

### **About the Mathematics in This Unit**

Dear Family,

Our class is starting the year with a mathematics unit called *Building Numbers and Solving Story Problems* from the *Investigations* Curriculum. This unit is an introduction to mathematical ideas such as counting and comparing quantities, and addition and subtraction. Throughout this unit, students will be working toward the following goals:

Benchmarks/Goals	Examples
Understand that you can count on/back to add/subtract 1 or 2	"To solve 5 + 2, I can think 5 6, 7." "To solve 5 — 2, I can think 5 4, 3."
Fluency with the + 1, + 2, - 1, - 2 facts	5 + 1 = 7 - 1 = 6 + 2 = 8 - 2 =
Determine which of two pairs of numbers to 10 is greater	6 7 8 6  *8 and 6 is more than 7 and 6 because 14 is more than 13."



### **About the Mathematics in This Unit**

Benchmarks/Goals	Examples
Interpret and solve addition and subtraction story problems where the result is unknown	There are a some pennies on the table. 3 are showing heads. 4 are showing tails. How many pennies are on the table?
	Sam had 5 pennies. Max gave him 4 more. How many pennies does Sam have?
	Rosa had 8 pennies. She gave 4 to Max. How many pennies does Rosa have now?

In our math class, students engage in math problems and activities and discuss the underlying concepts. They are asked to share their reasoning and solutions. It is important that children solve math problems accurately in ways that make sense to them. At home, encourage your child to explain his or her math thinking to you. In the coming weeks, you will receive more information about *Building Numbers and Solving Story Problems* as well as activities to do at home.



#### **About Mathematics Homework**

Dear Family,

Homework is an important link between learning in school and learning outside school. It can extend the work we are doing in class, provide an opportunity to practice previously learned skills, or prepare students for the next day's lesson. Here are some suggestions for making the homework experience successful for your child.

- In first grade, math homework activities might include working on a problem, playing a game we learned in class, collecting information (from family members) for a data project, or solving a story problem.
- Children will bring home the materials and directions needed to do homework activities. First graders may need your help and attention in completing these tasks—reading a problem, playing a game, being reminded of directions, and so on.
- Establish a quiet place to work (whether at home, in an after-school program, or some other place) and a system for bringing homework back and forth to school.
- Certain materials, such as Primary Number Cards and game directions, will be used again and again throughout the year. Because they will be sent home only once, please help your child find a safe place to store their math materials—maybe in a math folder, an envelope, or a shoe box—so that he or she can easily locate and use them when needed. If your child regularly does homework in more than one place, we can talk about how to obtain the necessary materials for each place.



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### **About Mathematics Homework**

- Children often use real objects to solve math problems. Please provide a collection (20-30) of small objects such as beans, buttons, or pennies for students to use at home. These can be stored in plastic bags or small containers and kept with other math materials.
- Ask questions to extend your child's thinking. Here are some questions you might try. Notice that they require more of a response than just "yes" or "no."
  - What do you need to find out?
  - What are you going to do first?
  - How are you solving this problem?
  - How did you get this answer?
  - Why does your answer make sense?
  - Can you explain that in a different way?

If you would like to share any thoughts with me about how your child is approaching a homework task, please feel free to send me a note. If a task seems too difficult or is confusing, please let me know so that I can address the issue in school.

I look forward to working with you throughout the year.



# Related Activities to Try at Home

Dear Family,

The activities suggested below are related to the mathematics we are currently working on in school. Doing them with your child can enrich his or her mathematical learning.

Counting Activities Your child can count collections of objects. Many first graders are able to count quantities of about 20 or 30 accurately. With your help, your child can count even higher. Together, count sets of objects around the house such as silverware, pennies, or collections of cars or animals. You can also look in books, magazines, and newspapers for pictures that your child can count. Your child can also practice the rote counting sequence. Begin counting at 1 and take turns saying each number. See how high you can count together. Also practice counting backward. Start at 20 and count back to 1; gradually choose larger numbers.

Solving Problems about Addition and Subtraction In school we have been solving story problems and working on games and activities that involve combining two amounts or removing one amount from another. Look for opportunities to make up and solve problems with your child. For example, I see 4 gray cars and 3 black cars in the parking lot. How many cars are in the parking lot? Or, I have 10 pennies in my pocket. If I give 3 of them to you, how many pennies will I have left? Encourage your child to retell the story in his or her own words and then share his or her strategy for solving the problem.



## Related Activities to Try at Home

Games Your child will be bringing home the directions and materials for a card game called *Double Compare*. This game focuses on combining and comparing quantities. As you play, ask your child to explain how he or she is determining the total amount and how he or she is deciding who has more.

Math and Literature Here are some great counting books you can find in your local library and read with your child. Have your child count the objects on each page, and see what mathematical concepts your child discovers.

- Bowman, Anne. Count Them While You Can.
- Falwell, Cathryn. Feast for 10.
- Holub, Joan. Apple Countdown.
- Johnson, Stephen. City by Numbers.
- Mannis, Celester. One Leaf Rides the Wind.
- Rose, Deborah Lee. One Nighttime Sea.
- Walton, Rick. One More Bunny.
- Yektai, Niki. Bears at the Beach Counting 10 to 20.

## **About the Mathematics in This Unit**

Benchmarks/Goals	Examples



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### **About the Mathematics in This Unit**

Benchmarks/Goals	Exan	nples
Use geometric language to describe and identify important features of familiar 2-D shapes, and use those features to sort those shapes.	These shapes have 3 sides.	These shapes do not have exactly 3 sides.

Students will continue to engage in math problems and activities and share how they solve a given problem. At home, you can encourage your children to explain their thinking as they engage in activities that further support the mathematics in this unit.



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# Related Activities to Try at Home

Dear Family,

The activities below are related to the mathematics in the geometry unit Comparing and Combining Shapes. Doing them at home together with your child can enrich your child's mathematical learning.

Shape Hunt Shapes are everywhere. Talk with your child about the shapes you see every day. Together, you can look at everything from the shapes of buildings in your neighborhood to the shapes of boxes and cans in the supermarket. Sometimes you can include descriptions of shapes in what you say: "Look at that part of the building shaped like a rectangle." At other times, you can ask your child to look for specific shapes: "See how many things you can find that are shaped like a triangle while we walk down the street."

Making Shapes Making shapes is a great way to learn about them. At home, your child can use clay or play dough, drinking straws, tooth picks, or a loop of yarn or rope to make different shapes. Drawing shapes is also fun. Your child may like to design a picture or mural that includes many different shapes.

Seeing Shapes Inside Encourage your child to look for patterns or designs made from different shapes. For example, ask these questions: "Can you find squares on the floor (wallpaper, clothing, and so on)?" "Are there any patterns made from triangles?" "Do you see any hexagons?"



# Related Activities to Try at Home

**Math and Literature** Here are some suggestions of children's books that contain relevant ideas about geometry. Read them together and name the shapes you find.



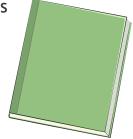
MacDonald, Suse. Shape by Shape.

Micklethwait, Lucy. I Spy Shapes in Art.

Onyefulu, Ifeoma. *Triangle for Adaora: An African Book of Shapes*.

Thong, Roseanne. Round is a Mooncake: A Book of Shapes.

Walsh, Ellen Stoll. Mouse Shapes.





#### **About the Mathematics in This Unit**

Dear Family,

Our class is starting a new unit in mathematics called *How Many of Each? How Many in All?* We will be working on developing strategies for adding and subtracting numbers by counting on or back, solving problems that involve adding more than two numbers, and finding many different combinations for the same number. We will also begin to work with tens and ones as we represent the teen numbers as a group of ten plus a group of ones. Throughout this unit, we will be thinking about how to use equations to record our work. We will also be counting larger quantities and reading and writing larger numbers.

Throughout this unit, students will be working toward the following goals:

Understand that you can count on to add two numbers. And, you can count back to subtract.	6 + 3 = 8
Understand that a group of 10 ones is the same as 1 ten and that all of the teen numbers are made up of 1 ten and a number of ones.	is one 10 card or 10 15 = 10 + 5



#### **About the Mathematics in This Unit**

Benchmark/Goals	Examples
Find at least 5 combinations of a given number.	There are 9 vegetables on your plate. Some are peas. Some are carrots. How many of each could you have? $9=5+4$ $9=4+5$ $9=2+7$ $9=7+2$ $9=8+1$
Solve story problems with three addends.	Mr. C's class was doing <i>Quick Images</i> . How many dots did they see?
Rote count, read, and write numbers to 120.	87, 88, 89, 90, 91 81,88,89,90,91
Represent numbers with equivalent expressions.	Today's Number: <u>10</u> 10 = 3 + 7 20 - 10 = 10 2 + 2 + 6 = 10

In our math class, students engage in math problems and activities and discuss the underlying concepts. They are asked to share their reasoning and solutions. It is important that children solve math problems accurately in ways that make sense to them. At home, encourage your child to explain his or her math thinking to you.

In the coming weeks, you will receive more information about the mathematics in this unit as well as suggested activities to do at home.



# Related Activities to Try at Home

Dear Family,

The activities suggested below are related to the mathematics we are currently working on in school. Doing them with your child can enrich his or her mathematical learning.

How Many Am I Hiding? Put 5–12 small objects in your hand. Give your child a chance to determine how many you have. Then hide some in your other hand and show your child what is left. Now ask, "How many am I hiding?" Encourage your child to explain his or her thinking. After playing a few rounds with the same number, you can change the total number and start again.

Start With/Get To Ask your child to select a number to "Start With" and another number to "Get To." Count with your child from the "Start With" number to the "Get To" number. During this unit, we will be focusing on numbers 1–120.

Write the Numbers As an extension of "Start With/Get To," children write the numbers they are counting. You can also challenge your child to write the numbers in order as high as they can count.

Counting Activities In class, students are counting sets of up to about 60 objects. With your help, your child can count even higher. Together, count sets of objects around the home, such as spoons, pennies, or collections of small toys. In school, children will trace their feet and count how many small items (e.g., beans, tiles, pennies) fit inside the outline. At home, your child may like to trace your foot and then count how many beans or pennies fit inside.



Math and Literature Here are some counting books you can find in your local library. Have your child count the objects on each page. These books can also provide a good context for posing simple addition or subtraction problems, such as "There are 7 birds on this page. How many would there be if 4 more birds came along?"



Dale, Penny. Ten in Bed.

Grossman, Bill. My Little Sister Ate One Hare.

Harris, Trudy. 100 Days of School.

Mora, Pat. Uno, Dos, Tres, One, Two, Three. (English/Spanish)

Morozumi, Atsuko. One Gorilla.

Rockwell, Anne F. 100 School Days.

Slater, Teddy. 98, 99, 100! Ready or Not, Here I Come!

Wells, Rosemary. Emily's First 100 Days of School.



#### **About the Mathematics in This Unit**

Dear Family,

For the next few weeks we will be working on a new mathematics unit about measurement and fractions called *Fish Lengths and Fraction Rugs*. Your child will be comparing the lengths of objects by measuring them with a variety of units, such as cubes, paper clips, and inch tiles. We will also work on story problems about comparing lengths, learn how to tell time to the hour, and investigate halves and fourths.

Throughout this unit, students will be working toward these goals:

Benchmarks/Goals	Examples
Compare the lengths of two objects indirectly using a third object.	The book is longer than the pencil. The eraser is shorter than the pencil. So the book is longer than the eraser.
Demonstrate accurate techniques when measuring an object or distance. These techniques include starting at the beginning, ending at the end, leaving no gaps or overlaps, measuring in a straight line, and keeping track of the number of units.	



#### **About the Mathematics in This Unit**

Benchmarks/Goals	Examples
Solve comparison story problems about how many more or fewer.	Sam's fish is 6 inches long. Kim's fish is 8 inches long. How much longer is Kim's fish? (or How much shorter is Sam's fish?)
Tell time to the hour.	11 12 1 2 1 2 1 1 1 1 1 1 2 1 2 1 1 1 1
Identify and divide shapes into halves and fourths.	These show halves. This shows fourths.

Throughout this unit, students are learning to use consistent units to measure accurately and to understand the underlying mathematics of measuring. This kind of experience will improve their sense of what measuring is all about. Their work with fractions begins to lay the foundation for work in later grades. In the coming weeks, you will receive more information about the mathematics in this unit as well as suggested activities to do at home.



# Related Activities to Try at Home

Dear Family,

The activities suggested below are related to the mathematics in the measurement unit that we are currently working on in school. Doing them together can enrich your child's mathematical learning.

**Estimating Lengths** Ask your child to help you estimate lengths in practical terms. For example, how many chairs can fit along one side of a table? How many steps does it take to walk from the kitchen to the front door?

Shorter Than My Arm Have your child estimate which objects around the house are shorter than your child's arm. Then have your child measure the objects to make sure. As an extension, choose a different body part or compare two lengths. For example, can you find something that is shorter than your leg but longer than your arm?

Measuring with Hands and Feet Have your child choose an object or distance and measure it with his or her hands (wrist to fingertip) and feet (heel-to-toe steps). Then your child can record each object as a specific number of hands or feet. As an extension, your child can compare the measurements that other members of your family get when using their hands or feet.



## Related Activities to Try at Home

Marking Heights If you mark your child's changing heights regularly on the wall, this is a good time either to look at that height chart with your child and talk about it or perhaps to start a chart if you haven't been keeping one. You could also help your child put things in order by height—a group of boxes, some pieces of ribbon, or the child's stuffed animals. Ask your child to talk about which is the shortest and which is the longest. If your child has difficulty putting several things in order, you could sort the objects into three groups—short, medium, and tall.

Math and Literature Here are some children's books that involve measurement. You can find them in your local library or bookstore and read them with your child.

Adler, David. How Tall, How Short, How Far Away?

Cleary, Brian. How Long or How Wide?: A Measuring Guide.

McBratney, Sam. Guess How Much I Love You.

Schwartz, David. If You Hopped Like a Frog.

Schwartz, David. Millions to Measure.

Sweeney, Joan. Me and the Measure of Things.





#### **About the Mathematics in This Unit**

Dear Family,

Our class is starting a new unit in mathematics called *Number Games and Crayon Problems*. We will be working on adding and subtracting numbers to 20 in many different contexts, with the goal being fluency with addition and subtraction problems within 10. Students encounter new kinds of story problems, and think a lot about the notation mathematicians use for addition and subtraction. Throughout this unit, students will be working toward the following goals.

Benchmarks/Goals	Examples
Fluency with addition and subtraction within 10	2 + 6 = 7 - 1 = 5 + 4 = 9 - 3 = 7 + 1 = 8 - 5 =
Solve problems with one addend unknown.	Kim had 10 crayons. 7 were blue. The rest were red. How many were red?
Understand the equal sign.	True or False? 6 + 7 = 12 7 = 4 - 3 6 + 2 = 8 + 2
Determine the missing number in an equation.	6 + 7 = + 7 = 12 6 + = 12
Solve problems with an unknown change.	I had 5 pennies in my Jar.  Max gave me some more pennies.  Then I had 6 pennies.  How many pennies did Max give me?  Kim had 5 pennies in her Jar.  She gave some pennies to Sam.  Then she had 3 pennies.  How many pennies did she give to Sam?



#### **About the Mathematics in This Unit**

In our math class, students engage in math problems and activities and discuss the underlying concepts. They share their reasoning and solutions. It is important that children solve math problems accurately in ways that make sense to them. You can contribute at home by encouraging your child to explain her or his math thinking to you.

In the coming weeks, you will receive more information about the mathematics in this unit as well as suggested activities to do at home.



# Related Activities to Try at Home

Dear Family,

The activities suggested below are related to the mathematics we are currently working on in school. Doing them with your child can enrich your child's mathematical learning.

Tens Go Fish The object of the game is to find pairs of number cards that equal 10. Deal 5 Primary Number Cards to each player. Leave the rest in a pile. Any player who can make 10 with 2 of those cards puts them aside and draws 2 more. Then take turns asking each other for a card. For example, if you have a 3, you might ask your child, "Do you have a 7?" If you get a 7, make a pair and put them down. Then draw a card from the deck. If your child does not give you a 7, "go fish" and draw the top card from the deck. Your turn ends when you cannot make a 10. (We will also be playing this game in school so your child may be able to teach you.)

How Many Am I Hiding? Lay out 10 small objects and ask your child to count them. Then, while your child covers his or her eyes, hide some of the objects. Show your child the objects that are not hidden and ask, "How many am I hiding?" Encourage your child to explain her or his thinking. After playing a few rounds, you can change the total number (from 6 to 12 total) and start again.



## Related Activities to Try at Home

Telling and Solving Story Problems Look for addition and subtraction situations at home. For example, say, "If we have 4 apples, 8 bananas, and 7 plums in the fruit bowl, how many pieces of fruit do we have?" or "If you have 20 pennies and you spend 15 pennies, how many do you have left?" "We have 8 people coming for dinner. We have only 6 chairs. How many more do we need?" Encourage your child to make up story problems for you too!

Math and Literature Most of the following books should be available at your local library. You can read them together, count the objects on each page, or use the illustrations to pose simple addition or subtraction problems: "There are 7 birds on this page. How many would there be if 4 more birds came along?"



Bateman, Donna. Deep in the Swamp.
Berkes, Marianne. Over in the Ocean: In a Coral Reef.
Duke, Kate. Twenty is Too Many.
Mannis, Celeste. One Leaf Rides the Wind.
Tang, Greg. Math Appeal.
Walton, Rick. One More Bunny: Adding From One to Ten.

Wise, William. Ten Sly Piranhas.



NAME DATE

### **About the Mathematics in This Unit**

Dear Family,

Our class is starting a new unit in mathematics called *Would You Rather Be an Eagle or a Whale?* This unit is about data—the facts or information we collect about people and things in our world. Students will be posing questions, collecting data, and making representations of the data they collect. These representations help communicate the important information, for example, how many people are in each group, which group has more/fewer and how many more/fewer, and how many people responded to the survey. Students will also be solving comparison problems that are based on data.

Throughout this unit, students will be working toward these goals:

Benchmark/Goal	Example
Represent and describe a set of data with two or three categories.	Do you walk to school?
	Walk to XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	Don't Walk to School XXXXXXXXXX
	How many children walk to school? Do more children walk to school or not? How many more? How many children responded to this survey?
Solve comparison story problems with a bigger or smaller unknown.	A teacher asked a group of students about how they get to school.  8 children walk.  2 more children ride the bus than walk. How many children ride the bus to school?  10 children ride the bus.  2 fewer children walk than ride the bus. How many children walk?

Please look for more information and activities about *Would You Rather Be an Eagle or a Whale?* that will be sent home soon.



# Related Activities to Try at Home

Dear Family,

The activities below are related to Would You Rather Be an Eagle or a Whale?, the unit we are currently working on in math. Doing these activities together with an adult will help enrich your child's mathematical learning.

Will We See More [Trucks or Buses]? On a trip, play "Which has more?" Begin by posing a question: "Which do you think we will see more of in the next five minutes: \_\_ or \_\_?" Depending on your surroundings, you might choose pairs such as bicycle riders or joggers, trucks or buses, cows or horses. Your child will have ideas, too! Help your child choose things that give enough to count—about 10 or 15 of each object. If the count is too low to be of interest, you might extend the time limit. The important thing is that your child keeps track of each item (using check marks, numbers, pictures, words, and so on), accurately counts, and then compares the results.

**How Many More?** After collecting the data and deciding what they saw more of, challenge your child to determine *how many more* [bikes, trucks, or cows] they saw.

Will We See More [Cars, Trucks, or Buses]? Play "Which has more?" with three choices. Ask your child whether they think you will see more walkers, runners, or bikers; cars, trucks, or buses; cows, horses, or birds. Set a time limit, or keep track until the first group reaches 10 or 15. Encourage your child to describe their findings by telling you how many were in each group, which group had the most/least, and whether they are surprised by the results.



## Related Activities to Try at Home

[2] More Than [3] Find opportunities to pose questions like the following: "I have 2 pennies in my left pocket. I have three more pennies in my right pocket than I have in my left pocket. How many pennies are in my right pocket?" Keep the numbers small, and act out the problems together to solve them.

**Math and Literature** Here are some suggestions of children's books that are related to our work on data.

Burningham, John. Would You Rather... Harris, Trudy. Tally Cat Keeps Track. Leedy, Lorren. The Great Graph Contest. Murphy, Stuart J. Tally O'Malley.





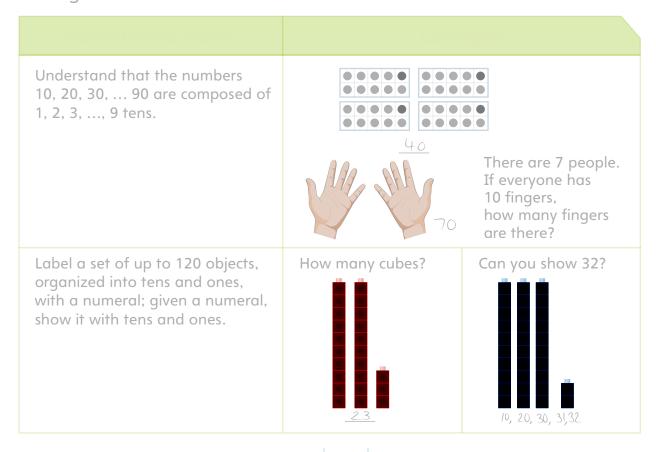
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### **About the Mathematics in This Unit**

Dear Family,

For the next few weeks we will be working on a new mathematics unit called How Many Tens? How Many Ones? Your child will be counting by groups, initially by 2s and by 5s, which lays the foundation for counting by 10s and their work with groups of tens and ones and place value. We will work on adding and subtracting 10 to any number and on adding and subtracting multiples of 10. Students will also be developing strategies for adding 2-digit numbers. Throughout this unit, students work with contexts and models that represent 10s and 1s, and they are encouraged to use these models to represent their work.

Throughout this unit, students will be working toward these goals:





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### **About the Mathematics in This Unit**

Benchmurks/Gools	Factor plans
Subtract multiples of 10 from multiples of 10 up to 90.	Build 50. Remove 20. How many now? $50 - 20 = 30$
Use greater than and less than symbols to compare two 2-digit numbers.	greater than  less than
Add/subtract 10 to/from any 2-digit number.	37 + 10 = 47 42 - 10 = 32 What's 10 more than 37? 47!
Use models to add numbers with totals under 100.	37 + 5 22 + 45 37 + 5 22 + 45 22 + 45 = 67

As we engage in the mathematics of this unit, students will continue to share their reasoning and solutions. As they work on problems at home, continue to ask questions that encourage your child to extend his or her thinking and explain his or her reasoning.



# Related Activities to Try at Home

Dear Family,

The activities suggested below are related to the mathematics we are currently studying in school. Doing them with your child can enrich his or her mathematical learning.

Counting Feet Read How Many Feet in the Bed? (see below) and talk about the mathematics in the book. Pose questions such as: "How many feet are on this page? How did you figure it out?" Then ask your child to figure out how many feet are in your family. You can extend this conversation by asking about how many eyes, toes, ears, etc. Feel free to add more people and pets! "What if Grandma and her dog came over, then how many eyes would there be?"

Counting by Tens We are going to be thinking a lot about groups of 10. You can count by 10s together, forward and back, to practice the sequence of numbers. You can also find ways to represent that count: for example, "There are 5 of us having dinner tonight. How many fingers are there? How could we figure that out?" After finding the total number of fingers, you can ask questions such as, "What if Nana joined us for dinner?" or "What if Dad left for work before we had dinner?"

Organizing Objects into Groups of Ten Ask your child to count a set of objects by putting them into groups of 10 and then figuring out the total number. Or have them first count the set by 1s and then ask, "You have 48 connecting cubes. Suppose you made towers of 10. How many cube towers would you have? How many leftovers?"



# Related Activities to Try at Home

Math and Literature You can find the following books in your local library and read them together. The books focus on themes from this unit such as: combinations of 10, numbers to 100, things that come in groups, and counting by groups.



- Dahl, Michael. Ants at the Picnic: Counting by Tens.
- Dahl, Michael. Toasty Toes: Counting by Tens.
- Hamm, Diane Johnston. How Many Feet in the Bed?
- Murphy, Stuart. More or Less.
- Ross, Tony. Centipede's One Hundred Shoes.
- Sayre, April Pulley. One is a Snail, Ten is a Crab: A Counting by Feet Book.



#### **About the Mathematics in This Unit**

Dear Family,

We are beginning a new unit in mathematics called *Blocks* and *Buildings*. This second geometry unit in Grade 1 focuses on 3-D shapes. Students describe, compare, build with, and represent Geoblocks and geometric solids—sets of related three-dimensional wooden blocks that include cubes, rectangular prisms, triangular prisms, spheres, cones, cylinders, and pyramids. They also explore the relationship between 3-D shapes and 2-D shapes as they search for the 3-D block shown in a 2-D picture, and attempt to draw a Geoblock building, or build one, given a 2-D drawing.

Throughout this unit, students will work toward these goals:

Benchmarks/Goals	Examples
Use geometric language to describe and identify defining attributes of familiar 3-D shapes.	It has 6 corners or points. It has 5 faces. Two of the faces are triangles. The other faces are rectangles.
Compose 3-D shapes.	2 cubes make a rectangular prism.



### **About the Mathematics in This Unit**

Benchmarks/Goals	Examples
Match a 2-D representation of a 3-D shape to the outline of one of its faces.	
Tell time to the half hour.	11 12 1 10 2 1 10 2 1 10 2 1 10 2 1 10 2 1 10 2 1 10 3 1 10 3 1 10 5

Students will continue to engage in math problems and activities and share how they solve a given problem. At home you can encourage your children to explain their math thinking as they engage in activities that further support the mathematics in this unit.



# Related Activities to Try at Home

Dear Family,

The activities below are related to the mathematics in the geometry unit that your child is working on in class. Doing them at home with your child can enrich your child's mathematical learning.

**3-D Shape Hunt** Shapes are everywhere. Talk with your child about the three-dimensional shapes you see every day—from the buildings in your neighborhood to the cereal boxes in the cabinet. Sometimes, describe the 3-D shapes. For example, "The roof of that building is shaped like a pyramid." At other times, ask your child to look for specific shapes. "See how many cylinders you can find today at the grocery store."

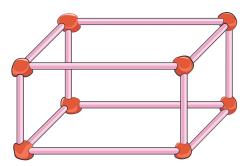


**Making Shapes** Making shapes is a great way to learn about them. At home, your child may use clay, drinking straws, or a loop of yarn. Ask your child:



- Can you make a shape with three sides?
- Do you know what that shape is called?
- Can you make a cube? How many sides does it have?

You may also make different shapes and ask your child to name and describe them.



Ask questions about the number of sides, edges, faces, corners, and/or the shape of the faces, such as these:

- I am making a 3-D shape. How many faces does it have? What shape(s) are the faces?
- Do you know what this shape is called?



## Related Activities to Try at Home

Draw a Building Our class is practicing ways to draw 3-D shapes so that they look like they "pop" off the paper. There are many ways to do this. Ask your child to choose a familiar building—perhaps your house or one that you can see from a window. Talk about the building's shapes and then ask your child to draw and label the building in a way that makes sense to them. Some children like to draw the building from different perspectives, or points of view. Others like to use dotted lines to show what is not visible from the front.

**Building with Shapes** Gather 3-D building blocks, construction toys, or empty boxes and cans that your child can use to build. Children can try to build particular buildings or even their whole neighborhood. Talk about shapes while they are working. "What would you call the shape you used for the first floor of the bank? What shape(s) will you use for the roof?"

**Math and Literature** Here are some children's book suggestions that contain geometric ideas. Read them together and discuss the shapes you find.

Bean, Jonathan. Building Our House.

Gauch, Patricia Lee. Christina Katerina and the Box.

Hoban, Tana. Cubes, Cones, Cylinders, & Spheres.

Laroche, Giles. If You Lived Here: Houses of the World.

Macaulay, David. Castle, Cathedral, City, or Pyramid.

Metropolitan Museum of Art. Museum Shapes.

Murphy, Stuart J. Captain Invincible and the Space Shapes.

Portis, Antoinette. Not a Box.

Zelver, Patricia. The Wonderful Tower of Watts.

