

Math Activities to Help Students Avoid the Summer Slide

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Math



Summer Success[®] Math

Grade 3 Sample

Here are Number Names Activities you can use for students in Grade 3.

- Number Names activities reinforce concepts and help students identify patterns and connections
- Whole-group instruction weaves together different math strands including basic number sense, basic operations, patterns and algebraic thinking, geometry, measurement, and vocabulary.



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SAMPLER

Number Names Instruction

Number Names provides daily instruction covering five different math strands plus **Vocabulary**. **Problem Solving** is integrated throughout. Today's Number, unique to each day, is the connecting thread that ties the discussion together. For example, if Today's Number is 3, students may look at the number in terms of:

Number: What is the value of the 3 in these numbers?

Operations: What multiplication sentence shows how many petals are on 2 flowers?

Patterns and Algebra: How many triangle sides will be in the fifth row?

Geometry: How are the triangles different?

Measurement: What is the value of 1 dime and 3 pennies?

GET STARTED

- Choose a Number Names display area that allows students to sit as close as possible. Some teachers prefer to have the students sit on the floor or in chairs in front of the Number Names wall to focus their attention.
 - Post the six Recording Pads and their labels, leaving a space for Today's Number.
- ## DISCUSSION
- During each day's discussion, detailed in the Teacher's Edition, students consider questions displayed on the day's Recording Pads. Answers are collectively agreed upon and then written on the pads, providing a lasting representation of the concepts covered.
 - Encourage students to interact with each other by listening to one another, sharing their reasoning, and respectfully questioning each other. To raise their level of thinking, follow up student responses with questions such as: *How do you know? How can we figure out if you're right? Does anyone else have another answer?*
 - Reaching All Learners hints can help struggling students, including English Language Learners, who may benefit from another approach. References to the Great Source Math Handbook, *Math to Know*, follow each discussion strand and provide a resource for re-teaching.

Number

3 in tens or ones places:
answers could include 13, 23, 33, 43, 53, 63, 73, 83, 93, 30, 31, 32, 34, 35, 36, 37, 38, 39

order: *sample answer*
13 23 30 35 39

expanded form: *sample answers*
 $63 = 60 + 3$
 $34 = 30 + 4$
 $83 = 80 + 3$

Vocabulary

Meaning	Examples
A logical grouping of things	used in our group: 6, 9, 10 small, medium, large grades: 3rd, 4th, 5th...
order	
	$3 \times 6 = 18$
Pictures	Non-Examples

Operations

1 group of 3 petals = 3
 $1 \times 3 = 3$

2 groups of 3 petals = 6
 $3 + 3 = 6$ $2 \times 3 = 6$

$3 \times 3 =$ 9
 $4 \times 3 =$ 12
 $5 \times 3 =$ 15

Today's Number

3

Measurement

$\$0.10$ $\$0.01$
 $10 \text{¢} + 1 \text{¢} =$ _____
 $\$0.11$ 11¢

$10\text{¢} + 2\text{¢} = 12\text{¢}$
 $\$0.10 + \$0.02 = \$0.12$

13¢ or $\$0.13$
 14¢ or $\$0.14$
 15¢ or $\$0.15$
1D 1N; 1D 5P; 3N; 2N 5P; 1N 10P; 15P

Problem solving
 17¢ or $\$0.17$

Patterns and Algebra

row	pattern	sides
1	\triangle	<u>3</u>
2	$\triangle\triangle$	<u>6</u>
3	$\triangle\triangle\triangle$	<u>9</u>
4	$\triangle\triangle\triangle\triangle$	<u>12</u>
5	$\triangle\triangle\triangle\triangle\triangle$	<u>15</u>
10	$10 \triangle$	<u>30</u>
100	$100 \triangle$	<u>300</u>

Geometry

3-sided figures:
sample triangles

name: triangle

triangle: 3 sides, 3 angles, closed figure

NUMBER NAMES TODAY'S NUMBER 2

2 in the ones place:

12, 22, 32, 42, 52, 62, 72, 82, 92

compare:

32 > 22

expanded form:

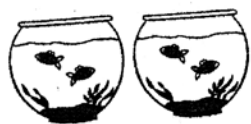
12 = 1 ten + 2 ones
or 10 + 2

32 = 3 tens + 2 ones
or 30 + 2

NUMBER Place value and expanded form

- What are 5 different 2-digit numbers you can make with a 2 in the ones place? (answers could include 12, 22, 32, 42, 52, 62, 72, 82, 92) Record the numbers on the recording pad.
- How does the number 32 compare to the number 22? (32 is greater.) How do you know? (Look at the digit in the tens place first, then the ones place.)
- How can we break apart 12 to show tens and ones? (1 ten + 2 ones; 10 + 2) How about 32? (3 tens + 2 ones; 30 + 2) We call this expanded form.

Math to Know pp. 2-3



$$2 + 2 = 4$$

$$2 \times 2 = 4$$



$$2 + 2 + 2 = 6$$

$$3 \times 2 = 6$$

OPERATIONS Multiplication facts

- How many fishbowls do you see? (2) How many fish are in each bowl? (2) How can we show this as addition of equal groups, or repeated addition? ($2 + 2 = 4$) As multiplication? ($2 \times 2 = 4$) We can also read this as "2 groups of 2 equals 4."
- How can we show the second picture using repeated addition? ($2 + 2 + 2 = 6$) As multiplication? ($3 \times 2 = 6$)
- What could you draw to show 4 groups of 2? (4 fishbowls with 2 fish each.)

REACHING ALL LEARNERS: Help students recognize the pattern of skip counting by 2s in the products.

Math to Know pp. 63, 65

-2 number +2

0	2	4
1	3	5
2	4	6
3	5	7
8	10	12

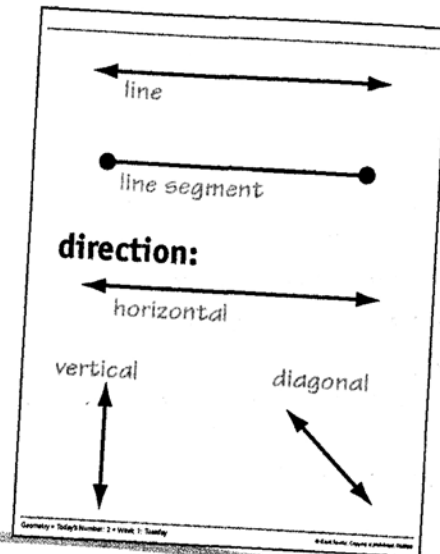
PATTERNS AND ALGEBRA Number patterns

- You have 2 buttons. You add 2 more. How many buttons do you have? (4) If you have 2 buttons and I take away 2 buttons. How many buttons do you have? (0)
- Start with the number 3. Add 2. What is the sum? (5) Subtract 2? (1) Start with 4 and add 2? (6) Subtract 2? (2)
- What number do we start with if plus 2 is 7 and minus 2 is 3? (5) How do you know that is so? (5 is 2 less than 7 and 2 more than 3.) Use the patterns to complete the chart.
- What happens each time you add 2? (You skip the next counting number.) Subtract 2? (You skip the number before.)

Math to Know pp. 41, 56

GEOMETRY Line and line segment

- How are the two lines on the recording pad alike? (They are straight.) Different? (One has arrows; the other has points.)
- What do the arrows on the line mean? (The line goes on forever, without end.) What do the endpoints mean? (The line has a beginning and end.) The name for part of a line is a line segment. You can measure the length of a line segment.
- A horizontal line goes straight across. A vertical line goes straight up and down. A diagonal line goes straight, but is slanted. Can you label the lines on the recording pad? (see recording pad)



MEASUREMENT Value of coins

- If you have 1 penny and 1 nickel, what is the total value? (6¢) How can you write it? ($5¢ + 1¢$)
- How can you count up to add 1 nickel and 2 pennies? (5¢, 6¢, 7¢) How can you record that? ($5¢ + 1¢ + 1¢ = 7¢$) A nickel and 3 pennies? ($5¢ + 1¢ + 1¢ + 1¢ = 8¢$) And 4 pennies? ($5¢ + 1¢ + 1¢ + 1¢ + 1¢ = 9¢$) And 5 pennies? ($5¢ + 1¢ + 1¢ + 1¢ + 1¢ + 1¢ = 10¢$)
- Problem Solving** Troy had a dime. He spent 3¢. What was the change? (1 nickel, 2 pennies; 7 pennies) How did you figure it out? (Answers will vary.)

Math to Know pp. 17–19

$5¢ + 1¢ = 6¢$

$5¢ + 1¢ + 1¢ = 7¢$

$5¢ + 1¢ + 1¢ + 1¢ = 9¢$

VOCABULARY compare

- If you have stacks of cards and you want to compare them, what are you trying to find out? (If they are the same, or if one has more or less than the other.)
- If I know one stack has 28 cards and the other has 31 cards, how can I compare these numbers? (sample answers: Use pictures; compare the digits; use the $<$, $>$, or $=$ symbols; put the numbers on a number line.)
- Is $12 + 10 = 22$ a comparison? (Yes, it shows that the two quantities 12 + 10 and 22 are equal.)

Math to Know pp. 12–13

Meaning	Examples
to see if numbers are the same or greater or less than each other	$28 < 31$ $28 > 26$ $28 = 20 + 8$
compare	
Pictures	Non-Examples

NUMBER NAMES TODAY'S NUMBER 7

791 is between: ^{700 and} 800
791 rounds up to 800

427 is between: ^{400 and} 500
427 rounds down to 400

750 is between: ^{700 and} 800
750 rounds up to 800

Number • Today's Number 7 • Week 2, Wednesday

NUMBER Place value and rounding

- Look at the number line. Between which 2 hundreds is 791? (700 and 800) Which hundred is it closer to? (800)
- Finding the closer hundred is how we round a number to the nearest hundred. If the number is exactly half way between the hundreds we round up. Invite volunteers to round the other numbers to the nearest hundred.
- Problem Solving** I am a number between 600 and 800. I have been rounded to the nearest hundred. What number am I? (Accept any number that rounds to 700 from 650 to 749.)

REACHING ALL LEARNERS Label all the number line marks.

Math to Know pp. 5, 130

15 apples
3 groups of 5 = 15 $3 \times 5 = 15$

21 apples
3 groups of 7 = 21 $3 \times 7 = 21$

Operations • Today's Number 7 • Week 2, Wednesday

OPERATIONS Multiplication facts

- I pick an equal number of apples from 3 trees. I have 15 apples. How many apples did I pick from each tree? (5) Draw 5 apples on each tree. How many equal groups? (3) Write this as a multiplication sentence. ($3 \times 5 = 15$)
- I still have 3 trees. This time I have 21 apples. How many equal groups of apples did I pick from each tree? Use a picture to show your thinking. (sample answer: I know it is more than 5 apples; 6 groups of 3 are 18, so I draw 7 apples on each tree.) How can we write the multiplication sentence? ($3 \times 7 = 21$)

Math to Know pp. 68, 72

ways to make 7:

	$7 + 0 = 7$
	$6 + 1 = 7$
	$5 + 2 = 7$
	$4 + 3 = 7$
	$3 + 4 = 7$
	$2 + 5 = 7$
	$1 + 6 = 7$

Patterns and Algebra • Today's Number 7 • Week 2, Wednesday

PATTERNS AND ALGEBRA Write addition sentences

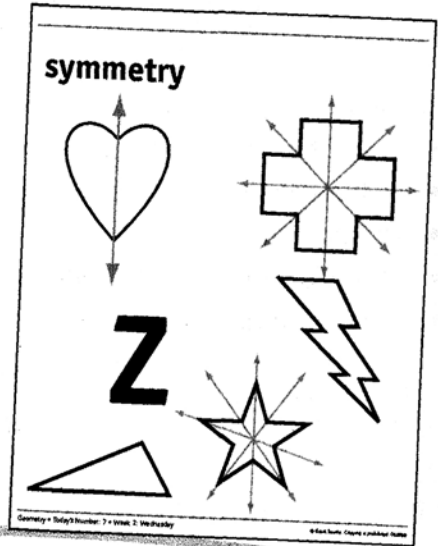
- What addition sentences can we write to equal 7? Record the sentences students share. Is there a way to check if we have all the sentences? (Answers will vary.)
- Let's shade all 7 squares. What's a number sentence to show this picture? ($7 + 0 = 7$) What other ways can we shade? (see recording pad) Write the number sentences that match the pictures. What pattern do you see? (sample answer: As shaded squares get fewer, the unshaded ones get more.)
- How many squares are in the whole amount? (7) What did you add to 5 to make 7? (2) To 3 to make 7? (4)

Math to Know p. 36

GEOMETRY Symmetry

- Look at the shapes. If you fold the heart in half along the line shown, what can you tell about the 2 parts? (They will match exactly.) What do we call this type of line? (line of symmetry) Is there a second line of symmetry? (No.)
- Look at the letter Z. Can you fold it so 2 parts match exactly? (No.) This shape is not symmetrical. What other shapes are not symmetrical? (lightning bolt, triangle) How do you know? (They can't fold so 2 parts match exactly.)
- Which shapes have more than 1 line of symmetry? (cross, star) Draw them. (see recording pad)

REACHING ALL LEARNERS Fold cutouts to model line symmetry.
Math to Know pp. 322–323




MEASUREMENT Time to the half hour and elapsed time

- What do you notice about the clock? (It is divided into 2 equal parts.) 1 hour is 60 minutes. How many minutes are in half an hour? (30) At 30 minutes past the hour, where should the minute hand be? (on 6) The hour hand? (Half way between 2 numbers.) Why? (It's half past the hour.)
- What can you do in half an hour? (see recording pad)
- **Problem Solving** Tony arrived at basketball practice at 7:00. The courts were being swept. If the courts are swept every half hour, when was the court last swept? (6:30) When will it be swept again? (7:30) Draw the hands on the clocks.


Math to Know pp. 336, 338–339


in half hour: read a book, walk to school

Problem solving:



half hour before:
6:30



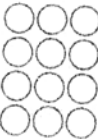


half hour later:
7:30

VOCABULARY multiplication

- What do you know about multiplication? (Answers will vary.)
- When might you use multiplication? (sample answer: If you have equal groups you want to add, it is a faster way to add.) How can we use an array to show multiplication? (sample answer: It is an arrangement of objects in equal rows and equal columns.)
- What is the symbol for multiplication? (×) What can we call the result of multiplication? (product)
- Does $3 + 2 = 5$ show multiplication? (No.) Why? (This sentence shows adding two groups of different amounts.)

Math to Know p. 60

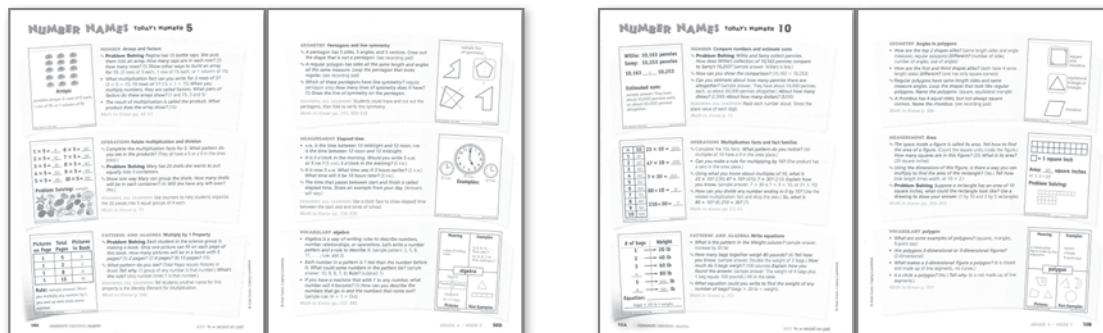
Meaning	Examples
<p>a shortcut for repeated addition</p>	<p>$7 \times 3 = 21$</p> <pre style="margin-left: 20px;"> 7 × 3 — 21 </pre>
multiplication	
<div style="text-align: center;">  <p>$4 \times 3 = 12$</p> <p>Pictures</p> </div>	<p>$\\$3.25$</p> <p>$3 + 2 = 5$</p> <p>Non-Examples</p>

Summer Success[®] Math

Grade 4 Sample

Here are Number Names Activities you can use for students in Grade 4.

- Number Names activities reinforce concepts and help students identify patterns and connections
- Whole-group instruction weaves together different math strands including basic number sense, basic operations, patterns and algebraic thinking, geometry, measurement, and vocabulary.



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SAMPLER

Number Names Instruction

Number Names provides daily instruction covering five different math strands plus **Vocabulary**. **Problem Solving** is integrated throughout. Today's Number, unique to each day, is the connecting thread that ties the discussion together. For example, if Today's Number is 3, students may look at the number in terms of:

Number: How do we write the number thirty-three thousand, fifteen?

Operations: What is $99 + 3$? $999 + 3$?

Patterns and Algebra: Which is easier to add, $103 + 7$ or $103 + 15$?

Geometry: How are the triangles alike? How are they different?

Measurement: If the concert starts at 4:00 and lasts 3 hours, what time will it end?

GET STARTED

- Choose a Number Names display area that allows students to sit as close as possible. Some teachers prefer to have the students sit on the floor or in chairs in front of the Number Names wall to focus their attention.
- Post the six Recording Pads and their labels, leaving a space for Today's Number.

DISCUSSION

- During each day's discussion, detailed in the Teacher's Edition, students consider questions displayed on the day's Recording Pads. Answers are collectively agreed upon and then written on the pads, providing a lasting representation of the concepts covered.
- Encourage students to interact with each other by listening to one another, sharing their reasoning, and respectfully questioning each other. To raise their level of thinking, follow up student responses with questions such as: *How do you know? How can we figure out if you're right? Does anyone else have another answer?*
- Reaching All Learners hints can help struggling students, including English Language Learners, who may benefit from another approach. References to the Great Source Math Handbook, *Math to Know*, follow each discussion strand and provide a resource for re-teaching.


Number

453,905 3 thousand
 14,376 3 hundred
3,612,927 3 million

thirty-three thousand, fifteen
 • 33,015
 • 30,000 + 3,000 + 10 + 5

33,600 | 33,200 | 33,400
 33,200 < 33,400 < 33,600

Vocabulary

Meaning	Examples
an arrangement from least to greatest, or from greatest to least	5, 10, 15, 20, 25 ...
order	
	$80 - 34 = 46$
Pictures	Non-Examples

Operations







$9 + 3 = \underline{12}$
 $99 + 3 = \underline{102}$
 $999 + 3 = \underline{1,002}$
 $1,999 + 3 = \underline{2,002}$

$100 - 3 = \underline{97}$
 $200 - 3 = \underline{197}$
 $300 - 3 = \underline{297}$
 $900 - 3 = \underline{897}$
 $812 - 3 = \underline{809}$

Today's Number

3

Measurement

 Start	 End
 Start	 End
 Start	 End



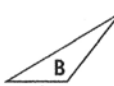

Times will vary.

Patterns and Algebra


$103 + 7 + 8 = \underline{118}$
 $(103 + 7) + 8$
 $110 + 8$

$103 + 7 + 8 = \underline{118}$
 $103 + (7 + 8)$
 $103 + 15$

Geometry

 A equilateral	 C isosceles
 B scalene	 D right

NUMBER NAMES TODAY'S NUMBER 5



Arrays:
possible arrays: 3 rows of 5 each,
1 row of 15, or 1 column of 15

Number 5 • Student Number 5 • Week 2 • Minutes


NUMBER Arrays and factors

- Problem Solving** Regina has 15 bottle caps. She puts them into an array. How many caps are in each row? (3) How many rows? (5) Show other ways to build an array for 15. (3 rows of 5 each, 1 row of 15 each, or 1 column of 15)
- What multiplication fact can you write for 3 rows of 5? ($3 \times 5 = 15$) 15 rows of 1? ($15 \times 1 = 15$) When you multiply numbers, they are called factors. What pairs of factors do these arrays show? (1 and 15, 3 and 5)
- The result of multiplication is called the product. What product does the array show? (15)

Math to Know pp. 60–61

$1 \times 5 = 5$ $6 \times 5 = 30$
 $2 \times 5 = 10$ $7 \times 5 = 35$
 $3 \times 5 = 15$ $8 \times 5 = 40$
 $4 \times 5 = 20$ $9 \times 5 = 45$
 $5 \times 5 = 25$ $10 \times 5 = 50$

Problem Solving: sample



Operations • Student Number 5 • Week 2 • Minutes

OPERATIONS Relate multiplication and division

- Complete the multiplication facts for 5. What pattern do you see in the products? (They all have a 5 or a 0 in the ones place.)
- Problem Solving** Mary has 20 shells she wants to put equally into 5 containers.
- Show one way Mary can group the shells. How many shells will be in each container? (4) Will she have any left over? (No.)

REACHING ALL LEARNERS Use counters to help students organize the 20 pieces into 5 equal groups of 4 each.

Math to Know p. 77

Pictures on Page	Total Pages	Pictures in Book
1	5	5
1	2	2
1	8	8
1	15	15

Rule: sample answer: When you multiply any number by 1, you end up with that same number.

Patterns and Algebra • Student Number 5 • Week 2 • Minutes

PATTERNS AND ALGEBRA Multiply by 1 Property

- Problem Solving** Each student in the science group is making a book. Only one picture can fit on each page of this book. How many pictures will be in a book with 5 pages? (5) 2 pages? (2) 8 pages? (8) 15 pages? (15)
- What pattern do you see? (Total Pages equals Pictures in Book) Tell why. (1 group of any number is that number.) What's the rule? (Any number times 1 is that number.)

REACHING ALL LEARNERS Tell students another name for this property is the Identity Element for Multiplication.

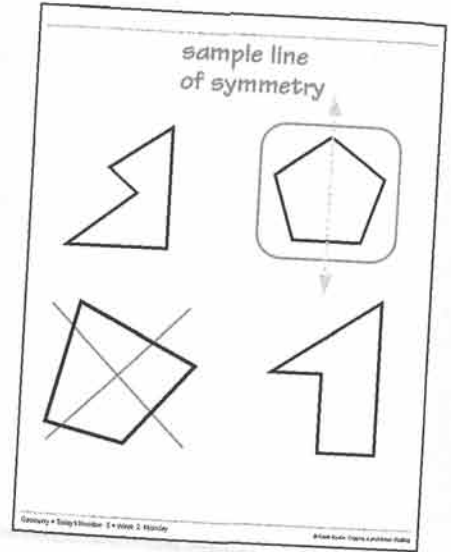
Math to Know p. 246

GEOMETRY Pentagons and line symmetry

- A pentagon has 5 sides, 5 angles, and 5 vertices. Cross out the shape that is not a pentagon. (see recording pad)
- A regular polygon has sides all the same length and angles all the same measure. Loop the pentagon that looks regular. (see recording pad)
- Which of these pentagons have line symmetry? (regular pentagon only) How many lines of symmetry does it have? (5) Draw the line of symmetry on the pentagon.

REACHING ALL LEARNERS Students could trace and cut out the pentagons, then fold to verify line symmetry.

Math to Know pp. 311, 322–323

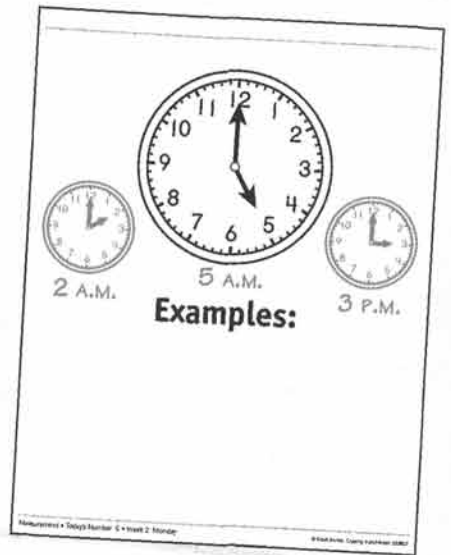


MEASUREMENT Elapsed time

- A.M. is the time between 12 midnight and 12 noon. P.M. is the time between 12 noon and 12 midnight.
- It is 5 o'clock in the morning. Would you write 5 A.M. or 5 P.M.? (5 A.M.) 5 o'clock in the evening? (5 P.M.)
- It is now 5 A.M. What time was it 3 hours earlier? (2 A.M.) What time will it be 10 hours later? (3 P.M.)
- The time that passes between start and finish is called elapsed time. Share an example from your day. (Answers will vary.)

REACHING ALL LEARNERS Use a clock face to show elapsed time between the start and end times of school.

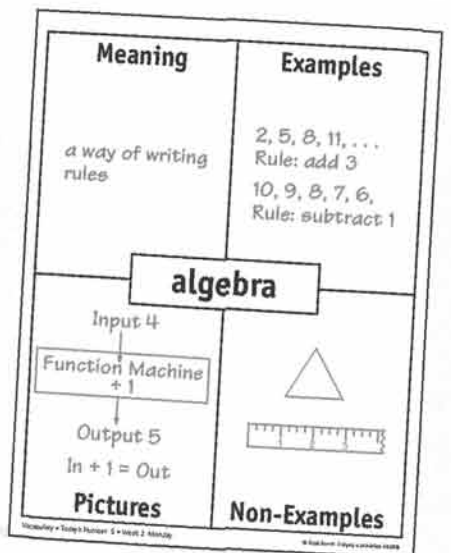
Math to Know pp. 338–339



VOCABULARY algebra

- Algebra is a way of writing rules to describe numbers, number relationships, or operations. Let's write a number pattern and a rule to describe it. (sample pattern: 2, 5, 8, 11, . . . ; rule: add 3)
- Each number in a pattern is 1 less than the number before it. What could some numbers in the pattern be? (sample answer: 10, 9, 8, 7, 6) Rule? (subtract 1)
- If you have a machine that adds 1 to any number, what number will 4 become? (5) How can you describe the numbers that go in and the numbers that come out? (sample rule: $In + 1 = Out$)

Math to Know pp. 237, 442



NUMBER NAMES TODAY'S NUMBER 10

Willie: 10,163 pennies
 Samy: 10,253 pennies

$10,163 < 10,253$

Estimated sum:

sample answer: They have about 10,000 pennies each, so about 20,000 pennies altogether.

NUMBER Compare numbers and estimate sums

- ✎ **Problem Solving** Willie and Samy collect pennies. How does Willie's collection of 10,163 pennies compare to Samy's 10,253? (sample answer: Willie's is less.)
- ✎ How can you show the comparison? ($10,163 < 10,253$)
- ✎ Can you estimate about how many pennies there are altogether? (sample answer: They have about 10,000 pennies each, so about 20,000 pennies altogether.) About how many dimes? (2,000) About how many dollars? (\$200)

REACHING ALL LEARNERS Read each number aloud. Stress the place value of each digit.

Math to Know p. 12

×	10	$23 \times 10 = 230$
1	10	
2	20	$47 \times 10 = 470$
3	30	
4	40	$7 \times 30 = 210$
5	50	
6	60	$80 \div 10 = 8$
7	70	
8	80	$210 \div 30 = 7$
9	90	
10	100	

OPERATIONS Multiplication facts and fact families

- ✎ Complete the 10s facts. What pattern do you notice? (All multiples of 10 have a 0 in the ones place.)
- Can you make a rule for multiplying by 10? (The product has a zero in the ones place.)
- ✎ Using what you know about multiples of 10, what is 23×10 ? (230) 47×10 ? (470) 7×30 ? (210) Explain how you know. (sample answer: 7×30 is $7 \times 3 \times 10$, or 21×10)
- ✎ How can you divide any number ending in 0 by 10? (Use the related multiplication fact and drop the zero.) So, what is $80 \div 10$? (8) $210 \div 30$? (7)

Math to Know pp. 63, 66

# of bags	Weight
1	→ 20 lb
2	→ 40 lb
3	→ 60 lb
4	→ 80 lb
5	→ 100 lb
6	→ 120 lb

Equation: _____

$\text{bags} \times 20 \text{ lb} = \text{weight}$

PATTERNS AND ALGEBRA Write equations

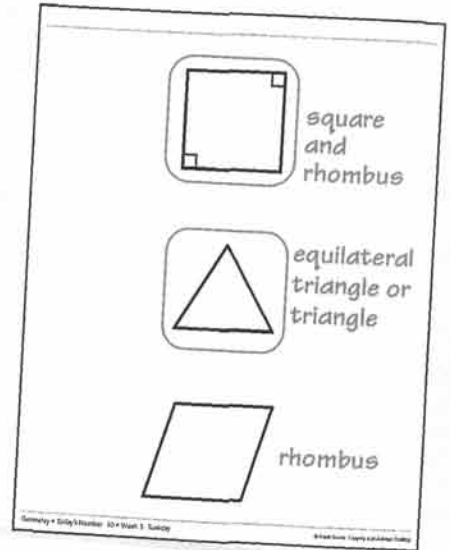
- What is the pattern in the Weight column? (sample answer: increase by 20 lb)
- ✎ How many bags together weigh 80 pounds? (4) Tell how you know. (sample answer: Double the weight of 2 bags.) How much do 5 bags weigh? (100 pounds) Explain how you found the answer. (sample answer: The weight of 4 bags plus 1 bag equals 100 pounds.) Fill in the table.
- ✎ What equation could you write to find the weight of any number of bags? ($\text{bags} \times 20 \text{ lb} = \text{weight}$)

Math to Know p. 255

GEOMETRY Angles in polygons

- *How are the top 2 shapes alike?* (same length sides and angle measures; regular polygons) *Different?* (number of sides; number of angles; size of angles)
- *How are the first and third shapes alike?* (both have 4 same length sides) *Different?* (one has only square corners)
- ✎ Regular polygons have same length sides and same measure angles. Loop the shapes that look like regular polygons. Name the polygons. (square, equilateral triangle)
- ✎ A rhombus has 4 equal sides, but not always square corners. Name the rhombus. (see recording pad)

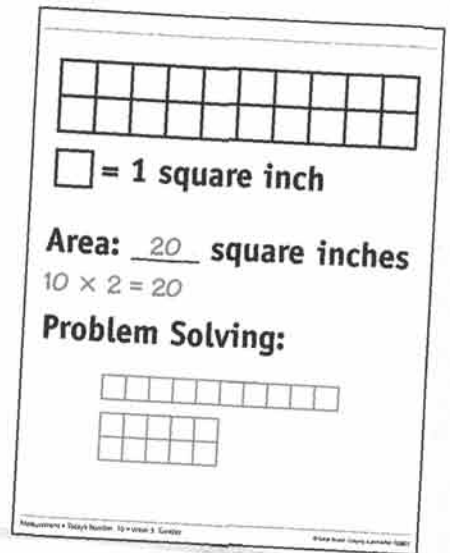
Math to Know p. 306



MEASUREMENT Area

- ✎ The space inside a figure is called its area. Tell how to find the area of a figure. (Count the square units inside the figure.) How many squares are in this figure? (20) What is its area? (20 square inches)
- ✎ Using the dimensions of this figure, is there a way you can multiply to find the area of the rectangle? (Yes.) Tell how. (Use length times width, or 10×2 .)
- ✎ **Problem Solving** Suppose a rectangle has an area of 10 square inches, what could the rectangle look like? Use a drawing to show your answer. (1 by 10 and 2 by 5 rectangles)

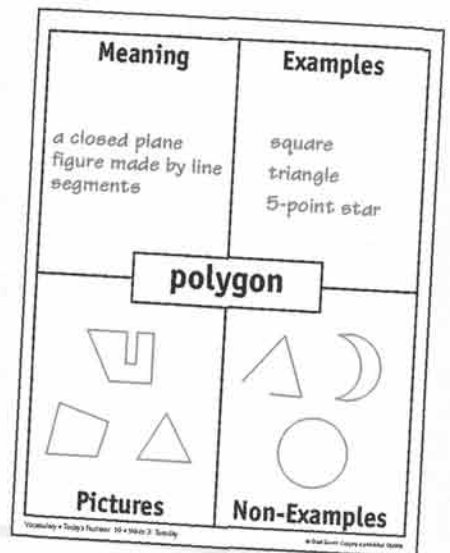
Math to Know pp. 350–353



VOCABULARY polygon

- *What are some examples of polygons?* (squares, triangles, 5-point star)
- *Are polygons 2-dimensional or 3-dimensional figures?* (2-dimensional)
- *What makes a 2-dimensional figure a polygon?* (It is closed and made up of line segments, no curves.)
- *Is a circle a polygon?* (No.) *Tell why.* (It is not made up of line segments.)

Math to Know p. 311

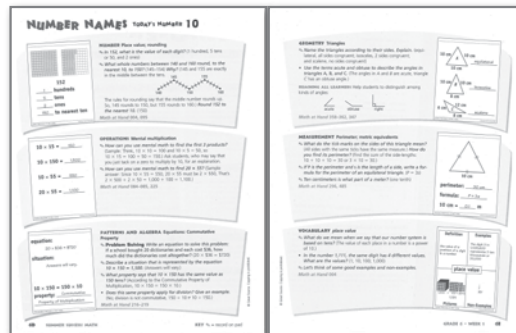


Summer Success[®] Math

Grade 6 Sample

Here are Number Names Activities you can use for students in Grade 6.

- Number Names activities reinforce concepts and help students identify patterns and connections
- Whole-group instruction weaves together different math strands including basic number sense, basic operations, patterns and algebraic thinking, geometry, measurement, and vocabulary.



To see a full sample of Summer Success[®]: Math, visit: hnhco.com/summersuccessmath

SAMPLER

Number Names Instruction

Number Names provides daily instruction covering five different math strands plus **Vocabulary**. **Problem Solving** is integrated throughout. Today's Number, unique to each day, is the connecting thread that ties the discussion together. For example, if Today's Number is 10, students may look at the number in terms of:

Number: How do you round 152 to the nearest 10?

Operations: How can you use mental math to find 20×55 ?

Patterns and Algebra: Describe a situation that can be represented by the equation $10 \times 150 = 1,500$.

Measurement: Ten centimeters is what part of a meter?

GET STARTED

- Choose a Number Names display area that allows students to sit as close as possible.
- Post the six Recording Pads and their labels, leaving a space for Today's Number.

DISCUSSION

- During each day's discussion, detailed in the Teacher's Edition, students consider questions displayed on the day's Recording Pads. Answers are collectively agreed upon and then written on the pads, providing a lasting representation of the concepts covered.
- Encourage students to interact with each other by listening to one another, sharing their reasoning, and respectfully questioning each other. To raise their level of thinking, follow up student responses with questions such as: *How do you know? How can we figure out if you're right? Does anyone else have another answer?*
- Reaching All Learners hints can help struggling students, including English Language Learners, who may benefit from another approach. References to the Great Source Math Handbook, *Math at Hand*, follow each discussion strand and provide a resource for re-teaching.

Number

152

1 hundreds
5 tens
2 ones

150 to nearest ten

Vocabulary

Definition	Examples
the value of a position of a digit in a number	The digit 3 in 1,435,600 represents 3 ten thousands or 30,000
place value	
Pictures	Non-Examples

Operations

$10 \times 15 = \underline{\quad 150 \quad}$

$10 \times 150 = \underline{\quad 1,500 \quad}$

$10 \times 55 = \underline{\quad 550 \quad}$

$20 \times 55 = \underline{\quad 1,100 \quad}$

Today's Number

10

Measurement

perimeter: $\underline{\quad 30 \text{ cm} \quad}$

formula: $\underline{\quad P = 3s \quad}$

$10 \text{ cm} = \underline{\quad 0.1 \quad} \text{ m}$

Patterns and Algebra

equation:
 $20 \times \$36 = \720

situation:
Answers will vary.

$10 \times 150 = 150 \times 10$

property: Commutative
Property of Multiplication

Geometry

10 cm A 10 cm equilateral

10 cm B 10 cm isosceles

6 cm C 12 cm scalene

NUMBER NAMES TODAY'S NUMBER 10

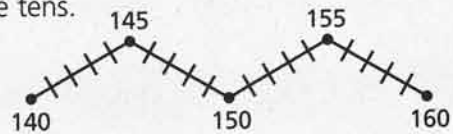
152

<u>1</u>	hundreds
<u>5</u>	tens
<u>2</u>	ones
<u>150</u>	to nearest ten

Number • Today's Number 10 • Week 1 Monday

NUMBER Place value; rounding

- ✎ *In 152, what is the value of each digit? (1 hundred, 5 tens or 50, and 2 ones)*
- ✎ *What whole numbers between 140 and 160 round, to the nearest 10, to 150? (145–154) Why? (145 and 155 are exactly in the middle between the tens.)*



The rules for rounding say that the middle number rounds up. So, 145 rounds to 150, but 155 rounds to 160.) **Round 152 to the nearest 10.** (150)

Math at Hand 004, 095

$10 \times 15 =$	<u>150</u>
$10 \times 150 =$	<u>1,500</u>
$10 \times 55 =$	<u>550</u>
$20 \times 55 =$	<u>1,100</u>

Operations • Today's Number 10 • Week 1 Monday

OPERATIONS Mental multiplication

- ✎ *How can you use mental math to find the first 3 products? (Sample: Think, $10 \times 10 = 100$ and $10 \times 5 = 50$, so $10 \times 15 = 100 + 50 = 150$.) Ask students, who may say that you just tack on a zero to multiply by 10, for an explanation.*
- ✎ *How can you use mental math to find 20×55 ? (Sample answer: Since $10 \times 55 = 550$, 20×55 must be 2×550 . That's $2 \times 500 + 2 \times 50 = 1,000 + 100 = 1,100$.)*

Math at Hand 084–085, 225

equation:
 $20 \times \$36 = \720

situation:
Answers will vary.

$10 \times 150 = 150 \times 10$

property: Commutative
Property of Multiplication

Patterns and Algebra • Today's Number 10 • Week 1 Monday

PATTERNS AND ALGEBRA Equations: Commutative Property

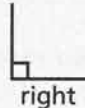
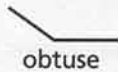
- ✎ **Problem Solving** *Write an equation to solve this problem: If a school bought 20 dictionaries and each cost \$36, how much did the dictionaries cost altogether? ($20 \times \$36 = \720)*
- ✎ *Describe a situation that is represented by the equation $10 \times 150 = 1,500$. (Answers will vary.)*
- ✎ *What property says that 10×150 has the same value as 150 tens? (According to the Commutative Property of Multiplication, $10 \times 150 = 150 \times 10$.)*
- *Does this same property apply for division? Give an example. (No; division is not commutative, $150 \div 10 \neq 10 \div 150$.)*

Math at Hand 216–219

GEOMETRY Triangles

- Name the triangles according to their sides. Explain. (equilateral, all sides congruent; isosceles, 2 sides congruent; and scalene, no sides congruent)
- Use the terms acute and obtuse to describe the angles in triangles A, B, and C. (The angles in A and B are acute, triangle C has an obtuse angle.)

REACHING ALL LEARNERS Help students to distinguish among kinds of angles:



Math at Hand 358–362, 347

10 cm 10 cm 10 cm equilateral

10 cm 10 cm 8 cm isosceles

6 cm 12 cm 8 cm scalene

Geometry • Today's Number: 10 • Week 1, Monday

MEASUREMENT Perimeter; metric equivalents

- What do the tick-marks on the sides of this triangle mean? (All sides with the same ticks have the same measure.) How do you find its perimeter? (Find the sum of the side-lengths: $10 + 10 + 10 = 30$ or $3 \times 10 = 30$.)
- If P is the perimeter and s is the length of a side, write a formula for the perimeter of an equilateral triangle. ($P = 3s$)
- Ten centimeters is what part of a meter? (one tenth)

Math at Hand 296, 485

10 cm

perimeter: 30 cm

formula: $P = 3s$

10 cm = 0.1 m

Measurement • Today's Number: 10 • Week 1, Monday

VOCABULARY place value

- What do we mean when we say that our number system is based on tens? (The value of each place in a number is a power of 10.)
- In the number 1,111, the same digit has 4 different values. What are the values? (1; 10; 100; 1,000)
- Let's think of some good examples and non-examples.

Math at Hand 004

Definition	Examples
the value of a position of a digit in a number	The digit 3 in 1,435,600 represents 3 ten thousands or 30,000
place value	
<p>1,000 + 100 + 20 + 4 1,124</p> <p>Pictures</p>	<p>$\frac{1}{2}$ XIV</p> <p>Non-Examples</p>

Vocabulary • Today's Number: 10 • Week 1, Monday

Hear what other teachers say about *Summer Success*[®]: *Math*!

“I found that *Summer Success: Math* covered a wide variety of skills. It was fast paced, developmental, and fun. It was easy to determine where the students confidence levels were and areas where remediation was needed.”

Dixie L. Clough, Teacher
Math and Reading Summer School
Warren, PA

“*Summer Success: Math* is so easy to use. I loved my kit! It was so neatly organized and well put together. I especially liked the ‘Number Names’ warm up. My students would get excited every morning when it was time to begin.”

Manda Edwards, Teacher
Mayde Creek Elementary
Houston, TX

“*Summer Success: Math* is an excellent program. It covers all the math strands with plenty of opportunities for student interaction and practice. The students loved the games.”

LeAnna Graham, Teacher
Hutsell Elementary Summer School
Katy, TX

“The constant review of concepts during the ‘Number Names’ was extremely beneficial for retention of knowledge. The children enjoyed the games and ‘Make and Take’ activities.”

Angie Meredith
EYP Summer School at Fayetteville Elementary School
Fayetteville, GA

“This program allows the teacher to be a facilitator and the students to *discover* the concepts presented.”

Wanda Smith, Teacher
EYP Summer School at Fayetteville Elementary School
Fayetteville, GA

“The problem solving in many different areas was great. I often heard ‘oh’ from the students after they made connections with math concepts!”

Marie Portillo, Teacher
Hughes Elementary School
El Paso, TX

“*Summer Success: Math* is a teacher friendly, easy-to-follow program that helps remedial students gain confidence and feel successful.”

Linda B. Spradin, Teacher
Fayetteville Elementary
Fayetteville, GA

“I felt the way the *Summer Success: Math* program connects the key math concepts with the different math strands was so vital to students academic success.”

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