the directions.

**First**, draw the missing line to finish the triangle using a ruler. **Second**, color the corners red. **Third**, draw another triangle.

First, use your ruler to draw 2 lines to make a square. **Second**, color the corners red. **Third**, draw another square.

**First**, draw a triangle using your ruler. **Second**, draw a different triangle using your ruler. **Third**, show your pictures to your partner.
Lesson 1 Problem Set

NYS COMMON CORE MATHEMATICS CURRICULUM

Lesson 1:
Describe the systematic construction of flat shapes using ordinal numbers.

Date: 11/14/13

4 + 1 = ____
____ = 2 + 1
3 + 2 = ____
3 + 1 = ____
____ = 5 + 0

5 - 1 = ____
____ = 4 - 1
3 - 2 = ____
3 - 0 = ____
____ = 5 - 4

2 - 1 = ____
____ = 3 - 3
1 - 0 = ____
3 - 0 = ____
____ = 4 - 4

2 + 2 = ____
____ = 5 - 3
1 + 1 = ____
4 - 0 = ____
____ = 4 + 1
Name ___________________________       Date __________

Use your ruler.  
**First**, draw a straight line from the dot.  
**Second**, draw a different straight line from the dot.  
**Third**, draw another straight line to make a triangle.
Follow the directions.

First, use your ruler to draw a line finishing the triangle.
Second, color the triangle green.
Third, use your ruler draw a bigger triangle next to the green triangle.

First, draw 2 lines to make a rectangle.
Second, put a red circle on all the corners.
Third, put an X on the longer sides.

First, draw a line to complete the hexagon.
Second, color the hexagon blue.
Third, write the number of sides the hexagon has in the box below.

On the back of your paper draw:
A shape with 3 straight sides.
A shape with 4 straight sides.
A shape with 6 straight sides.
First, use a ruler to trace the shapes. Second, draw the shapes using your ruler following the directions in the box.

Draw 3 different triangles.

Draw 2 different rectangles.

Draw 1 hexagon.
Lesson 2: Build flat shapes with varying side lengths and record with drawings.

Date: 11/14/13

\[
\begin{align*}
5 - 4 &= \_\_\_ \\
5 - 3 &= \_\_\_ \\
5 - 2 &= \_\_\_ \\
5 - 1 &= \_\_\_ \\
5 - 0 &= \_\_\_
\end{align*}
\]

\[
\begin{align*}
0 + 1 &= \_\_\_ \\
1 + 1 &= \_\_\_ \\
2 + 1 &= \_\_\_ \\
3 + 1 &= \_\_\_ \\
4 + 1 &= \_\_\_
\end{align*}
\]

\[
\begin{align*}
4 - 2 &= \_\_\_ \\
2 - 1 &= \_\_\_ \\
3 - 2 &= \_\_\_ \\
3 - 1 &= \_\_\_ \\
5 - 0 &= \_\_\_
\end{align*}
\]

\[
\begin{align*}
4 - 3 &= \_\_\_ \\
2 + 1 &= \_\_\_ \\
3 + 2 &= \_\_\_ \\
4 - 1 &= \_\_\_ \\
5 - 4 &= \_\_\_
\end{align*}
\]
Name __________________________ Date ____________

First, draw a triangle so all the sides are different lengths.

Second, draw a triangle with your ruler that has 2 sides that are about the same length.
Trace the shapes. Then use a ruler to draw other related shapes on your own in the box. Draw more on the back of your paper if you would like!
Lesson 2: Build flat shapes with varying side lengths and record with drawings.

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Hide Zero Cards. Copy double-sided.

Numerals

1 0
0 1 2 3
4 5 6 7
8 9

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Lesson 2: Hide Zero Cards

Hide Zero Cards. Copy double-sided.

5-groups
Lesson 3: Compose solids using flat shapes as a foundation.

Date: 11/14/13

Name _______________________________ Date ________________

Trace the circles and rectangle. Cut out the shape. Fold and tape to create a cylinder.
Trace the squares. Cut out the shape. Fold and tape to create a cube.
Lesson 3:
Compose solids using flat shapes as a foundation.

Date: ________

Draw a line from the flat shape to the object that has a face with that flat shape.

- Circle
- Square
- Triangle
- Cube
- Sandwich
- Soup can
Name ____________________________ Date ______________

Draw something that is a cylinder.

Circle the flat shape you can see in a □.

Draw something that is a cube.

Circle the flat shape you can see in a □.
Draw something that is a cone.

Circle the flat shape you can see in a \( \triangle \).

Draw a 3-dimensional solid. Draw one of your solid’s faces. Tell an adult about the shapes you drew.

**Note to Family Helpers:** Your student knows how to name some three-dimensional solids: cylinders, cones, cubes, and spheres. You can often find these 3D shapes around the house in objects like soup cans, ice cream cones, boxes, and balls. For the last question, it is acceptable for your student to find and draw a different type of three-dimensional solid. Talk about the number of edges, corners, and faces on the object.
Circle the 2\textsuperscript{nd} truck from the stop sign. Draw a square around the 5\textsuperscript{th} truck. Draw an X on the 9\textsuperscript{th} truck.

Draw a triangle around the 4\textsuperscript{th} vehicle from the stop sign. Draw a circle around the 1\textsuperscript{st} vehicle. Draw a square on the 6\textsuperscript{th} vehicle.

Put an X on the 10\textsuperscript{th} horse from the stop sign. Draw a triangle around the 7\textsuperscript{th} horse. Draw a circle around the 3\textsuperscript{rd} horse. Draw a square around the 8\textsuperscript{th} horse.
Draw a line from the shape to the correct ordinal number, starting at the top.

- 9th ninth
- 4th fourth
- 6th sixth
- 1st first
- 7th seventh
- 3rd third
- 10th tenth
- 5th fifth
- 8th eighth
- 2nd second
Listen to the directions. Start at the circle when counting.

Color the 5\textsuperscript{th} shape red.
Color the 2\textsuperscript{nd} shape green.
Color the 10\textsuperscript{th} shape yellow.
Color the 7\textsuperscript{th} shape blue.
Color the 1\textsuperscript{st} shape pink.
Color the 8\textsuperscript{th} shape orange.
Lesson 4: Describe the relative position of shapes using ordinal numbers.

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Color the 1st star red.
Color the 3rd star blue.
Color the 5th star green.
Color the 8th star purple.

Put an X on the 2nd shape.
Draw a triangle in the 4th shape.
Draw a circle around the 6th shape.
Draw a square in the 9th shape.

Draw a circle in the 7th shape.
Put an X on the 1st shape.
Draw a square in the 5th shape.
Draw a triangle in the 3rd shape.
Match each animal to the place it finished the race.

1. first
2. second
3. third
4. fourth
5. fifth
6. sixth
Lesson 4: Describe the relative position of shapes using ordinal numbers.

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Lesson 5: Compose flat shapes using pattern blocks and drawings.

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I Can Make New Shapes!
Choose 4 shapes to create a new shape in Box 1. Give the same 4 shapes to your partner. Have your partner create a different shape in Box 2.
Choose 5 shapes to create a new shape in Box 3. Give the same 5 shapes to your partner. Have your partner create a different shape in Box 4.

Subtract.

\[
\begin{align*}
5 - 1 &= \square \\
5 - 2 &= \square \\
5 - 3 &= \square \\
5 - 4 &= \square \\
\end{align*}
\]
Use your pattern blocks to help you solve the problem.

Use 2 blocks to make a rectangle. Trace your blocks to show your rectangle.
Name ____________________________ Date _____________

Match each group of shapes on the left with the new shape they make when they are put together.
Lesson 6: Decompose flat shapes into two or more shapes.

Trace to show 2 ways to make each shape. How many shapes did you use?

I used ____ shapes.

I used ____ shapes.

I used ____ shapes.

I used ____ shapes.

I used ____ shapes.

I used ____ shapes.
Fill in each shape with pattern blocks. Trace to show the shapes you used.

How many different ways can you cover the sun with pattern blocks?
Lesson 6: Decompose flat shapes into two or more shapes.

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Draw 2 shapes used to build the rectangle.

[Rectangle diagram]

Draw 2 shapes used to build the house.

[House diagram]
Cut out the triangles at the bottom of the paper. Use the small triangles to make the big shapes. Draw lines to show where the triangles fit. Count how many small triangles you used to make the big shapes.

This big triangle is made with ____ small triangles.

This hexagon is made with ____ small triangles.
Lesson 6: Decompose flat shapes into two or more shapes.

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Lesson 7: Compose simple shapes to form a larger shape described by an outline.

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Glue your puzzles into the frames.

Glue puzzle here

Glue puzzle here

Draw some of the shapes that you had after you cut your rectangles.

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Carlos drew 2 lines on his square. You can see his square before he cut it. Circle the shapes Carlos had after he cut.

India drew 2 lines on her rectangle. You can see her rectangle before she cut it. Circle the shapes India had after she cut.
If you drew 2 straight lines inside the gray rectangle, what shapes might you find? Circle them.
Using your ruler, draw 2 straight lines edge to edge through the shape. The first one has been started for you. Describe the new shapes you made to an adult.
Lesson 7: Compose simple shapes to form a larger shape described by an outline.

Date: 11/14/13
Lesson 8:

A. Make 10 Mania: Show how you made 10!

B. Five-Group Frenzy: Write the number, draw the number in the 5-group way, and draw the number in any other configuration.
C. Shape Shifters: Choose 5 pattern blocks and create a shape. Trace your shape, then trade with a partner.

D. The Weigh Station: Choose an object. Guess how many pennies are the same weight as the object. Then, see if you guessed correctly! Draw a picture of the object, and write how many pennies it weighs.
Name ________________________________ Date ____________

E. **Awesome Authors**: Roll the die. Use the number to create an addition or take-away sentence. Draw a picture, number bond, and number sentence. Share your story with a friend.
Student Name _________________________

Topic A: Building and Drawing Flat and Solid Shapes
Rubric Score: _________  Time Elapsed: __________

Materials: (S) 1 set of four 3” straws, 1 set of four 5” straws (separated by length for the students), small clay balls for connectors, 5 real world items with familiar shapes (e.g., book, clock, etc., including a square and rectangle), pattern block template

1. (Place all straws and formed clay connecting balls in front of the student.) Build a square.
2. (Place solid shapes in front of the student.) Choose one object that has the shape you just built.
3. (Place pattern block template in front of the student horizontally.) The star is the beginning. Point to the third shape. Point to the seventh shape.
4. (Turn the template vertically.) The star is the beginning. Point to the first shape. Point to the ninth shape.

<table>
<thead>
<tr>
<th>What did the student do?</th>
<th>What did the student say?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>2.</td>
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<td>4.</td>
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</tbody>
</table>
Topic B: Composing and Decomposing Shapes
Rubric Score: ___________  Time Elapsed: ____________

Materials:  (S) Pattern block shapes, 2 right triangles, paper square cut into 3 pieces (template), puzzle template

1. (Give the student two right triangles.) Use these triangles to make a rectangle.
2. (Give the student the three-piece paper square puzzle disassembled.) This was a square. Then I cut it into three pieces. Can you put it together so it makes a square again?
3. (Place the pattern blocks and puzzle template in front of the student.) Use your pattern blocks to complete the puzzle.

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</table>
Pattern Block Template
Puzzle Templates
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