Nifty Numbers

"Flash" models of 2-digit numbers on overhead using bean sticks, or needlepoint canvas. Have students color in the corresponding number on a hundred board with a red crayon. After all numbers have been colored in, ask students what shape they made: 48, 14, 15, 18, 66, 33, 17, 55, 26, 39, 29, 57, 44, 23 (heart). Variation: Call out the numbers by place value: "Cover up 4 tens and 8 ones."

(1.01e)

Brain Teaser

Give students paper squares and rectangles. The task is to divide each shape into equal parts. They may make two, three, four, five, or any number of equal parts. Let them color the sections. How many parts is each rectangle divided into? How do you know they are equal? If the rectangles are the same size and they are divided into the same number of parts, would they be equal? What happens if three rectangles of different sizes are each divided into four parts?

(1.04)

Look And See

The teacher will place eight geometric shapes on the overhead projector in a 2 x 4 array BEFORE turning the overhead on. Instruct the children to look carefully at the shapes that they will see and try to recall the position of each shape. Flip the overhead on for approximately five seconds, then off. Ask the children to name the shape that was "over the square or "under the rectangle," etc. After three or more clues have been given, turn overhead on and check answers. Turn off, position and play again.

(3.04)

Let's Explore

Give each pair of students a bag of 12-15 pieces of candy, trail mix or varied-shaped cereal.

1. Given a grid, the students will sort their items by color. Write sentences about the information from their sorting. Have students compare items and discuss similarities and differences.
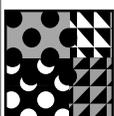
2. Write addition sentences about the items.

  Example:

  4 red M&M's and 5 green M&M's = 9 M&M's.

3. Have students share the items equally. Give leftovers to the teacher.

(1.04)

Patterns Galore

Take a piece of paper and a crayon to do a rubbing of some patterns you can find at school or at home.

(5.03)

Writing About Math

Think of a way you could sort your classmates into two different groups. Think of another way. Write your ideas for sorting in your journal..
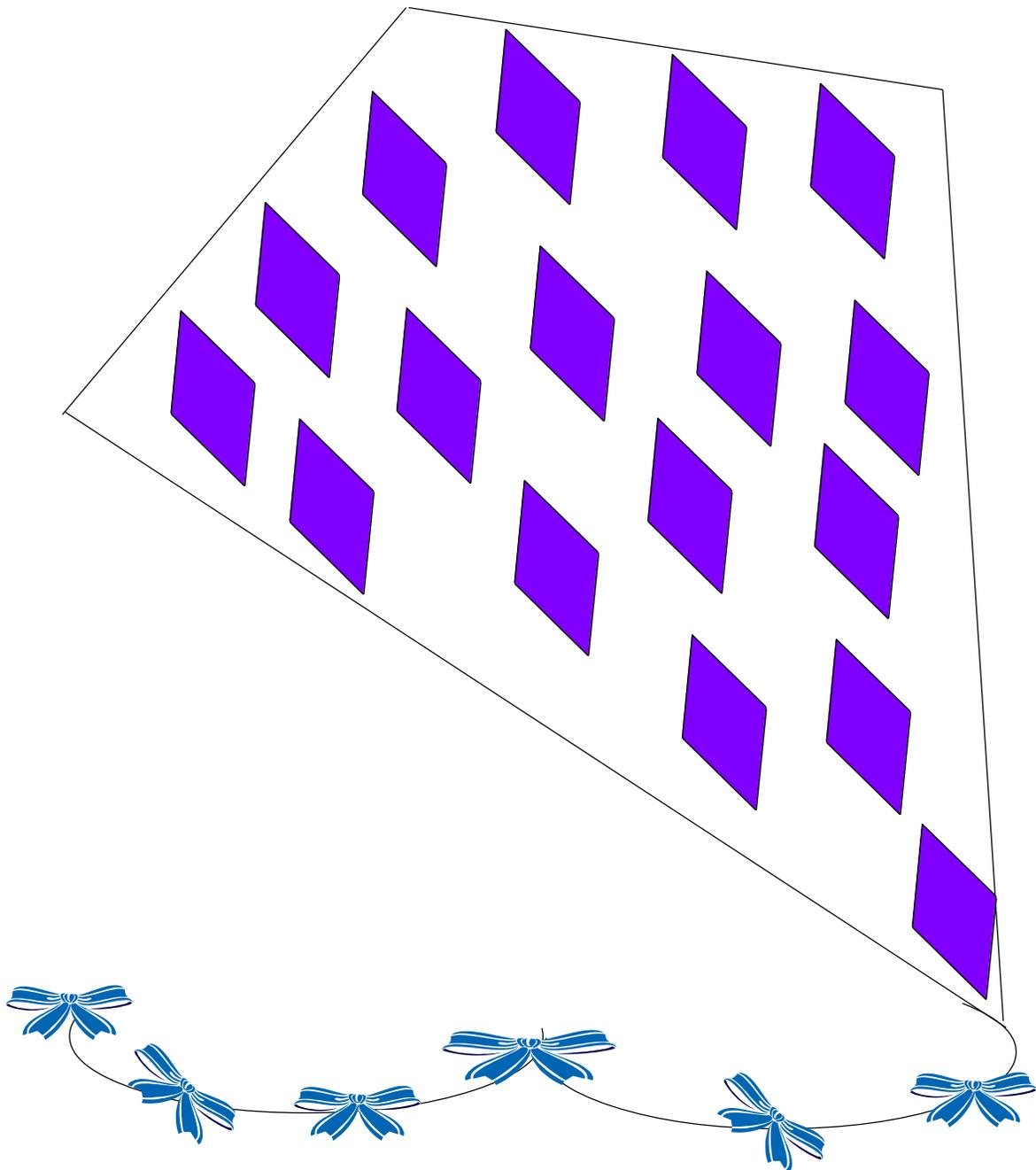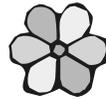
(5.03)

Flying High

Materials: Gameboard, game markers.
Number of Players: 2 players
Directions: Each player takes turns placing 1 or 2 markers on the gameboard. The last player to add a marker to the board is the winner.

Name _____

Fill in the chart.

birds	1	2	3	4	5	6	7	8
feet	2	4	6					

Add or subtract:

$$\begin{array}{cc} 10 \\ -\ 7 \end{array} \qquad \begin{array}{cc} 7 \\ +3 \end{array} \qquad \begin{array}{cc} 10 \\ -\ 6 \end{array} \qquad \begin{array}{cc} 4 \\ +6 \end{array} \qquad \begin{array}{cc} 10 \\ -\ 8 \end{array} \qquad \begin{array}{cc} 2 \\ +8 \end{array}$$

Fill in the missing numbers.

22   25   26   29   32

What will the time be two hours from now?

____ : ____
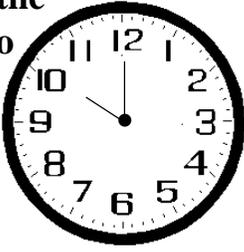
Fill in the missing numbers from the hundreds board.

	34		36				40
43			46			49	
					58		

61							
		73	74			77	
	82				86		

There were 10 cookies on the plate. Kim ate half of them. How many are left? _____

Journal: In your journal, write how you solved Kim's cookie problem. Use pictures, word, or numbers.
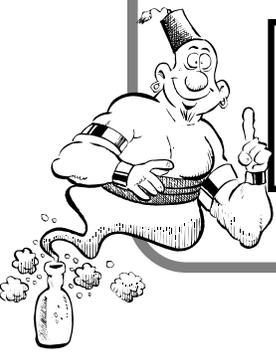
Provide a variety of items to use for nonstandard measurement activities. Discuss why any item (pencil, scissors, paper clip, etc.) could not be an accurate measurement tool. Make a list of variables.

Flexible Rulers - are great manipulatives to reinforce the concept of "units of measure" and make it easier to measure items that are not in a straight line. Preparation: cut 1" sections of drinking straws, and cut 15" lengths of plastic lacing (lanyard string). Students will tie a bead to one end of the lacing, string 12 pieces of straw, and tie a bead to the other end.

When giving directions for problem-solving activities, encourage children to use drawings and sketches as part of their answer. The direct visual involvement will help to increase the child's understanding of the mathematical concepts AND provide the teacher with a look at how they perceive the problem and solution. If an incorrect answer is given, the teacher can easily compare the answer to the drawing to understand where the student went wrong. Ask children to give answers to problem-solving work by using pictures, words, and numbers.

Mental Math

1. What is the number after today's date?

2. What is one less than 15?

3. What time would it be one hour after 9 o'clock?

4. What is the number before 73?

5. Write the sum: 7 + 3.

6. What number plus 5 equals 10?

7. What number is the same as 4 tens and 5 ones?

8. I have three cats, two dogs, and four fish. How many pets do I have?

Nifty Numbers

Give each student a pipe cleaner and 10 beads. Make a small loop on one end of the pipe cleaner so the beads won't fall off the end. Place all 10 beads on the pipe cleaner. Students can separate the beads to model sums of 10. One student can cover up some of the beads, and have a partner determine the missing addend. The pipe cleaners can then be made into bracelets.

(1.10e)

Brain Teaser

Which number sentence does not belong? Why? Use bean sticks or a hundred board to help you find the answer.

60 - 30	90 - 60
40 - 10	50 - 20
80 - 50	70 - 30

(1.04, 5.03)

Look And See

Draw a square.

Draw a circle inside the square.

Draw a rectangle underneath the square.

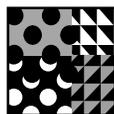Draw a triangle inside the circle.

(3.04)

Let's Explore

Make a class chart with these column headings: Number of Children, Number of Feet, Number of Fingers on Right Hand, Number of Toes. Under the column for children, list the numbers 1 through 10, and complete the chart as a group. Ask students whether they notice any patterns underneath the columns.

(5.03, 1.02)

Patterns Galore

Continue these patterns:

2, 10, 4, 20, 6, 30, 8, 40. . .

1, 100, 2, 99, 3, 98, 4, 97 . . .

3, 30, 4, 40, 5, 50 . . .

Z, 1, Y, 2, X, 3, W, 4 . . .

(5.03)

Writing About Math

Grab some Unifix cubes with both hands. Write a story telling how many you grabbed with each hand. Tell how many more you had in one hand, or tell whether you had the same amount in each.

(1.04)

Going Fishing

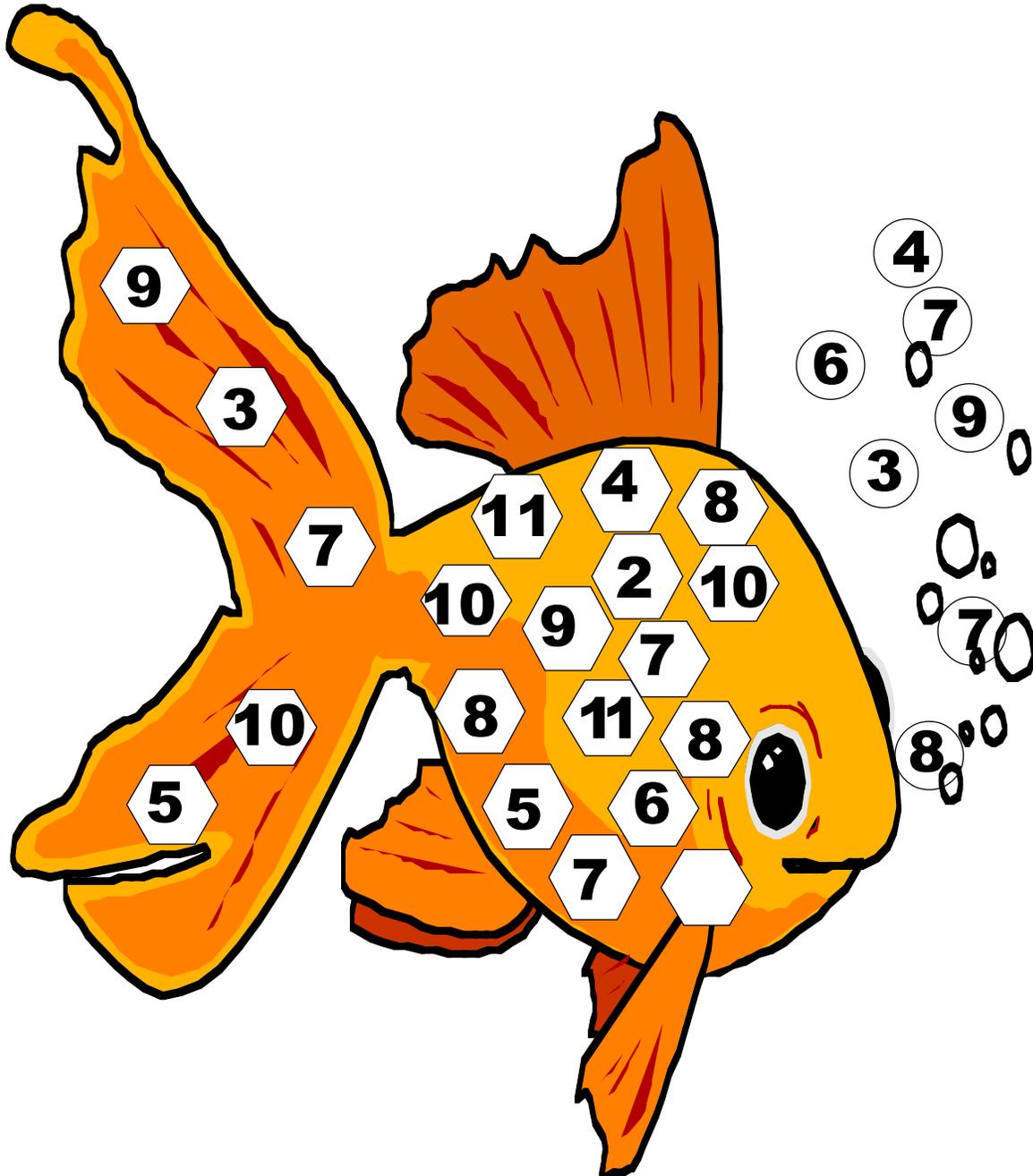*Materials:* Gameboard, pair of number cubes, 8 markers for each player in two different colors
Number of Players: 2 players
Directions: Roll cubes and add. Mark your answer. The winner is the first player to get 8 markers on the board. Variations: Use playing cards and remove all the face cards. Try to cover 10 spots!

9

3

7

4

6

7

9

3

11 4 8

10 2 10

9 7

8 11 8

10

5 6

5

7

7

8

Name _____

Finish the pattern.

✓ ⊖⊖ ☐ ✓ ⊖⊖ ☐   ____,   ____,   ____,   ____,

Add or subtract:

2	5	6	7	5	3
+ 1	- 0	+ 3	- 4	+ 4	- 3

Which number is less? Circle your answer.

a.   17,   27   c.   19,   23   e. 65,   56

b.   86,   83   d.   7,   5   f. 71,   17

Make each clock show 1:30.

[:]

Which is shorter:
Circle your answer.
a. a crayon or a pencil
b. teacher's foot or your foot.
c. a car or a bus
d. an hour or a minute

Birds We Saw Today

```
                                        X
                    X           X   X   X   X
                X   X   X   X   X   X   X   X
X   X       X   X   X   X   X   X   X   X   X
```
4 5 6 7 8 9 10 11 12 13 14

How many students saw more than 10 birds?

How many students saw 8 birds or less?

How many students saw a dozen birds?

Journal: If you are going to start a collection of 25 or more items, what would you collect? Make a list of 5 different things to collect and how you would store them.

To the Teacher

Emphasize correct math language in your classroom whenever possible. Record responses to questions by using tally marks. Line up by ordinal position words. Compare, order, and sort as you dismiss the children to return to their seats after a group time. Name materials by the correct word ("The hexagon has six sides," rather than, "the yellow pattern block has six sides.") Each time you use this math vocabulary, record the word on a chart that is posted in the classroom. Encourage the children to refer to it for spelling.

Children are often not familiar with the correct terminology for solid geometric shapes. If commercial samples are not available, solicit the help of the children to make a class collection of solids. Make a chart, illustrating and labeling geometric solids. Ask the children to suggest real-world objects which have the same shape as the geometric solids on the chart. Have the children to bring in the objects mentioned for display in the classroom.

Mental Math

1. It is 10 o'clock. What time was it one hour ago?

2. What is the number after 49?

3. 8 and 2 more equals _____.

4. The number of school days in one week.

5. What number minus 7 equals 1?

6. Six oranges plus 2 apples plus 1 pear equals how many pieces of fruit?

7. How many corners on two spheres?

8. Nine birds were sitting on a fence; three fly away. How many are left?

Nifty Numbers

Play "I Have ___, who has ___." (See Blackline Masters). Duplicate the cards. Begin the game by having a child read the number fact on his card. The child with the correct sum or difference will answer "I have the sum (difference) of ___; who has (read number fact on card). The game will end when the child who started the game identifies the sum or difference on his card.

(1.03)

Look And See

Gather several objects of varying weights. Select two of the objects and ask students to predict which weighs more. Compare weights using a balanced scale. Complete a class chart with the headings: "Weighs More/Weights Less" by drawing a picture or writing the name of the objects compared. Vary the activity to predict whether objects have equal or unequal weights.

(2.01a)

Patterns Galore

Pam eats her after-school snack in the same pattern each day. She eats ice cream on the first day, cookies on the second day, and carrots on the third day. What snack does she eat on the eighth day?

(5.03)

Brain Teaser

If you had 3 peanut butter cookies and 7 chocolate chip cookies in a jar, and reached in to get one, without looking, which kind would you be more likely to get? Why?

(4.02)

Let's Explore

Sort and classify spring leaves with the following activities.
1. Go for a walk around the school to collect spring leaves. Have students sort the leaves by various attributes such as color, size, shape and number of points.
2. Ask students to choose their favorite leaf and glue it onto a class poster to form a graph representing one of the attributes listed above. Talk about the graph.
3. Investigate the classification of evergreen trees and deciduous trees.

(5.01)

Writing About Math

Using the class chart prepared in "What Do You See," have students write observations. Encourage them to vary sentence patterns:

A _____ is heavier (or lighter) than a _____.

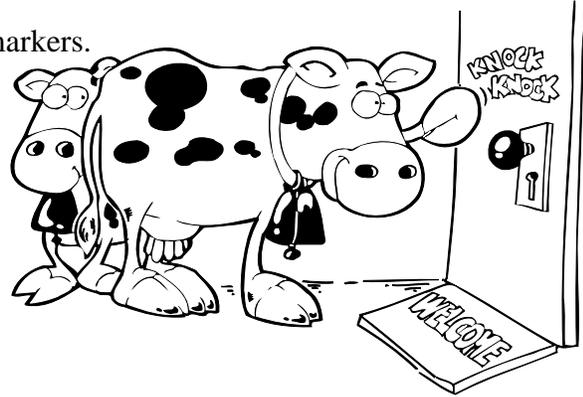A _____ weighs more (or less) than a _____.

(2.01a)

Mooove It!

Materials: Gameboard, 8 red markers and 8 yellow markers, a pair of number cubes
Number of Players: 2
Directions: Roll the cubes and subtract. Cover an answer. If the space has an opponent's marker on it, you may "mooove" it off the board.
The winner is the first person to use all his or her markers.

5	**1**	**3**	**0**
2	**5**	**4**	**4**
0	**3**	**1**	**2**
2	**2**	**4**	**0**
1	**3**	**5**	**3**

(1.03)

Name _____

Circle the pattern unit. Continue the pattern.

S S U S S U S S U __ __ __ __ __ __

Add or subtract by filling in the number.
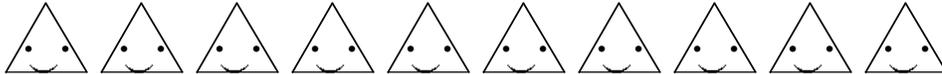
9 - ☐ = 4   ☐ + 2 = 4   ☐ + 10 = 10

8 + ☐ = 10   7 - ☐ = 1   ☐ - 8 = 2

Color the third orange. Add legs to the sixth. Add arms to the eighth. Color the tenth red.

△ △ △ △ △ △ △ △ △ △

Write the time 3 hours before the time on the clock.

1:00

___:___

Seven people are eating dinner at my house. I have a dozen hot dogs. Can each person have 2 hot dogs? Yes or No

_____

Fill in the blanks.
Who scored the most goals? _____
How many more goals did Willie score than Jared? _____
How many fewer goals did Jennifer score than Kristen? _____

Soccer Goals Scored

Jared / / / /

Kristen ⧸⧸⧸⧸ / /

Willie ⧸⧸⧸⧸ / / /

Jennifer / / /

Journal: In your journal, write about a time that you used a ruler to measure something. Why was a ruler the best tool to use?

Try using nonverbal responses to group questions. Instead of shouting out an answer, try "Give me a thumbs up if you agree and a thumbs down if you disagree." "Blink your eyes 3 times if you think that is the correct number." "Wiggle your nose if you have that answer." "Clap 3 times if you know the sum." "Snap twice if you think that we need to work on this."

What do you see?
Vary the questions asked about the objects to be compared. Instead of always asking which is heavier, ask which is lighter, which weighs more, or which weights less.

Tickle Your Brain
This investigation should be followed with similar activities using different objects. Primary children need a lot of experience with these probability activities before they eventually draw independent conclusions. Let them discuss their estimates and the results and compare them, looking for patterns in the results over time.

Mental Math

1. How many days are in this month?

2. T-e-n minus t-w-o.

3. The number before 92.

4. In the number 25, what does the 5 mean?

5. What comes next? 24, 26, 28

6. What number plus 10 equals 10?

7. What number is missing? 12, ___, 14.

8. I have 8 toy trucks and 5 toy cars. How many more trucks do I have than cars?

Nifty Numbers

Play this game with a partner. Roll two number cubes, add the numbers and snap together that many unifix cubes. Each player gets 6 turns, adding to the stack each time. At the end of the turns, each player breaks his cubes into stacks of 10. Any leftovers (fewer than 10) are to be broken into single pieces. Students will compare numbers. The one with the most wins.
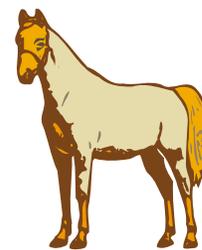
(1.01e)

Brain Teaser

(1.04)

Willie saw horses and ducks on the farm. If he counted 24 legs, how many of each did he see?
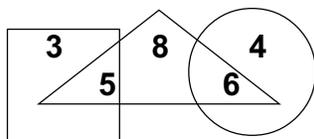
Is there more than one answer?

Look And See

Ask riddles about the drawing such as:

What number am I?
I am inside the square.
I am not inside the triangle.

What number am I?
I am in the triangle.
I am an odd number.

What number am I?
I am in the circle.
I am in the triangle..

3   8   4
5   6

(2.01c)

Let's Explore

Question: How many jumping jacks can you do in one minute?

Prediction: Have each child write his prediction and share it with a partner.

Activity: Set a timer for one minute and ask the students to count softly as their partners jump. Students then write the actual number on the card. Repeat the activity with partners changing roles.

Discussion: Have students decide how they might organize their data to complete the following statement: Most students in our class can do about ___ jumping jacks in one minute.

(2.02)
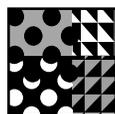
Patterns Galore

What are the next 5 letters in this pattern:

A, A, A, B, C, A, A, A, B, C, A, A, ___, ___, ___, ___, ___. Students can suggest an action for each letter, and act out the pattern. Ex: Jump, jump, jump, squat, clap. To emphasize the pattern unit, have boys act out the pattern unit, then girls, alternating back and forth.

(5.03)

Writing About Math

Draw a picture of a cat. List three things that weigh less than a cat. List three things that weigh more than a cat. List one thing that weighs about the same as a cat.

(2.01a)

Target Twelve

Materials: 3 number cubes per group, pencil and paper if desired. 25 or more Unifix cubes.
Number of Players: 2
Directions: Players take turns rolling cubes and adding. At a turn, each player rolls 2 of the 3 cubes. The player may decide to keep the sum or to roll the third cube and add. The winner is the player whose sum (from either 2 or 3 cubes) is closest to 12. *Note:* If the third cube is rolled, the sum must reflect all 3 addends. At each round, the winner collects one Unifix cube. The first person to collect **12 cubes** is the champion!

12

(1.04)

Name _____

Fill in the chart.

dogs	1	2	3	4	5	6		
feet	4	8	12					

Fill in the boxes to make the fact.

□	□	□	□	□	□
+□	+□	+□	+□	+□	+□
7	4	2	8	6	5

Write the number word answer:

seven   two   ten   zero   eight   nine
- five   -zero   -four   - zero   - five   -three
_____   _____   _____   _____   _____   _____

Circle the clock that shows noon.

2:00   12:00

What would you use to measure your desk? Circle the answer.

a.   a cup
b.   a clock
c.   a ruler

What are we wearing?

X X   wearing   wearing
        socks   short sleeves
        X   X   X
        X   X   X   X
        X X   X   X X X
                         X X X
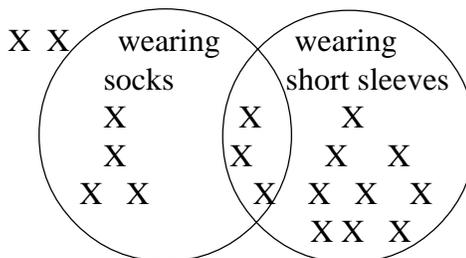
How many children are wearing socks?
_____
How many children are wearing both socks and short sleeves? _____
How many children is this graph about?
_____

Journal: Write about the graphing activity. Explain why there are 2 X's outside the circles.

Look and See

Instead of numerals, use number words or number facts within the shapes.

Tickle Your Brain

Josh has 3 marbles. Tom has 9. Bobby has 4 more than Josh and 2 fewer than Tom. How many marbles does Bobby have? (1.04)

Let's Explore

Explore "time" by asking the students to estimate, then record how many Unifix cubes they can snap together in one minute. Set a timer and have students check their estimates. Estimate and check for two minutes. Was it easier to make an estimate the second time? Why? (2.02)

Patterns Galore

Extension: Brainstorm an action that starts with each letter of the alphabet and display the list on a chart. Translate a pattern made with objects into letters. After reading the repeating pattern of letters, substitute the letters with the corresponding actions. (5.03)

Place a Venn diagram in the math center. Students are to copy the Venn diagram in their math journals and write three facts about the data. Extension: Students write a prediction based on the Venn diagram.

Mental Math

1. Two more than thirteen.

2. What comes next? 67, 68, 69, _____.

3. The number of sides on 2 hexagons.

4. The number before 27.

5. The number of school days in two weeks.

6. How many faces are on two cubes?

7. What number minus 9 equals 1?

8. Ben gets up at 6:00. Joey gets up at 8:00. How many hours after Ben does Joey get up?