LESSON

"What's My Attribute Rule?"

Work with a small group.

- - Attribute Rule Cards (*Math Masters,* p. 109)
 - ☐ 1 six-sided die

Directions

- 1. Label one sheet of paper: These fit the rule.
- 2. Label another sheet of paper: These do NOT fit the rule.
- **3.** Take turns. Roll the die once. The person with the lowest number is the first "Rule Maker."
- **4.** The Rule Maker mixes the Attribute Rule Cards and then stacks them facedown.
- The Rule Maker picks up the top Attribute Rule Card but does not show it to the other group members or tell them what the rule is.

large shapes, but not triangles

Sample Attribute Rule Card





Time



Name

"What's My Attribute Rule?" continued

6. The Rule Maker chooses 3 or 4 attribute blocks that fit the rule on the card. The Rule Maker puts them on the sheet labeled "These fit the rule."



7. The Rule Maker chooses 3 or 4 blocks that do NOT fit the rule. The Rule Maker puts them on the sheet labeled "These do NOT fit the rule."



- 8. The other group members are the "Guessers." The Guessers take turns. Each one chooses a block that he or she thinks might fit the rule.
- **9.** The Rule Maker tells each Guesser "yes" or "no." The Guesser puts the block on the correct sheet. The Guesser suggests what the rule might be. The Rule Maker tells the Guesser if his or her rule is correct.
- **10.** The Guessers continue until someone figures out the rule. Then that person becomes the Rule Maker for the next round.

Work with a partner.

- **Materials** \Box quarter-sheets of paper \Box plain paper
 - 1 six-sided die or number cube
 - \Box centimeter cubes, pennies, or dried beans

Directions

- **1.** Think of the quarter-sheets of paper as "nests." Think of the cubes, pennies, or beans as "eggs."
- 2. Choose a number between 8 and 32. Then count out that many eggs.
- **3.** Roll the die once. The number that lands faceup tells how many nests (quarter-sheets) to lay out.
- Work together to share the eggs equally among all the nests. When you finish, count the eggs in each nest. Make sure each nest has the same number of eggs.
- 5. Make a record of your work on the sheet of plain paper.
 - Show the number of eggs you started with.
 - Show the nests and the eggs in each nest.
 - Show any eggs that were left over.
- 6. Choose a different number of eggs. Then follow Steps 1–5 again.





Making Clock Concentration Cards

Materials 🗌 10 index cards

- ☐ clock-face stamp
- \Box stamp pad
- 🗆 envelope
- ☐ scissors

Directions

Make a set of Clock Concentration cards.

- 1. Fold each index card in half. Then unfold it.
- **2.** Stamp a clock face on one half of the card. Then draw an hour hand and a minute hand on the face to show a time.
- **3.** Write the matching digital time on the other half. Check one another's work.
- 4. Cut the card in half.
- Write C on the back of each card with a clock face.
- **6.** Write **T** on the back of each card with a time.
- Choose a mark your group will use to identify your cards. Make that mark in the same corner on the back of every card.







5-1 Clock Concentration continued

Materials

1 set of Clock Concentration Cards

Directions

1. Shuffle the cards and place them facedown in an array.



- Take turns. For each turn, turn a C card and a T card faceup. If the cards match, pick up both cards and take another turn.
- **3.** If the cards do not match, put them back in the array facedown. Then the next person takes a turn.
- **4.** Continue until time is up or until all the cards have been matched.
- 5. Store your group's cards in an envelope.





Please return this Home Link to school tomorrow.

These shapes fit the rule.



1. Which of these shapes fit the rule? Circle them.



- 2. What is the rule? _
- **3.** Draw a new shape that fits the rule.

Practice

4. 46 + 20 = _____ **5.** 74 + 30 = ____ **6.** 27 + 31 = ____ **126**

Time



Note a straightedge, your child drew line segments to create shapes. Provide your child with a ruler, a piece of stiff cardboard, or another object having a straight edge. Observe as your child draws line segments. Ask your child to name the shapes that he or she draws in Problems 1 and 2 below (a 6-pointed star and a hexagon).

Please return this Home Link to school tomorrow.

Use a straightedge to draw line segments.

1. Draw these line segments:						Draw th	iese lii	ne seg	gments:
AC CE EA	В •	A •	F •			AB BC CD	В •	A •	F •
BD DF	ċ	D •	• E			EF FA	ċ	D •	• E
3. Draw the following line segments: $\overline{AB}, \ \overline{BC} \qquad B \\ \overline{CD}, \ \overline{DE} \qquad A \qquad C \\ \overline{EF}, \ \overline{FA} \\ \overline{AD}, \ \overline{EC}$					4. [t v s f	Draw po his pag with a le straighte points v make pe	oints c je. Lat etter. l edge t vith lin olygor	on the Del ead Use a To con e segi ns.	back of ch point nect the ments to
\overline{BE}	-	• F	E	• D	Pr	actice			
How many triangles are there?					5. 2 6. 1 7. ^L	23 + 20 14 + 30 15 + 30) =) =) =		







- 4. Make up your own. I used _ rubber bands to make a design. Record your design.



LESSON

Geoboard Designs

1. Use 3 rubber bands to make a design. Record your design.



Use a straightedge and a crayon.

Connect the dots below according to the following pattern: $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E \rightarrow F \rightarrow A$



What shape did you make with line segments? _____

Use a different color. Connect the dots again in a different way. Follow this pattern:

 $A \rightarrow C \rightarrow E \rightarrow A$

What shape did you make with line segments? ____

Use a different color. Connect the dots one more time. Follow this pattern:

 $B \rightarrow D \rightarrow F \rightarrow B$

What shapes do you see in your design?

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Date

5•3	Parallel Line Segments		
Family Note	Parallel line segments are always the same distance apart. The they were extended forever in either or both directions. In Pr parallel to line segment <i>AB</i> , and line segment <i>AD</i> is parallel to parallel line segments in Problem 2. <i>Please return the</i> top part of this Home Link to school tomorrow	ey would never r oblem 1, line seg o line segment BC v.	neet, even if gment <i>DC</i> is C. There are no
1. Drav	v line segments <i>AB, BC, CD,</i> and <i>DA</i> .	A•	• <i>B</i>
Put o para	a red X on the line segment that is llel to line segment <i>AB</i> .		
Put o para	a blue X on the line segment that is llel to line segment <i>BC</i> .	D•	• <i>C</i>
2. Drav	v line segments <i>AB, BC,</i> and <i>CA</i> .		A •
Is ar para	ny line segment in your drawing llel to line segment <i>AB</i> ?		
		C•	• <i>B</i>

Special In Lesson 5-6, your child will be studying 3-dimensional shapes. Help your child gather
3-dimensional objects for a class collection that we call the "Shapes Museum." You and your child might want to separate the objects you collect according to shape.

Shapes Museum

For the next few days, your class will collect things to put into a Shapes Museum. Starting tomorrow, bring items like boxes, soup cans, party hats, pyramids, and balls to school. Ask an adult for permission before bringing in these items. Make sure that the things you bring are clean.

Name

HOME LINK

B



Drawing Line Segments

Draw the line segments. Use a straightedge.

A

A→B	$B \rightarrow C$	$C \rightarrow J$	$J { ightarrow} A$	$A \rightarrow I$	$I \rightarrow J$	$C \rightarrow D$
D→E	E→F	F→N	N→M	M→G	F→G	G→H
H→I	K→L	O→P	$P \rightarrow Q$	Q→R	R→O	$J \rightarrow E$



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Name

Parallel Line Segment Puzzles

 Use 2 pattern blocks together to make a shape that has exactly two pairs of parallel line segments.

Use your Pattern-Block Template to record your solution at the right.

2. Use 2 pattern blocks together to make a shape that has exactly one pair of parallel line segments.

Use your Pattern-Block Template to record your solution at the right.

3. Use 2 pattern blocks together to make a shape that has no parallel line segments.

Use your Pattern-Block Template to record your solution at the right.

Try This

If you have time, try to solve each problem using 3 pattern blocks.



Geoboard Polygons

Work in a small group.

Materials \Box geoboard \Box rubber bands \Box straightedge

Directions Each person uses the square side of a geoboard to make the following polygons. Copy each polygon below.

 Make a triangle in which each side touches exactly 3 pins.
 Make a square in which each side touches exactly 4 pins.

•	•	•	•	•
•	٠	•	٠	•
٠	•	•	•	•
•	٠	•	•	•
•	•	•	•	•

3. Make a pentagon that touches at least 5 pins.
4. Make a hexagon whose sides touch exactly 6 pins in all.



5. Compare your polygons with those of others in your group. Talk about how they are alike and how they are different.

Work with a partner or a small group.

- **Materials** C centimeter grid paper from *Math Masters,* p. 434
 - \Box 2 six-sided dice
 - □ about 40 centimeter cubes

Directions

Name

Follow these steps to build arrays with centimeter cubes:

- **1.** Pick one member of your group to roll the dice.
- 2. Use the number that is faceup on one die for the number of rows in the array. Use the number that is faceup on the other die for the number of cubes in each row.

Example: If you roll this:

You can make either array:





- **3.** Work together. Use centimeter cubes to build the array.
- **4.** On grid paper, fill in squares to show your array. Underneath the array, write
 - how many rows are in the array
 - how many cubes are in each row
 - how many cubes there are in all
- Take turns rolling the dice. Together, make at least five different arrays. Record each array on grid paper.





LESSON 5 · 4

Attributes

Work with a small group.

- Materials 🛛 attribute blocks
 - $\hfill\square$ sheet of paper

 \Box red, yellow, and blue crayons or pencils

Directions

Solve each problem. On a separate sheet of paper, trace and color the blocks to show your answers.

- **1.** Find 2 blocks that are NOT the same size, NOT the same shape, and NOT the same color.
- **2.** Find 2 blocks that have the same shape, but are NOT the same size and NOT the same color.
- **3.** Find 3 blocks that are the same size and the same color, but are NOT the same shape.
- **4.** Find 4 small blocks that are the same color, but are NOT the same shape.



closed figure made up of straight sides, and you can trace and come back to where you started without retracing or crossing any part. Different types of polygons are shown below. Examples of polygons can be found in real-life objects. For example, a stop sign is an octagon and this page is a rectangle. As your child cuts out pictures of polygons, discuss each shape. Count the sides and angles and try to name the polygons. Talk about how the polygons are alike and different. MR/

Please return this Home Link to school tomorrow or as requested by the teacher.

- 1. Cut out pictures from newspapers and magazines that show triangles, quadrangles, and other polygons. Ask an adult for permission first.
- 2. Paste each picture on a sheet of paper.
- **3.** Write the names of some of the polygons under the pictures.
- **4.** Bring your pictures to school.



These are NOT polygons.



HOME LINK

Note



Pattern-Block Template Shapes

1. Use your template to draw each shape.

square	large triangle	small hexagon
trapezoid	small triangle	wide rhombus
large circle	narrow rhombus	large hexagon

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Name

Pattern-Block Template Shapes cont.

2. Draw the shapes that have exactly 4 sides and 4 corners. Write their names.





Make Shapes

- Cut out the triangles and rectangles.
- Make some of the shapes listed below. Use at least 2 triangles or rectangles to make each new shape. You may have to turn some of the pieces over.
- **3.** Paste the shapes on sheets of paper.
- **4.** Write the names of the shapes.

Shapes to Make

square

triangle

kite

rhombus

trapezoid

parallelogram

4-pointed star

any shape you choose

rectangle



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	Duic	
HOME LINK 5+6	3-D Shapes	
Family Note	In this lesson, children have identified and compare has created a Shapes Museum using the objects tha child's list of shapes. Together, find shapes to comp	ed 3-dimensional shapes. Our class also at children brought to school. Read your plete the list.
	Please return this Home Link to school tomorrow.	56 57

Timo

On your way home, look for things that have these five shapes.

Make a list of things you see. Show your list to someone at home. Can you find any more shapes in your home? Add them to your list.

Prisms	Prisms	Cones	- Cone
Pyramids	- Pyramids	Spheres	- Sphere
Cylinders	- Cylinder		
Practice			
1. 10 + 8 =		2. 20 + 7 =	
3. 42 + 20 = _		4. 66 + 30 =	

Namo

ESSON 5-7 Pyramid Base Cards



Use straws and twist-ties to build a **triangular pyramid**.

Use short straws for the base. Use long straws for the other edges.

The base of a triangular pyramid is a triangle:



Use straws and twist-ties to build a **pentagonal pyramid**.

Use short straws for the base. Use long straws for the other edges.

The base of a pentagonal pyramid is a pentagon:



Use straws and twist-ties to build a **rectangular pyramid**.

Use 2 short straws and 2 long straws for the base. Use long straws for the other edges.

The base of a rectangular pyramid is a rectangle:



Use straws and twist-ties to build a **hexagonal pyramid.**

Use short straws for the base. Use long straws for the other edges.

The base of a hexagonal pyramid is a hexagon:





Time



1ESSON Make a Square Pyramid

Materials 🗌 scissors

 \Box glue or tape

Directions

- **1.** Cut on the dashed lines.
- **2.** Fold on the dotted lines.
- 3. Tape or glue tabs "inside" or "outside."



Time



Name

5.7 Reviewing Polygons

Use straws and twist-ties to make the following polygons. Draw the polygons. Record the number of sides and corners for each polygon.

1. Make a square.

Number of sides _____

Number of corners _____

2. Make a triangle.

Number of sides _____

Number of corners _____

3. Make a hexagon.

Number of sides _____

Number	of	corners
	-	

4. Make a polygon of your choice.

Write its name.

Number of sides _____

Number of corners _____

5. Make another polygon.

Write its name.

Number of sides _____

Number of corners _____





į



What's Missing?





Lines of Symmetry

Cut out each shape. Find all the lines of symmetry for each shape by folding it in half.





 Ask someone to help you make a list of things at home that have symmetry. For example, you might list a window, a sofa, or a mirror.



2. Draw a picture of one thing on your list. Draw as many lines of symmetry as you can.

3. If you find pictures in books or magazines that show symmetry, bring them to school.

 Practice
 5. 6 + 9 = 6. 8 + 8 =

 4. 4 + 8 = 5. 6 + 9 = 6. 8 + 8 =

 7. 8 - 5 = 8. 9 - 4 = 9. 7 - 4 =



Unit 6: Family Letter



Whole-Number Operations and Number Stories

In Unit 6, children will take another look at the addition and subtraction diagrams that were introduced in Unit 4.

Later in this unit, children will strengthen their understanding of multiplication and division as they act out number stories using manipulatives and arrays, complete diagrams to show the relationships in multiplication problems, and then begin to record corresponding number models.



left: A child uses an array to solve the following problem: A sheet of stamps has 6 rows. Each row has 3 stamps. How many stamps are on a sheet?

below: multiplication diagram

boxes	marbles per box	marbles in all	
3	7	?	

Please keep this Family Letter for reference as your child works through Unit 6.



Vocabulary

Important terms in Unit 6:

comparison number story A number story that involves the difference between two quantities. For example: Ross sold 12 cookies. Anthony sold 5 cookies. How many more cookies did Ross sell?

comparison diagram A diagram used to organize the information from a comparison number story. For example, the diagram below organizes the information from Anthony's cookie story above.



rectangular array An arrangement of objects into rows and columns. For example, 20 pencils could be arranged in 4 rows of 5 pencils each.

multiples of a number The product of the number and a counting number. For example, multiples of 2 are 2, 4, 6, 8, and 10 because $2 \times 1 = 2$, $2 \times 2 = 4$, $2 \times 3 = 6$, and so on.

remainder The amount left over when one number is divided by another number. For example, if 20 pencils are shared equally by 6 people, each person gets 3 pencils, and 2 are left over. The remainder is 2.



Do-Anytime Activities

To work with your child on the concepts taught in this unit and in previous units, try these interesting and rewarding activities:

- 1. Have your child show you how making an array or making equal groups can help solve multiplication number stories. Use common objects, such as buttons or pennies, to act out the stories.
- **2.** Also try the opposite: Draw or make arrays and multiples of equal groups. Have your child make up and solve number stories to go with them.
- **3.** Discuss equal-sharing (division) stories. For example, use objects (such as pennies) to portray a situation like the following: We have 7 cookies to divide equally among 3 people. How many whole cookies will each person get? (2) How many cookies will be left over? (1)

Building Skills through Games

In Unit 6, your child will practice addition, subtraction, and multiplication skills by playing the following games:

Three Addends

Players draw three cards, write addition models of the numbers they've picked, and solve the problems.

Addition Top-It

Each player turns over two cards and calls out their sum. The player with the higher sum then takes all the cards from

that round.

Array Bingo

Players roll the dice and find an Array Bingo card with the same number of dots. Players then turn that card over. The first player to have a row, column, or diagonal of facedown cards calls out "Bingo!" and wins the game.



Number-Grid Difference Game

Players subtract 2-digit numbers using the number grid.

Fact Extension Game

Players find sums of 2-digit numbers and multiples of ten.



As You Help Your Child with Homework

As your child brings home assignments, you may want to go over the instructions together, clarifying them as necessary. The answers listed below will guide you through this unit's Home Links.

Home Link 6+1

Sample answers:

1.	13	+ 6 + 7 = 26		
2.	22	+ 8 + 5 = 35		
3.	15	+9+25=49		
4.	29	+ 11 + 6 = 46		
5.	69	6. 70	7.	62
8.	83	9. 148	10.	190

Home Link 6+2

- **1.** \$19; 29 10 = 19
- **2.** 15 fewer laps; 20 + 15 = 35
- **3.** June 22; 10 + 12 = 22

4.	90	5.	40	6.	80
+11			+15		+ 7
	101		55		87

Home Link 6+3



2. grapes; pear



Home Link 6+4

- **1.** 30
- **2.** 28
- **3.** 20

Home Link 6+5

- **1.** 58; 41 cubes left; 58 17 = 41
- **2.** 26; 8 cubes left; 26 18 = 8
- **3.** 43; 18 cubes left; 43 25 = 18
- **4.** 39; 7 cubes left; 39 32 = 7
- **5.** 61; 14 cubes left; 61 47 = 14

Home Link 6+6

1. 4 rows; 5 Xs in each row; 20

Home Link 6+7

1. 3; 18 **2.** 2; 8

3. 10; 80

Home Link 6+8

- **1.** 24
- **2.** 35

Home Link 6+9

- **1.** Total = 21; $7 \times 3 = 21$
- **2.** Total = 60; $6 \times 10 = 60$
- 3. 5 rows; 6 dots in each row; 30
- 4. 3 rows; 9 squares per row; 27
- 5. 6 rows; 6 squares in each row; 36

Home Link 6+10

- by 2 people: 9¢ per person; 1¢ remaining by 3 people: 6¢ per person; 1¢ remaining
 - by 4 people: 4¢ per person; 3¢ remaining