CSMP Mathematics for Kindergarten

Blacklines

Note: This packet contains blackline masters for home activities, parent letters, and numerous activities that coordinate with *CSMP Mathematics for Kindergarten*. There are no limits to the number of times these blacklines may be reproduced.

McREL

Dear Parent/Guardian:

Your child is about to embark on a mathematical adventure. This year, we will be using the *Comprehensive School Mathematics Program (CSMP)* in Kindergarten. *CSMP* is activity-based and provides all students with a great variety of experiences in different areas. These areas include problem solving, number theory, sorting and classifying, probability and statistics, geometry and measurement, operations (computation), graphing, patterns and relations, and estimation.

An activity-based approach requires many materials, so we invite you to help us collect some odds and ends for our classroom. Things that you might consider junk may be valuable learning materials. With your child, look for small items (see suggestions in the box below) that we can use in our classroom for counting, sorting, estimating, classifying, patterning, and so on. We will store these items in what we call "odds and ends boxes." As you and your child are gathering objects, work with your child on sorting and discuss the various attributes of the objects you find (e.g., round, long, hard, soft, red, small, and so on).

If you have any questions, or would like to visit our classroom, please feel free to contact us. Thank you for your help.

Sincerely,

Some suggestions for odds and ends that you might find around your house include:

marbles	erasers	wooden blocks	paper clips
beads	pebbles	tiny toys	fasteners
pens	sea shells	plastic jewelry	plastic chips
nuts and bolts	thread spools	plastic flowers	old game pieces
buttons	rubberbands	balls	keys
plastic beads	washers	jacks	dice
small tiles	bread tabs	rocks	plastic bottle caps
craft pom poms	jar lids	plastic lids and caps	

Free Exploration Checklist

K0 (b)

Student Name	Interaction with peers			Gets started promptly	Enjoys play	Explains work with materials	Uses time appropriately and engages in activity	Cleans up area
	Solitary play	Parallel play	Cooperative play					

Observation Record

Student Name _____

Sorting/Classifying	Number Sense/Numeration
Measurement	**Order**
Geometry/Spatial Sense	**Patterns/Relations**
Counting/Computation	COMMENTS

Sorting/Classifying

K0 (d)

Skills and Behaviors

Student Name	1. Identifies and names the following colors: blue, green, red, yellow, white, brown, black, purple, orange				2. Sorts by size, shape, color, use, and composition				3. Sorts and classifies according to an identified attribute				4. Identifies attributes of classified items				5. Constructs and interprets concrete, connecting, and abstract graphs			
	Date observed				Date observed				Date observed				Date observed				Date observed			

Measurement

K0 (e)

Student Name	Skills and Behaviors			
	1. Appropriately uses wet and dry measurement tools for measuring length, capacity, and weight	2. Uses an appropriate tool or instrument to measure and compare various objects	3. Makes and uses estimates of measurement	4. Demonstrates understanding of concepts of more, less, same
	Date observed	Date observed	Date observed	Date observed

Geometry/Spatial Sense

KO (f)

Student Name	Skills and Behaviors				
	1. Demonstrates understanding of direction in relation to self or objects (above, below, in front of, behind, left, right)	2. Describes, models, draws, and classifies shapes	3. Uses number and measurement (i.e., number of sides, size, etc.) to describe shapes	4. Recognizes geometry in the world	5. Communicates difference between corners (angles) and sides
	Date observed	Date observed	Date observed	Date observed	Date observed

Number Sense/Numeration

K0 (g)

Student Name	Skills and Behaviors				
	1. Identifies numbers when verbally cued	2. Writes numbers in various mediums	3. Identifies numbers based on a given number of objects	4. Demonstrates understanding of number meaning	5. Correctly reads numbers
	Date observed	Date observed	Date observed	Date observed	Date observed

Order

KO (h)

Skills and Behaviors

Student Name	1. Compares objects and puts them in an individually identified order			2. Orders three objects by size, identifying small, medium, large			3. Orders multiple objects by size, identifying them in reference to smallest or largest			4. Orders objects using vocabulary of first, second, ..., next, last, in front, behind, in the middle		
	Date observed			Date observed			Date observed			Date observed		

Counting/Computation

| Student Name | Skills and Behaviors | | | |
	1. Models, explains, and develops reasonable proficiency with counting	2. Demonstrates observation of number	3. Demonstrates counting-on and counting back strategies	4. Demonstrates calculator operations and uses
	Date observed	Date observed	Date observed	Date observed

Patterns/Relations

KO (i)

Student Name	Skills and Behaviors	
	1. Recognizes, describes, repeats, and creates a wide variety of patterns	2. Demonstrates one-to-one correspondence
	Date observed	Date observed

Student Progress Report

KO (k)

Student _____

Teacher _____

● - 1st Quarter   ■ - 2nd Quarter
▲ - 3rd Quarter   ◆ - 4th Quarter

This progress report is designed to show student growth during the course of the year. Results are shown on a continuum. For example, during the first quarter, you may observe that Student A is able to identify the colors blue, red, and yellow. This indicates a beginning understanding, so you would make the first quarter mark near the point that indicates a beginning understanding. If, by the second quarter, the student now recognizes white and black in addition to blue, red, and yellow, you would make the second quarter mark a little further down the continuum, and so on throughout the year.

Example   Beginning   Understands

1. Identifies and names the following colors: blue, green, red, yellow, white, brown, black, purple, orange

├──●──■────────┤

Sorting/Classifying   Beginning   Understands

1. Identifies and names the following colors: blue, green, red, yellow, white, black, purple, orange   ├──────────────┤
2. Sorts by size, shape, color, use, and composition   ├──────────────┤
3. Sorts and classifies according to an identified attribute   ├──────────────┤
4. Identifies attributes of classified items   ├──────────────┤
5. Constructs and interprets concrete, connecting, and abstract graphs   ├──────────────┤

Measurement   Beginning   Understands

1. Appropriately uses wet and dry measurement tools for measuring length, capacity, and weight   ├──────────────┤
2. Uses an appropriate tool or instrument to measure and compare various objects   ├──────────────┤
3. Makes and uses estimates of measurement   ├──────────────┤
4. Demonstrates understanding of concepts of more, less, same   ├──────────────┤

Geometry/Spatial Sense   Beginning   Understands

1. Demonstrates understanding of direction in relation to self or objects (above, below, in front of, behind, left, right)   ├──────────────┤
2. Describes, models, draws, and classifies shapes   ├──────────────┤
3. Uses number and measurement (i.e., number of sides, size, etc.) to describe geometric shapes   ├──────────────┤
4. Recognizes geometry in the world   ├──────────────┤
5. Communicates difference between corners (angles) and sides   ├──────────────┤

Number Sense/Numeration   Beginning   Understands

1. Identifies numbers when verbally cued   ├──────────────┤
2. Writes numbers in various mediums   ├──────────────┤
3. Identifies numbers based on a given number of objects   ├──────────────┤
4. Demonstrates understanding of number meaning   ├──────────────┤
5. Correctly reads numbers   ├──────────────┤

Order   Beginning   Understands

1. Compares objects and puts them into an individually identified order   ├──────────────┤
2. Orders three objects by size, identifying small, medium, large   ├──────────────┤
3. Orders multiple objects by size identifying in reference to smallest or largest   ├──────────────┤
4. Order objects using vocabulary of first, second, ..., next, last, in front, behind, in the middle   ├──────────────┤

Patterns/Relations   Beginning   Understands

1. Recognizes, describes, repeats, and creates a wide variety of patterns   ├──────────────┤
2. Demonstrate one-to-one correspondence   ├──────────────┤

Counting/Computation   Beginning   Understands

1. Models, explains, and develops reasonable proficiency with counting   ├──────────────┤
2. Demonstrates conservation of number   ├──────────────┤
3. Demonstrates counting-on and counting back strategies   ├──────────────┤
4. Demonstrates calculator operations and uses   ├──────────────┤

Use space on reverse side for additional comments

Dear Parent/Guardian,

As part of our mathematics program at the Kindergarten level, we will make extensive use of children's literature, poems, counting songs, and fingerplays. Such activities reinforce your child's growing concept of mathematical objects (numbers, shapes, patterns, and so on) as well as provide curriculum integration.

The following fingerplays (counting songs) are ones we have used in class. Ask your child to teach the fingerplay to you or other family members. You may also like to teach your child a counting song or fingerplay you remember from your childhood.

Teacher: insert your choice of fingerplays or songs.

Sincerely,

K3 (a)

Three-Column Graph

K15
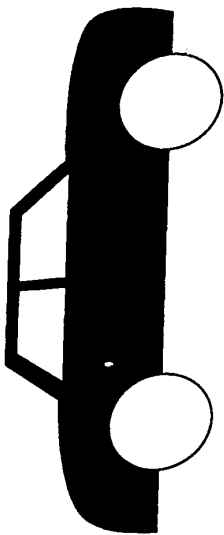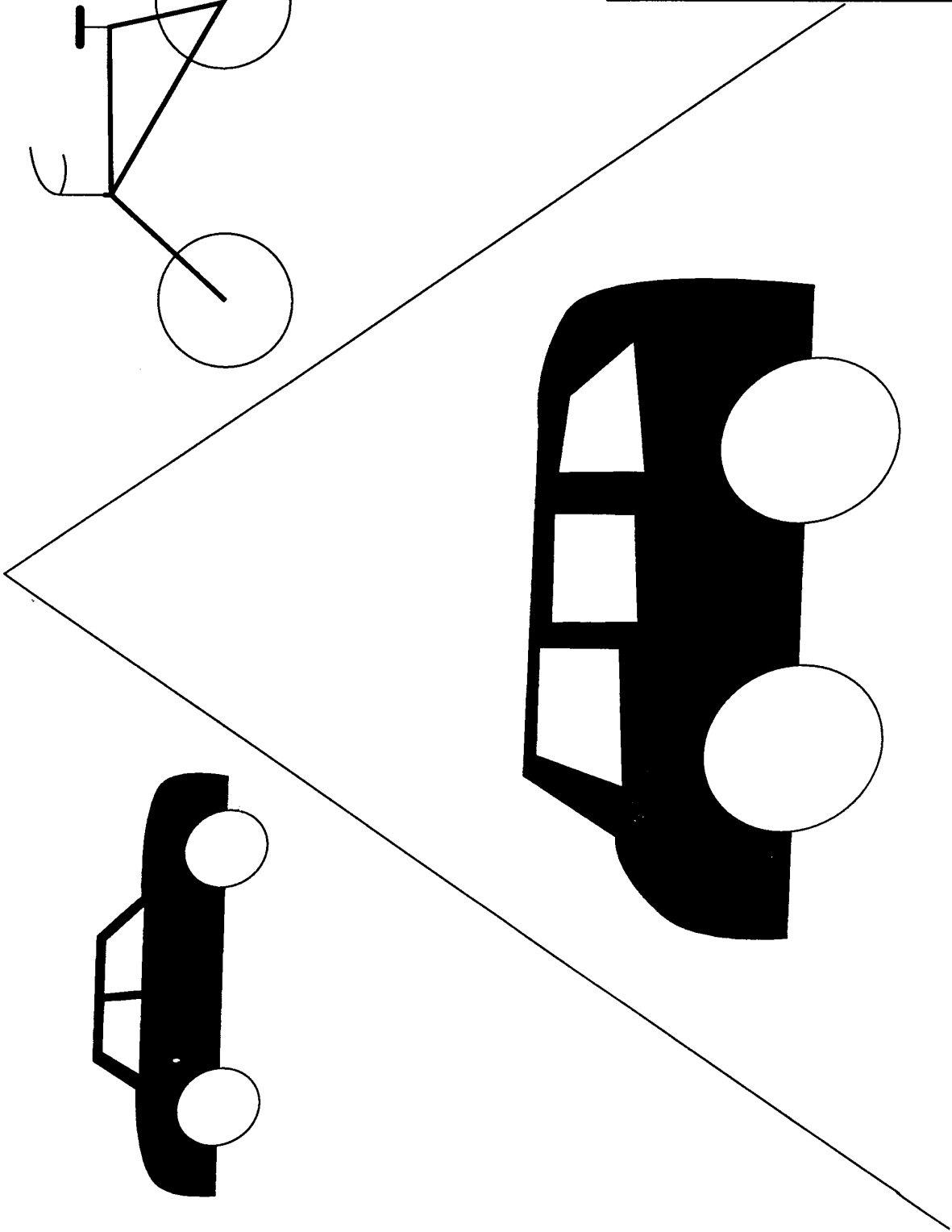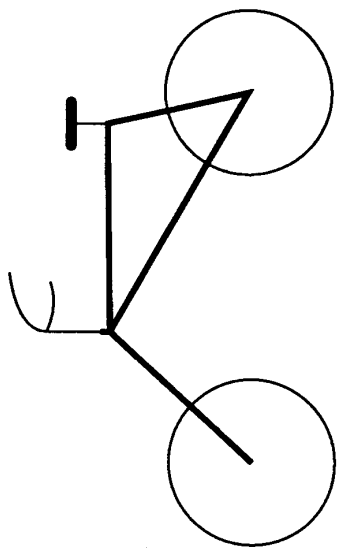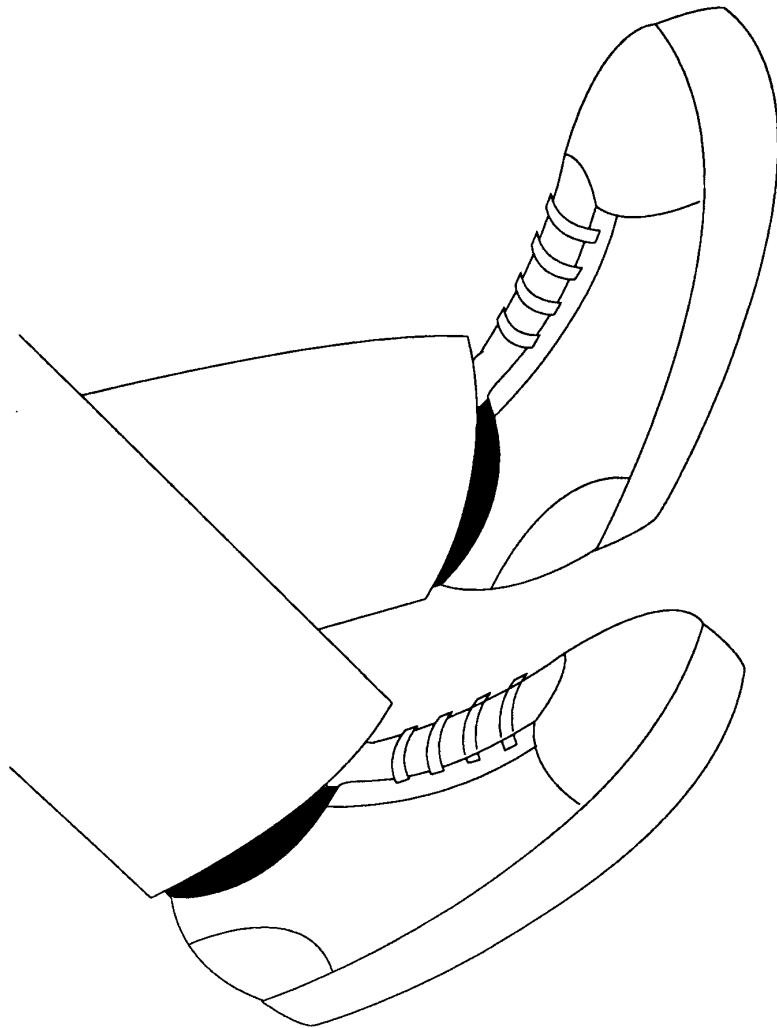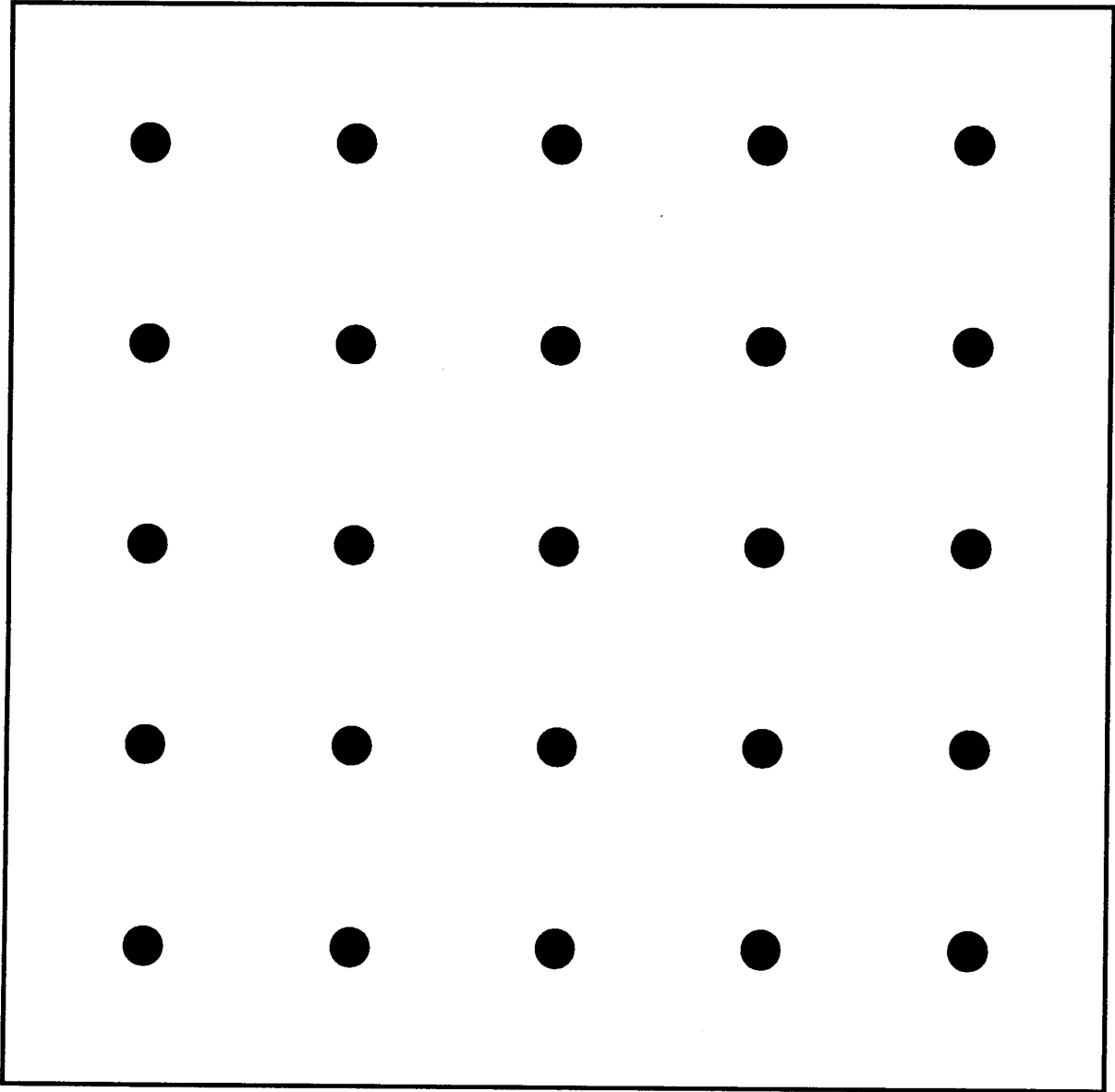
Dear Parent/Guardian:

Today in our math lesson we worked on ways to make six. We explored many of the number combinations that add up to six such as the following:

$$2 + 4 = 6$$

Please ask your child to show you some of these combinations using objects such as blocks, beans, buttons, popsicle sticks, and so on. Your child can move them around to show different combinations. Once your child has shown many of the combinations for six, add another object (block or button...) and look for combinations for seven. It is not necessary that you find all the combinations.

Thank you for your help. As always, if you have any questions please give us a call.

Sincerely,

K18 (a)
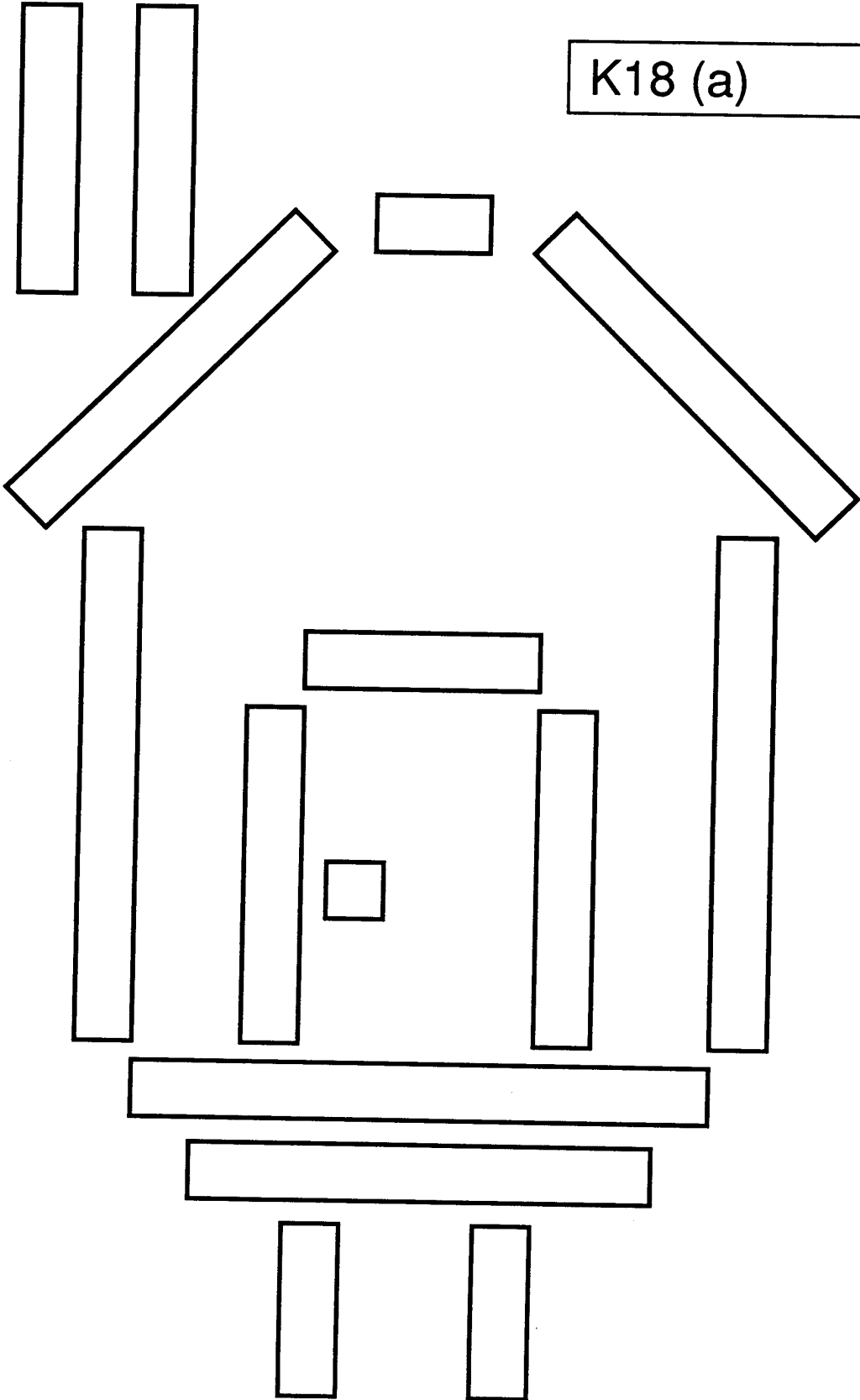
K18 (b)

K19 (a)

Snap

K19 (b)

Tap
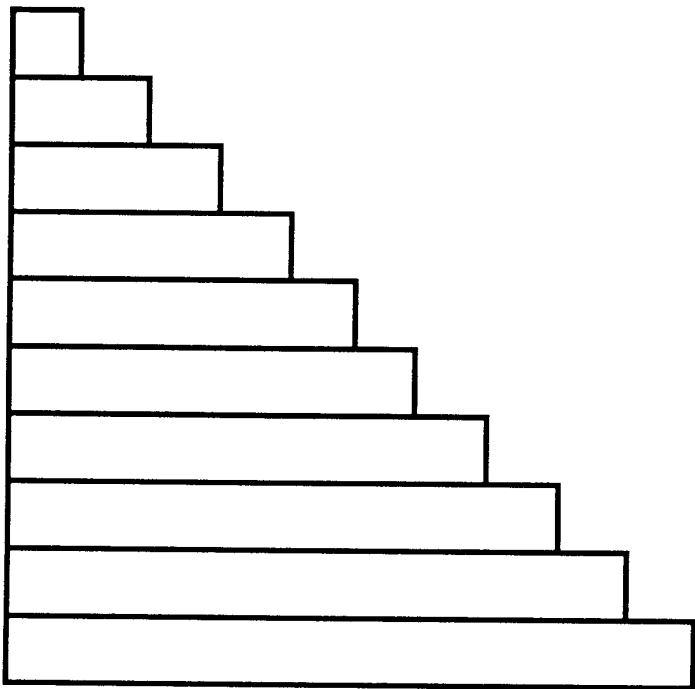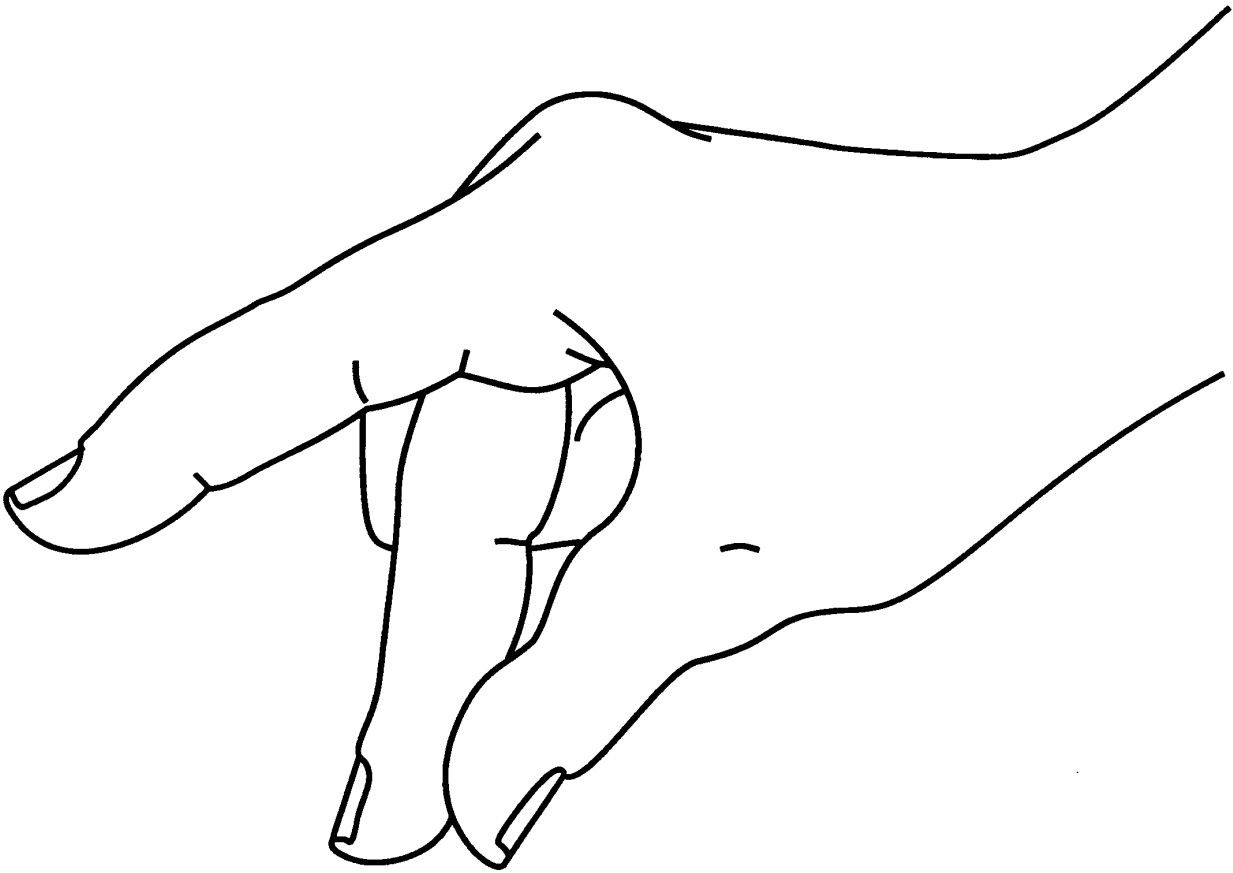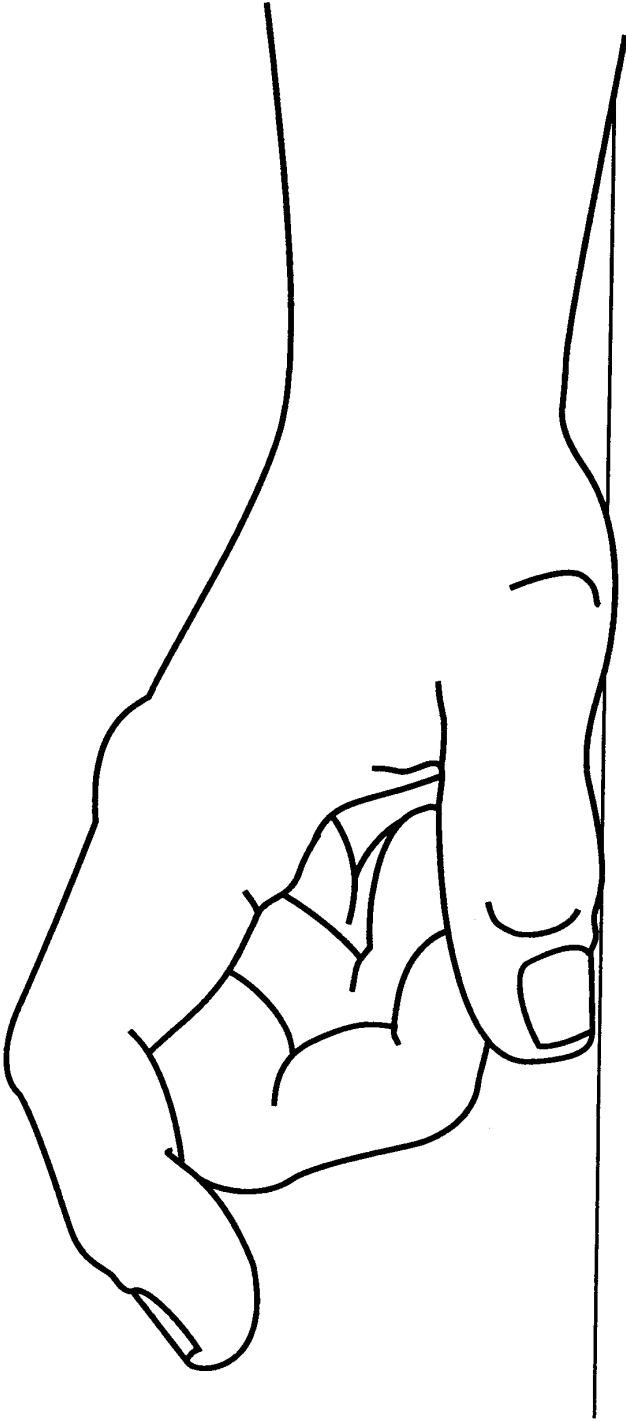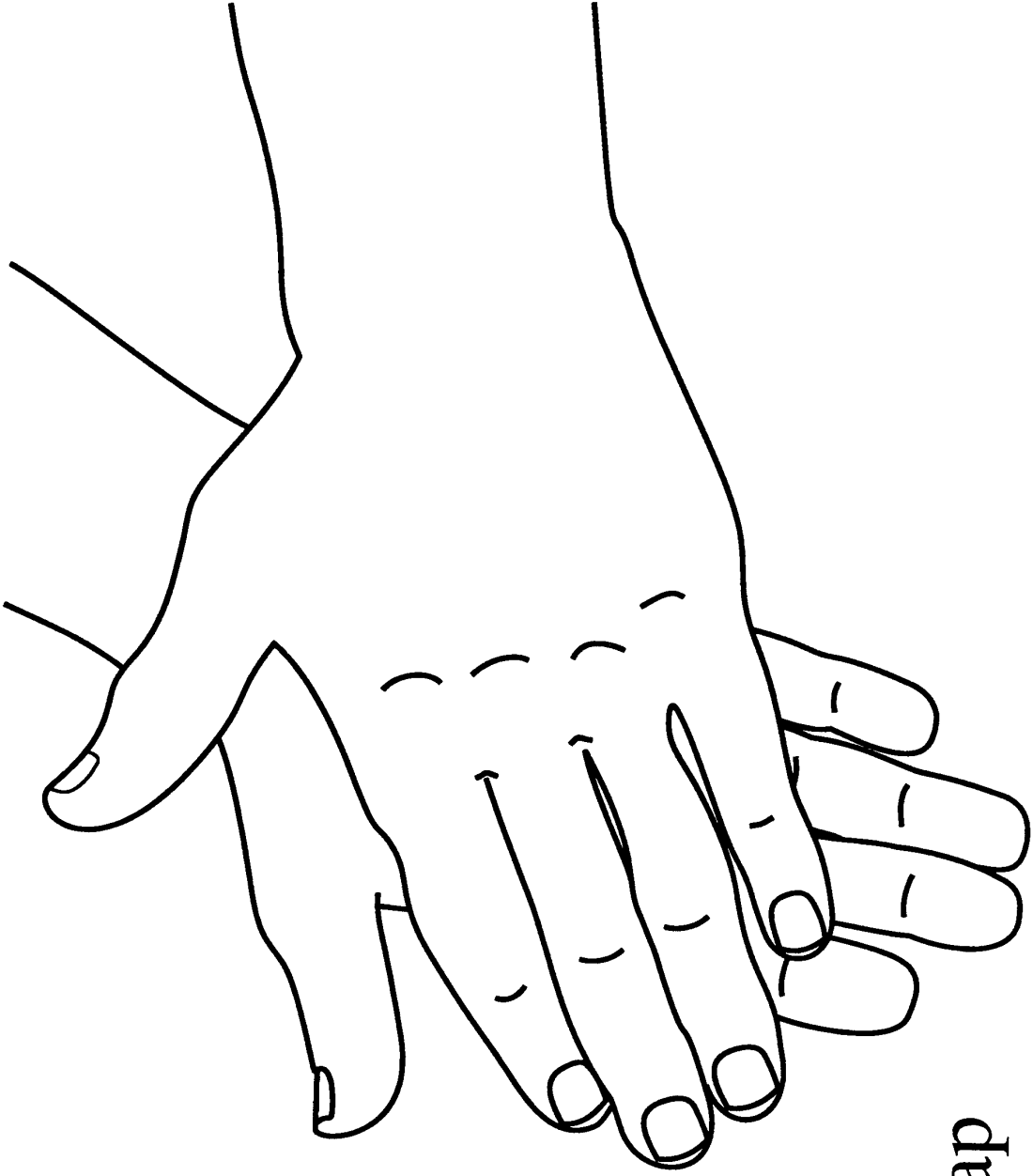
Clap

Dear Parent/Guardian:

In our math class, we have been talking about patterns. Please help your child color the circles below to make a pattern. Color blue for B and red for R. Then ask your child to teach you the clap/tap patterns (blue means clap, red means tap).

1.

(B) (R) (B) (R) (B) (R) ...

2.

(B) (B) (R) (B) (B) (R) ...
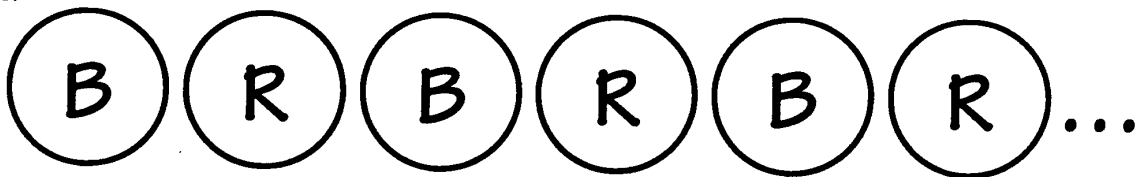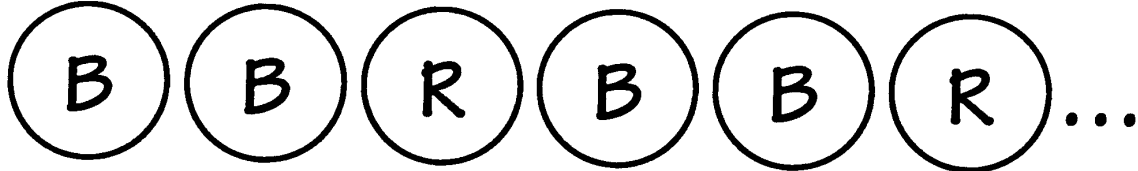
You may like to invent some other patterns, first color and then clap/tap, to do with your child.

Sincerely,

K26

Name _____

WHAT IS IT?

Color: 5 - Green
        7 - Brown

5	5	5	5	5	5	5	5	5
5	5	5	5	5	7	5	5	5
5	5	5	5	5	7	7	7	5
7	5	5	5	5	7	7	7	5
5	7	7	7	7	7	5	5	5
5	7	7	7	7	7	5	5	5
5	7	7	7	7	7	5	5	5
5	7	5	5	5	7	5	5	5
5	5	5	5	5	5	5	5	5
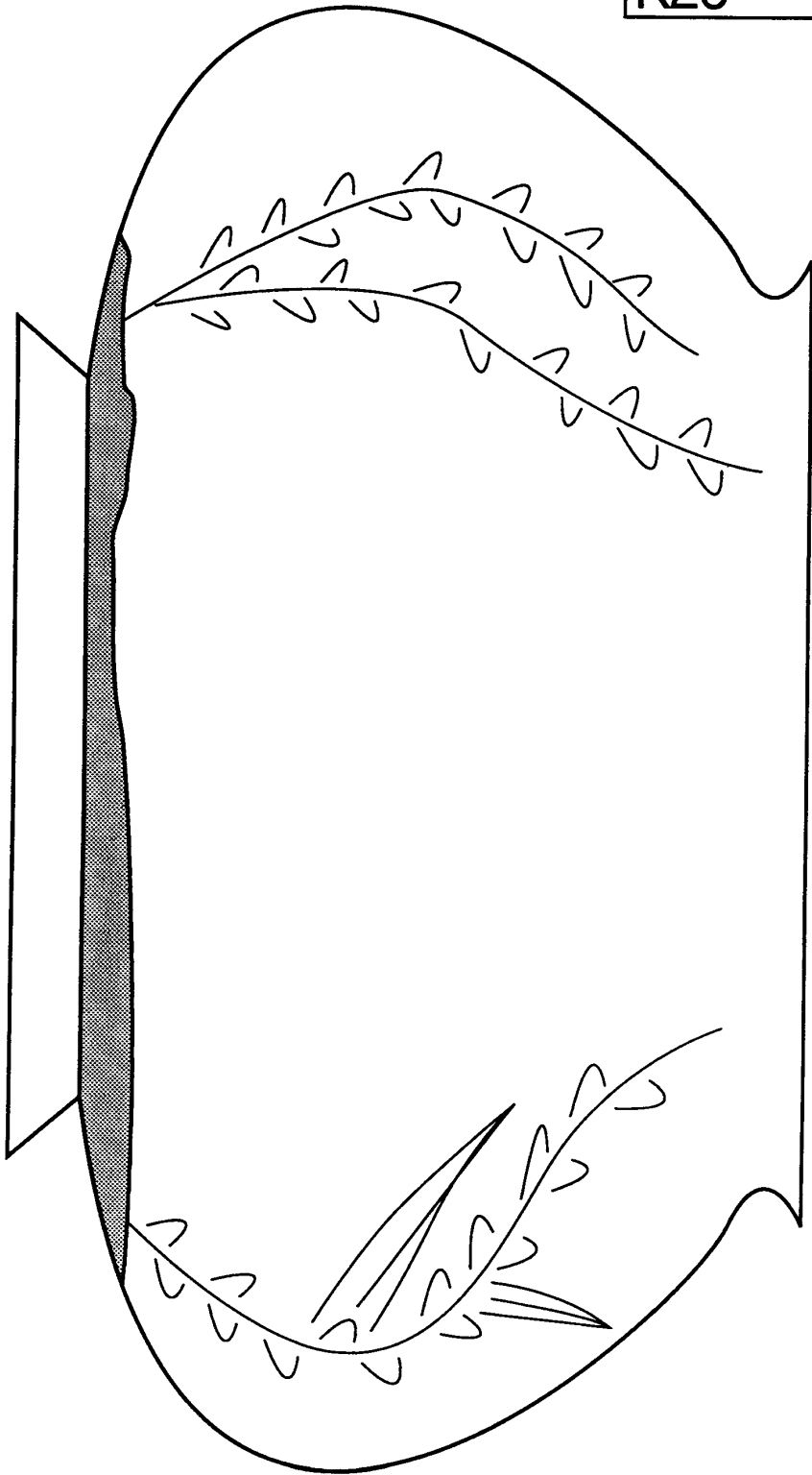
Name _____

WHAT IS IT?

Color: 1 - Red
        3 - Blue
        8 - Black

3	3	1	1	1	1	3	3
3	1	1	1 8	8 1	1	1	3
3 1	1	1	1	1	1 1	3	
1	1	8	8	1	1		
1	1	8	8	1	1		
1	1	8	8	1	1		

Name _____

WHAT IS IT?

Color: 9 - White
4 - Orange
5 - Green
8 - Black

9	9	9	9	9	9	9	9	9	9	9
9	9	9	9	9	5	9	9	9	9	9
9	9	9	9	9	5	9	9	9	9	9
9	9/4	4	4	4	4	4	4	4	4/9	9
9	4	4	8	4	4	4	8	4	4	9
9	4	4	4	4	8	4	4	4	4	9
9	4	4	4	4	4	4	4	4	4	9
9	4	4	4	8	8	8	4	4	4	9
9	9/4	4	4	4	4	4	4	4/9	9	9
9	9	9	9	9	9	9	9	9	9	9

Name _____

WHAT IS IT?

Color: 5 - Green
2 - Yellow

5	5	5	5	5	5/2	5	5
5	5	5	5	5	2	5	5
5	5	5	5	5/2	2/5	5/2	2/5
5	5/2	2	●2	2	2	2/5	5
5	5/2	2	2	2	5	5	5
5	5	5	2	2/5	5	5	5
2	2	2	2	2/5	5	5	5
5	5/2	2	2	2/5	5	5	5
5	2/5	2	2	2	5	5	5
5	5	5/2	2	2	2/5	5	5
5	5	5/2	2	2	2	2	5
5	5	2	2	2	2/5	5	5
5	2	2	2	2	5	5	5

C-Rods

K31

Orange

Orange

Brown		White

Brown		White

Purple

Purple

Light Green

Light Green

Red

Red

Yellow

Yellow

Dark Green

Dark Green

Black

Black

Blue

Blue

Dear Parent/Guardian:

In preparation for using calculators in our classroom, we are making a class graph on electronic tools. This graph will serve to introduce the calculator as an electronic tool.

It would be helpful if you could work with your child to identify and cut out a few pictures of electronic tools from magazines, ads, or catalogs. The electronic tools do not have to be math specific. Examples of electronic tools might be an electronic keyboard, a radio, a cordless screwdriver, a bike cyclometer, a digital scale, or a Nintendo Gameboy.®

You may want to take a moment to share with your child some information about any electronic tool you find. For example, How is the tool used? Where is this tool used? Who might use this tool?

Please help your child remember to bring one or two pictures for the electronic tools graph to school tomorrow. Thank you for your help on this home activity.

Sincerely,

K38
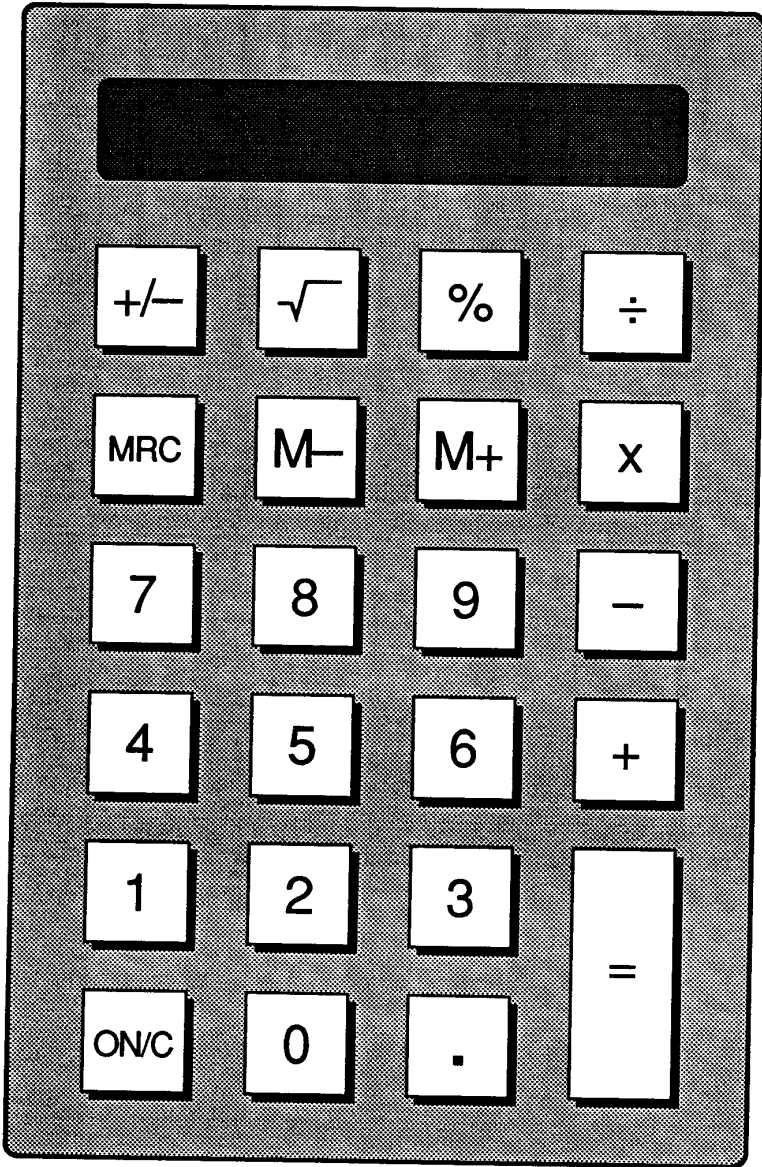
Dear Parent/Guardian:

As we begin to study measurement in our mathematics lessons, we want to become familiar with various tools used to measure. Please work with your child to locate a measuring tool (spoons, cups, tape measure, scale, and so on) around the house and send it to school tomorrow. The tool will be returned in a few days. If it is not possible to send a real measuring tool to school, help your child find a picture of a measuring tool to bring instead.

Your child will be asked to tell the class something about the measuring tool, so you may wish to have a discussion about it at home. For example, talk with your child about what the tool is called, how it is used, what it measures, and so on. In a few days you may like to ask your child what other measuring tools were discussed in class.

Sincerely,

P.S. Our measurement activities this year will mostly be comparative. That is, we will often compare lengths, weights, capacities, and so on. But we will not do much yet with specific units of measure nor will we assign measures to objects.

You may like to do some comparative measurement activities at home. For example,

- Compare the capacities of several glasses. Which glass holds the most water, the least water? Order the glasses according to their capacities.

- Compare the weights of several similar objects using a balance to check which of two objects is heavier.

- Compare the lengths of several shoes (or other things) and order the shoes by length.

Dear Parent/Guardian:

We have been working on creating and describing patterns in math class. Much of mathematics—our number system, geometry, statistics, and so on—is built on patterns. So children who learn to recognize and use patterns may be more successful in mathematics. Also, patterns play a part in many everyday activities such as following daily routines, predicting what will happen next, and interpreting our surroundings.

It is important that children see how their work in school relates to the world around them. Here are some ways you can help your child with patterns.

- Ask your child to describe patterns in such things as wallpaper, clothing, gardens, fences, and so on.

- With your child, observe patterns that you or others use to set the table, mow the lawn, get ready for school, and so on.

- With your child, look for patterns in storybooks, songs, or poems, and use patterns to predict how the story (song, poem) continues.

- With your child, listen to (or look for) sound (visual) patterns in nature and use patterns to recognize things.
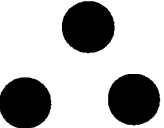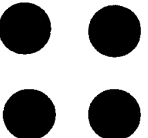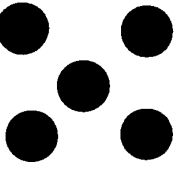
These activities will help your child realize the importance of patterns.

Sincerely,

Name _____   K62(a)

In each row, write the numerals from 1 to 5.

•	• • •	• • • •	• • • • • •	• • • • • • •
1	2	3	4	5
1	2	3	4	5

Name _____ K62(b)

Each row should contain the numerals from 1 to 5. Complete each row.

1	2	3	4	5

1		3		5

	2		4	

1				

Name _____

Each row should contain the numerals from 6 to 10. Complete each row.

6	7	8	9	10

6		8		10
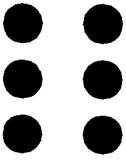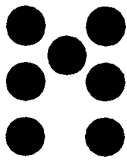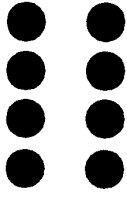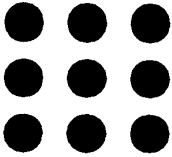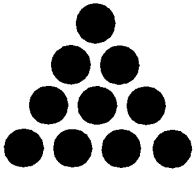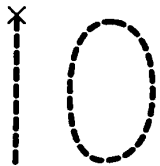
	7		9	

				10

Name _____ K62(c)

In each row, write the numerals from 6 to 10.

6	7	8	9	10
6	7	8	9	10

Dear Parent/Guardian:

We have been using calculators at school to enhance many of our math lessons. Calculators are useful tools an help us work on mental arithmetic, pattern recognition, and problem-solving strategies.

So far we have been getting familiar with calculators, but today we taught our calculators to count. If you have a calculator at home, you may ask your child to show you how to teach the calculator to count. For your information, you do this by using the following steps:

(1) Put on the starting number (usually 0 or 1).
(2) Press ⊞ ①.
(3) Then, press ⊟ ⊟ ⊟ and so on.

Note: If your calculator does not add 1 each time you press ⊟ (step 3), it may be a calculator without an automatic constant feature. Try another calculator or borrow one that does have this feature.

Later we will be using calculators for other activities and may ask you to do some of these activities at home as well. We hope you and your child enjoy using a calculator.

Sincerely,

K67
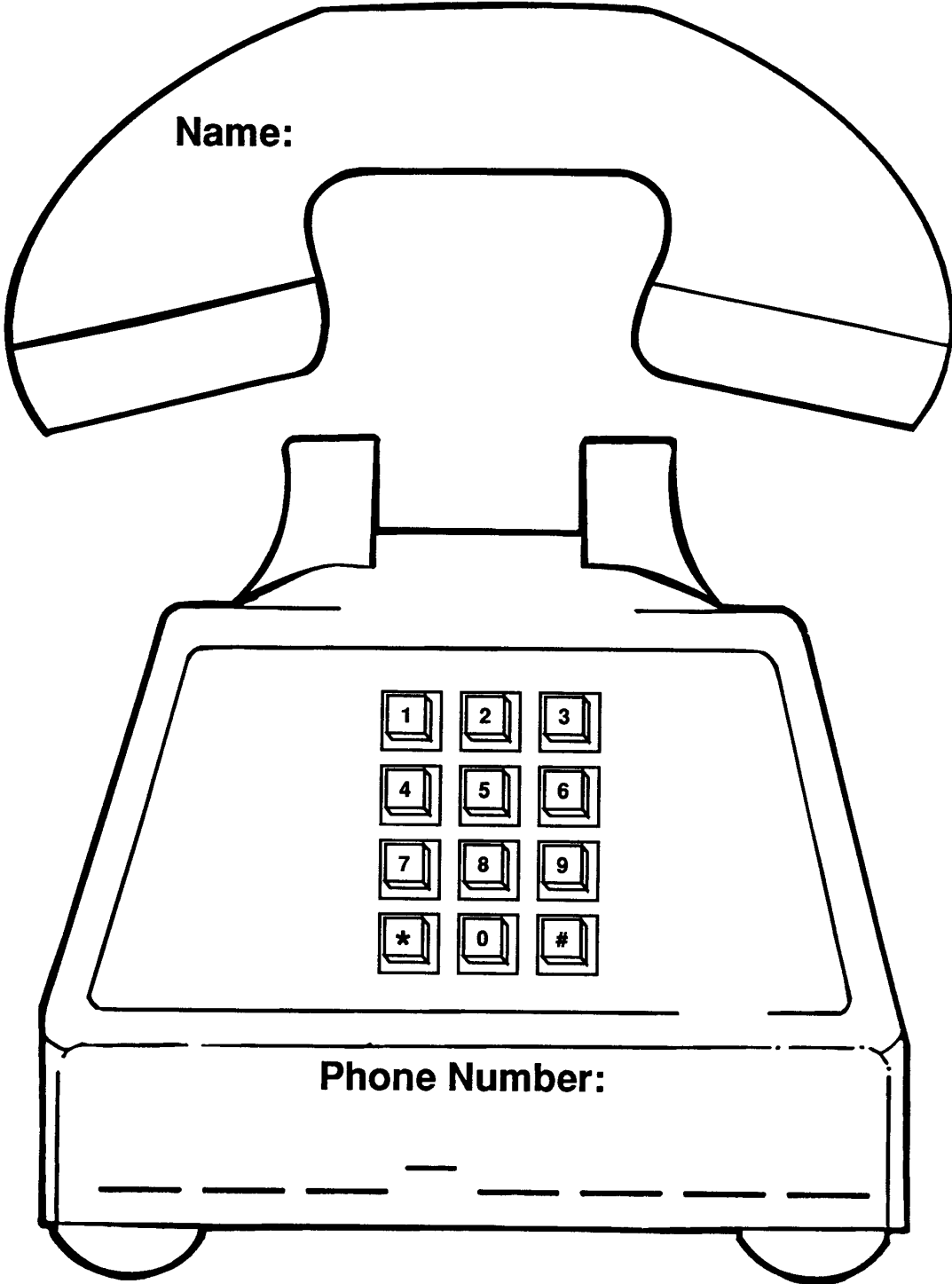
Name:

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

Phone Number:
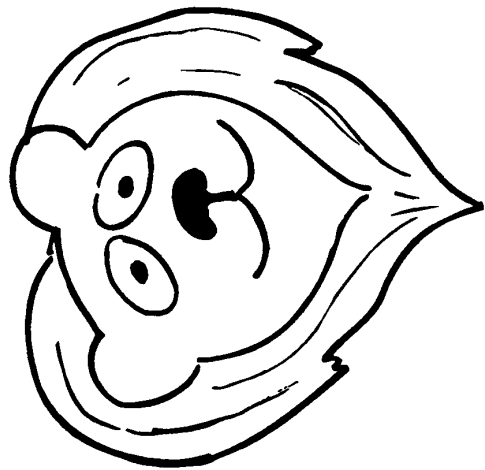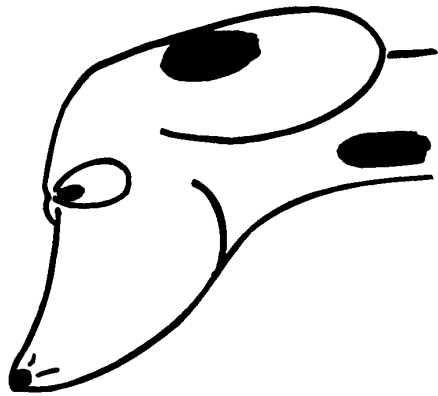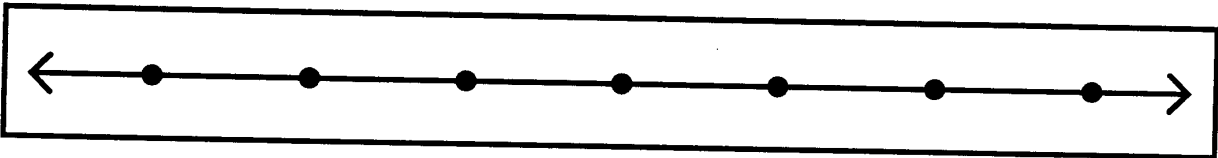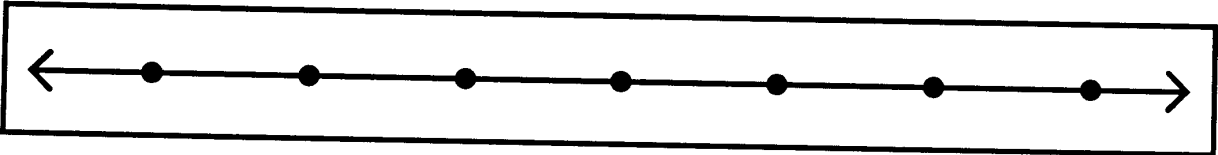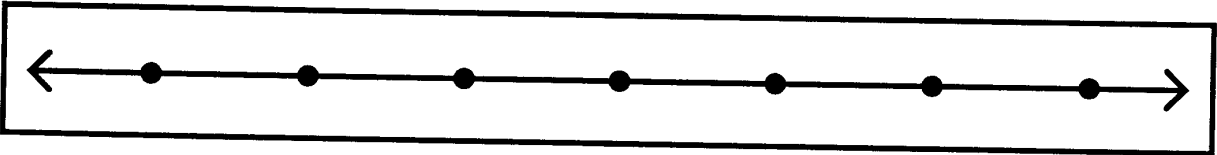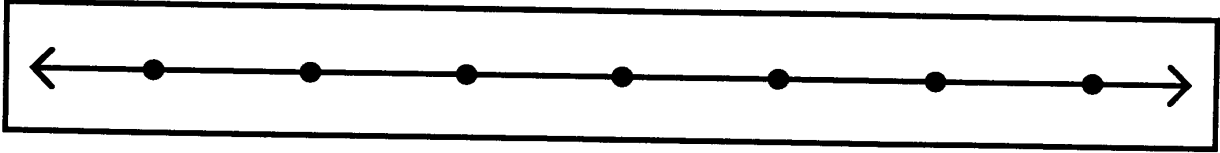
Six-Column Graph

K71

Five-Frames

Start at the star. Join the dots, counting by ones.

1 ★
18
17
15
16
14
2
13
3
12
11
4
5
6
10
9
7
8

Start at the star. Join the dots, counting by ones.

● 9

16
●

15
●

13
●

12
●

● 14

● 17

● 11

18
●

20
●

19
●

8
●

10
●

7
●

● 6

5 ●

● 4

21 ●

3
●

2 ●

29
●

*●
1   30

● 28

27
●

26 ●

24
●

25
●

●
22

●
23

Start at the star. Join the dots, counting by ones.

30

31

34

28

26

33

27

36

35

29

32

25

24

38

20

37

19

18 39

22

11

40

21

41

23

12

45

13

4 47

43

15

6

17

44

42

14

5

46

10

8

16

7

48

9

3

2

1 ★

49

Start at the star. Join the dots, counting by ones.

22
21
3
20
4

19
17
16
18
5
14
15

11
10
13
6
8
12
9

7

Start at the star. Join the dots, counting by ones.

18

17

19

16

20

22

15

21

5 *

7

23

8

14

6

9

13

10

12

11

Start at the star. Join the dots, counting by ones.

15

16

13

14

17

18

12

11

20

19

63

64

21

62

61

22

59

23

58

24

60

57

56

25

33

32

26

55

31

53

54

34

35

27

28

52

51

37

36

29

44

30

50

45

48

49

42

38

39

43

47

46

41

40

Start at the star. Join the dots,
counting backward.

3

9

1

10

0   2
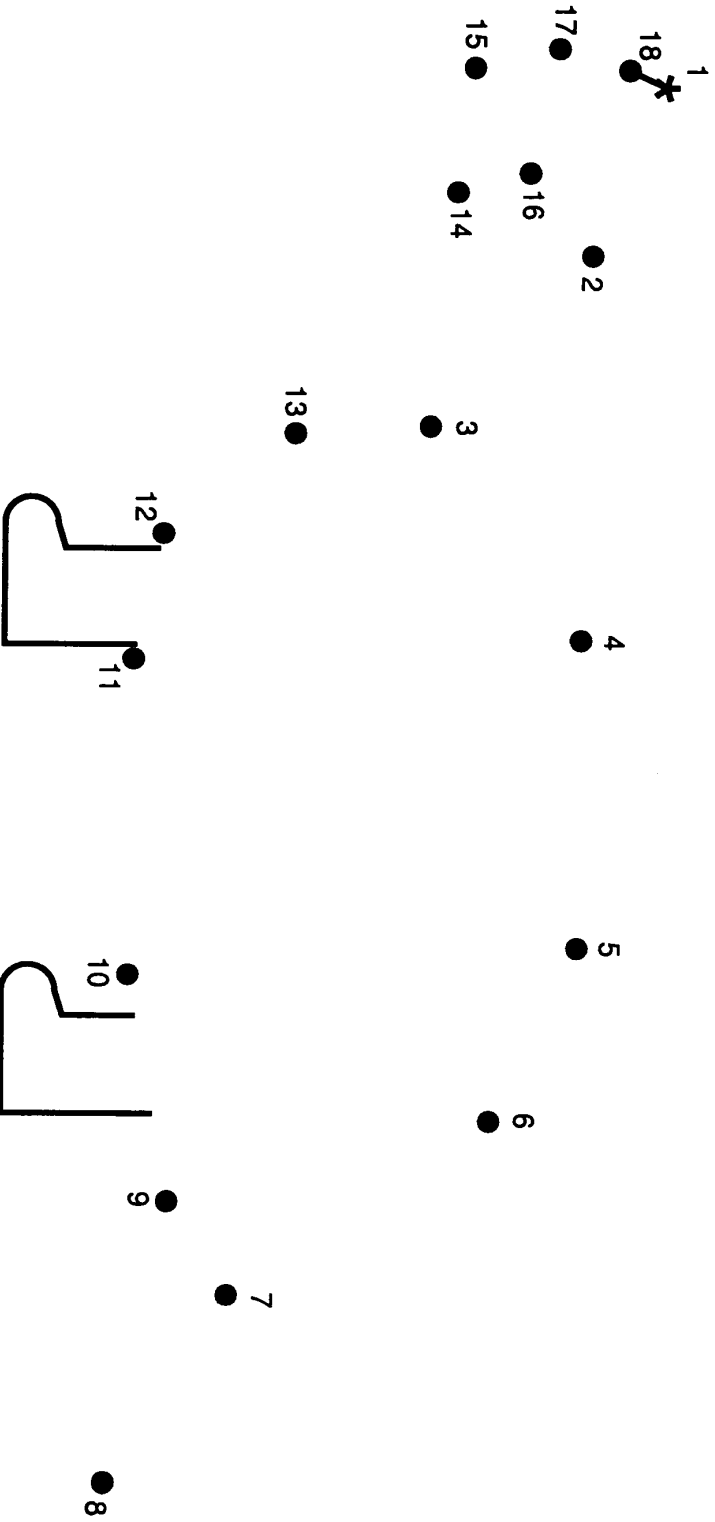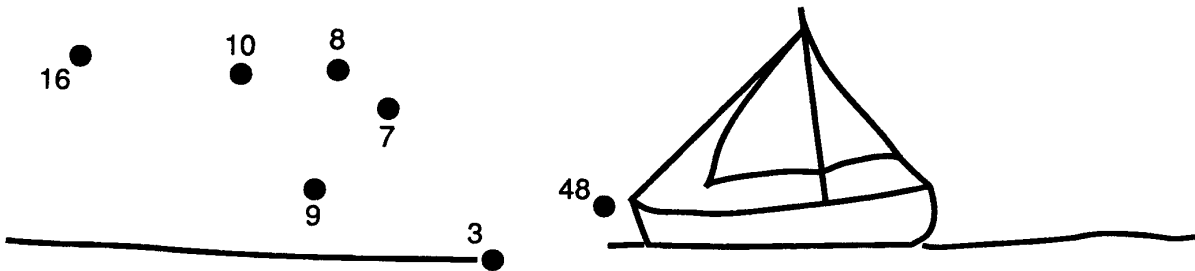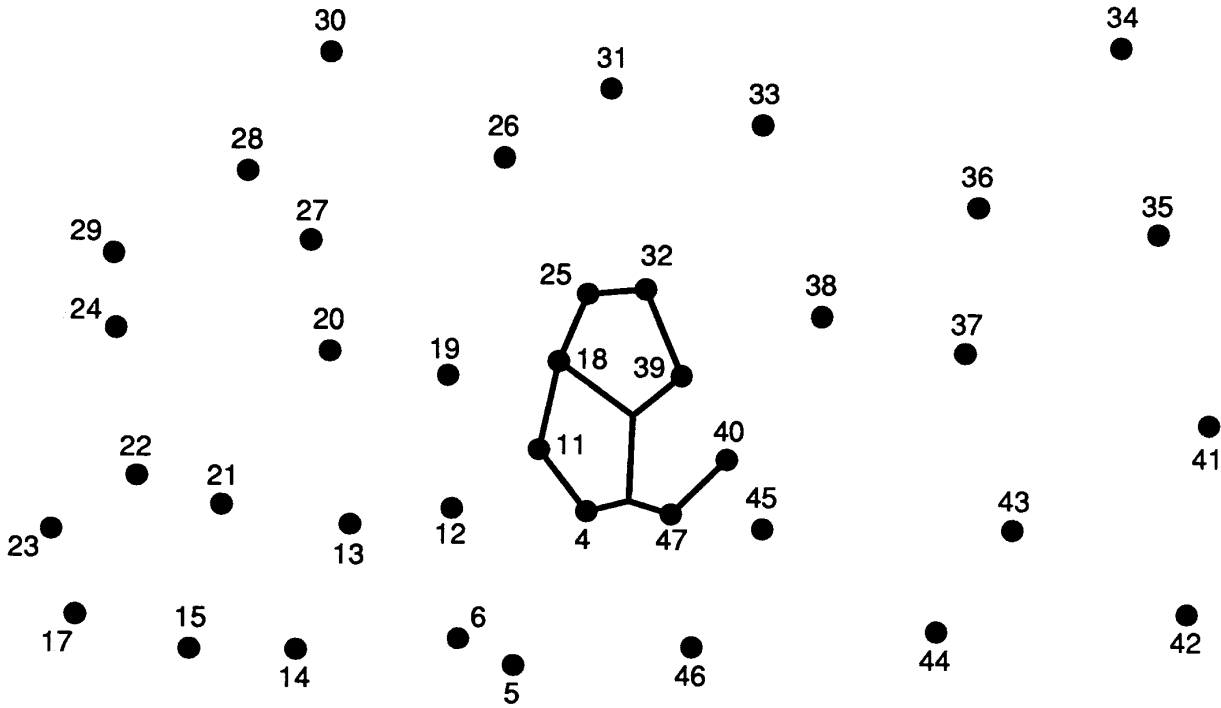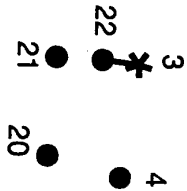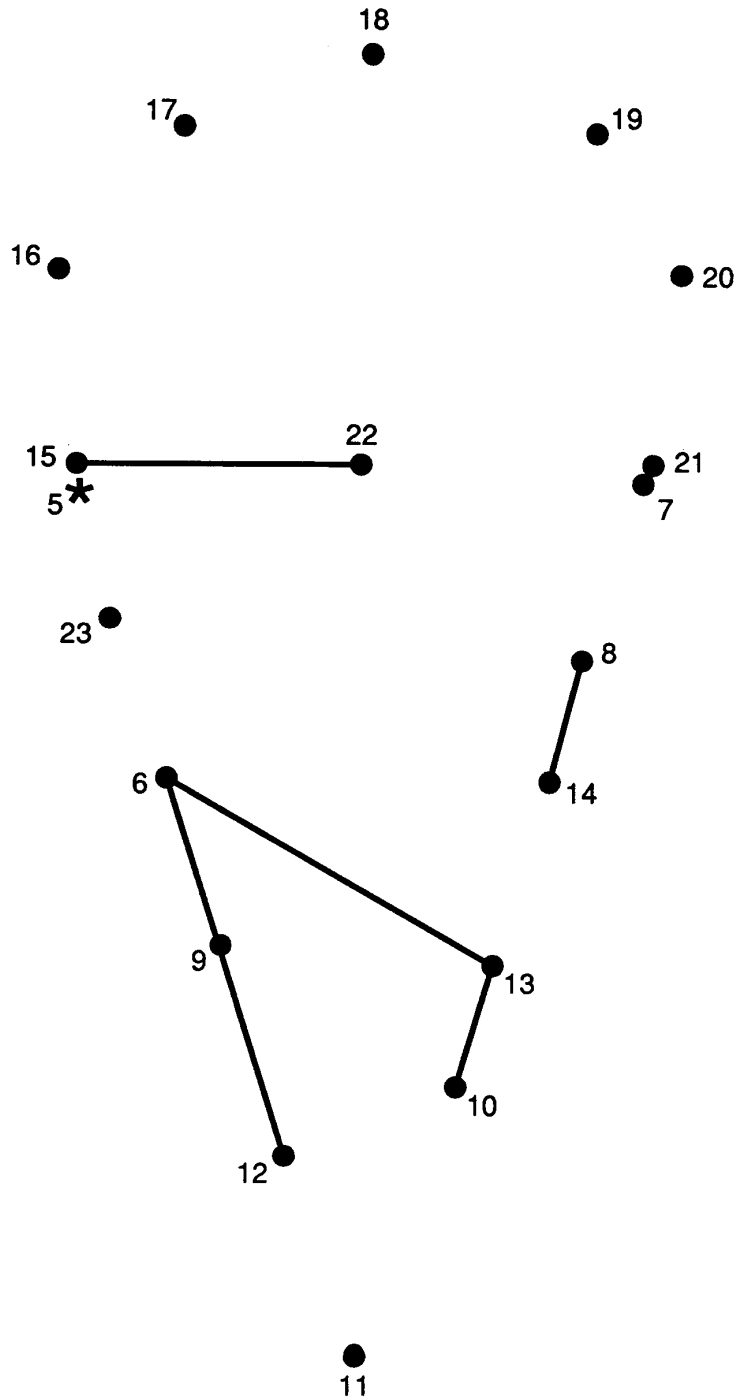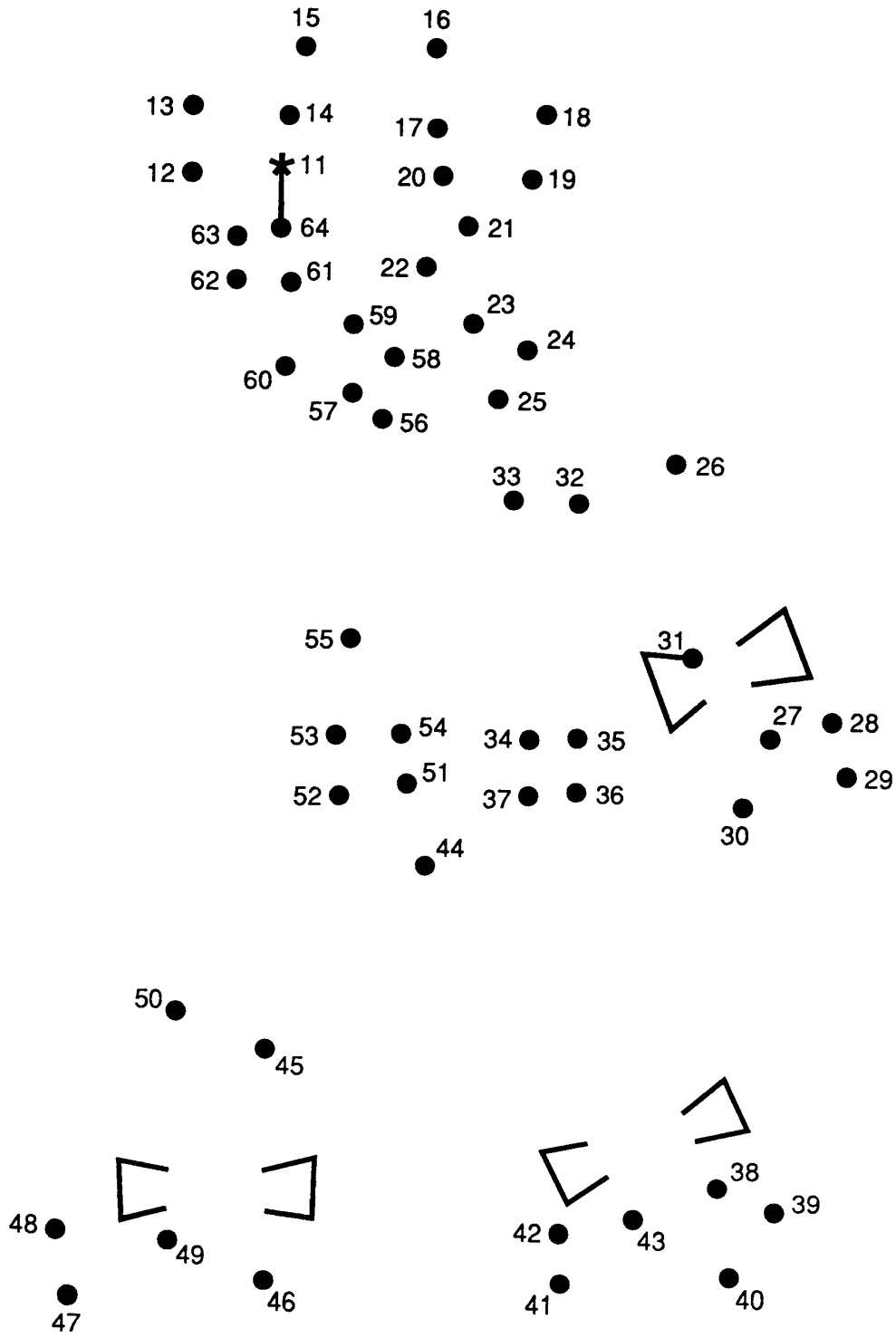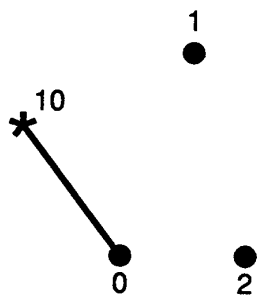
7   5

6

8

4

K101(h)

Start at the star. Join the dots, counting backward.

5 ● 7 ● 9 ●

3 ●

4 ● 6 ●

8 ●

10 ●
2 ●

20 ●

1 ●
* 11 ●
12 ●
21

19 ●

18 ●
13 ●

17 ●
15 ●
14 ●

16 ●

Start at the star. Join the dots, counting backward.
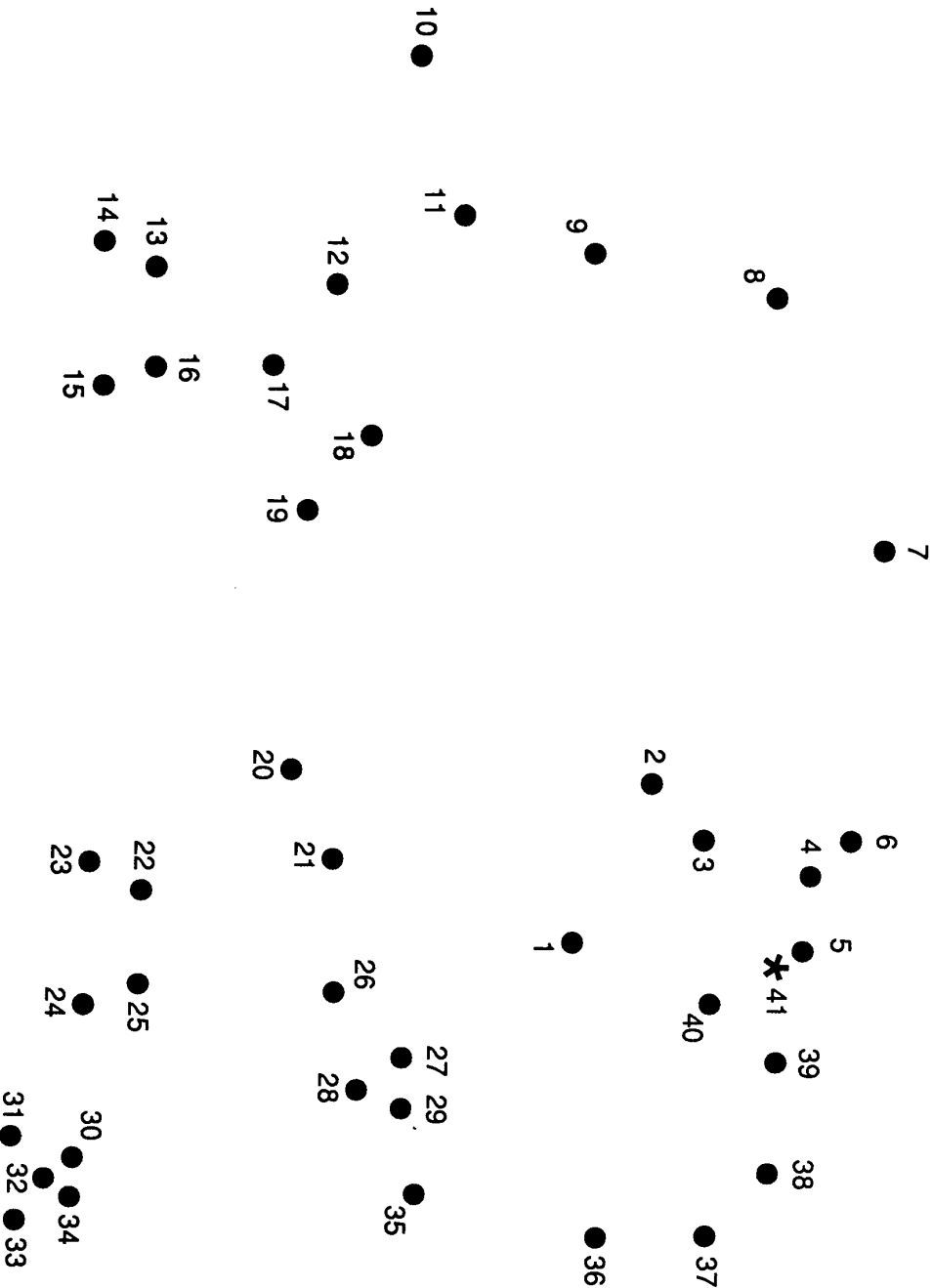
Dear Parent/Guardian:

We have been using arrows and arrow pictures in some of our math lessons. You may have seen papers coming home and wondered about the new art work. Since arrows are used everywhere in our daily lives—signals, advertisements, and so on—why not use them in mathematics?

Arrow diagrams are an important teaching aid in *CSMP* because they are a pictorial way of showing relationships. Relations play a central role in mathematics, and arrows provide a vivid and concrete way to understand them.

Here are a few examples of the way arrows picture relationships. So far in Kindergarten we have primarily used arrows to picture relations in stories, as in example A. For this picture, your child may like to tell a different story. Examples B and C show numerical relationships. These types of relations have not yet been introduced in our class, but will be in a few weeks. Can you draw more arrows or label other dots?

A

Monkeys   Bananas

B You are my 5-friend

4   1

0   2

5   3

C

+2

2

0   10
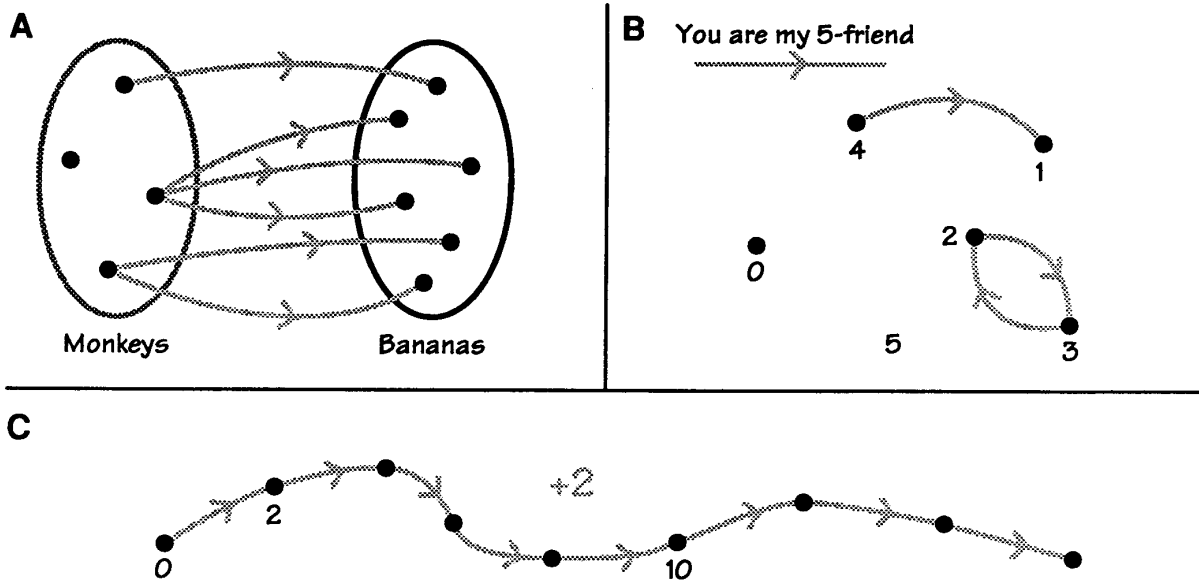
We hope you can see from these examples that arrow pictures are fun to use in mathematics.

Sincerely,

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109

K117

	Shorter
	Equal
	Longer

1	15	29
9	10	26
5	12	21

2	14	20
6	11	27
5	18	24

3	13	21
8	12	25
7	19	29

4	12	26
6	15	20
8	16	21

5	11	24
7	13	28
9	17	20

6	10	28
8	14	29
1	11	22

7	16	22
6	19	24
2	15	20

8	17	27
5	18	20
7	13	26

9	18	23
5	16	21
3	14	26

0	19	25
4	17	21
9	10	27

4	15	26
1	19	28
5	12	23

7	14	27
0	10	23
2	18	22

6	13	28
3	18	22
0	16	23

3	12	23
8	11	26
4	17	28

0	11	29
5	17	24
1	15	25

2	10	22
9	12	27
6	14	24

2	16	21
7	13	25
1	11	28

2	17	24
1	16	29
8	13	27

6	18	20
9	15	23
3	12	25

4	19	25
3	14	22
0	10	29

K132(a)
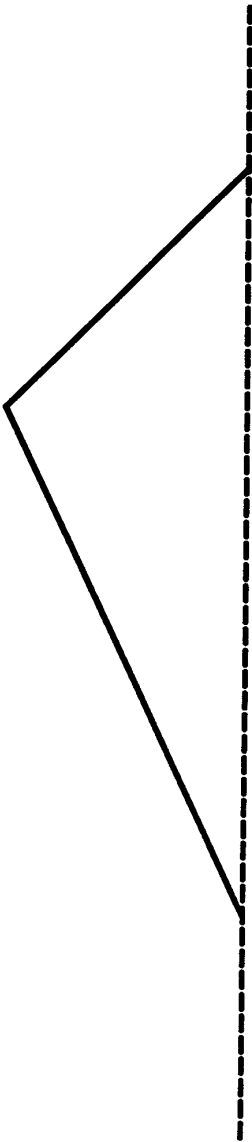
K132(c)
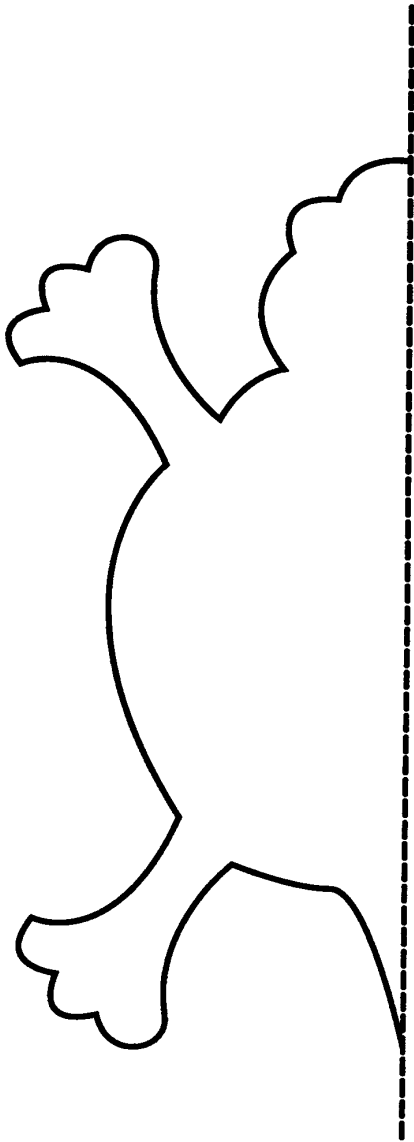
Dear Parent/Guardian:

We have been using what *CSMP* calls the "language of strings" (or Venn diagrams) in classification activities. The students have learned to recognize this language by using actual loops of colored string or yarn. Now it is becoming a picture language.

Using strings to classify helps students organize ideas while developing an understanding of concepts. Basically, the strings sort objects according to various attributes. An object is either in or out of a string. See the examples below.

String pictures give us a way of recording and communicating about classifications. The ability to classify, reason, and extract information from classifications are important skills for everyday life and particularly in understanding mathematics. The picture language of strings can help young minds to think logically and creatively, as well as to report their thinking long before they have advanced verbal skills.

Here are a couple of examples of the use of strings in CSMP. Ask your child to help you:

Place these numbers in the picture: 5 17 20 3 0
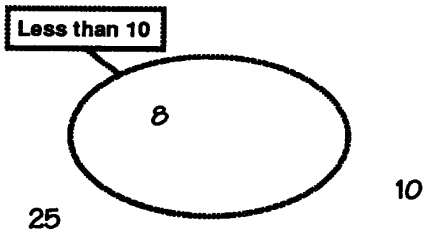
Place a dot for each member of your family.
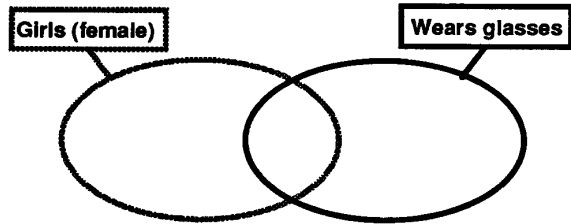
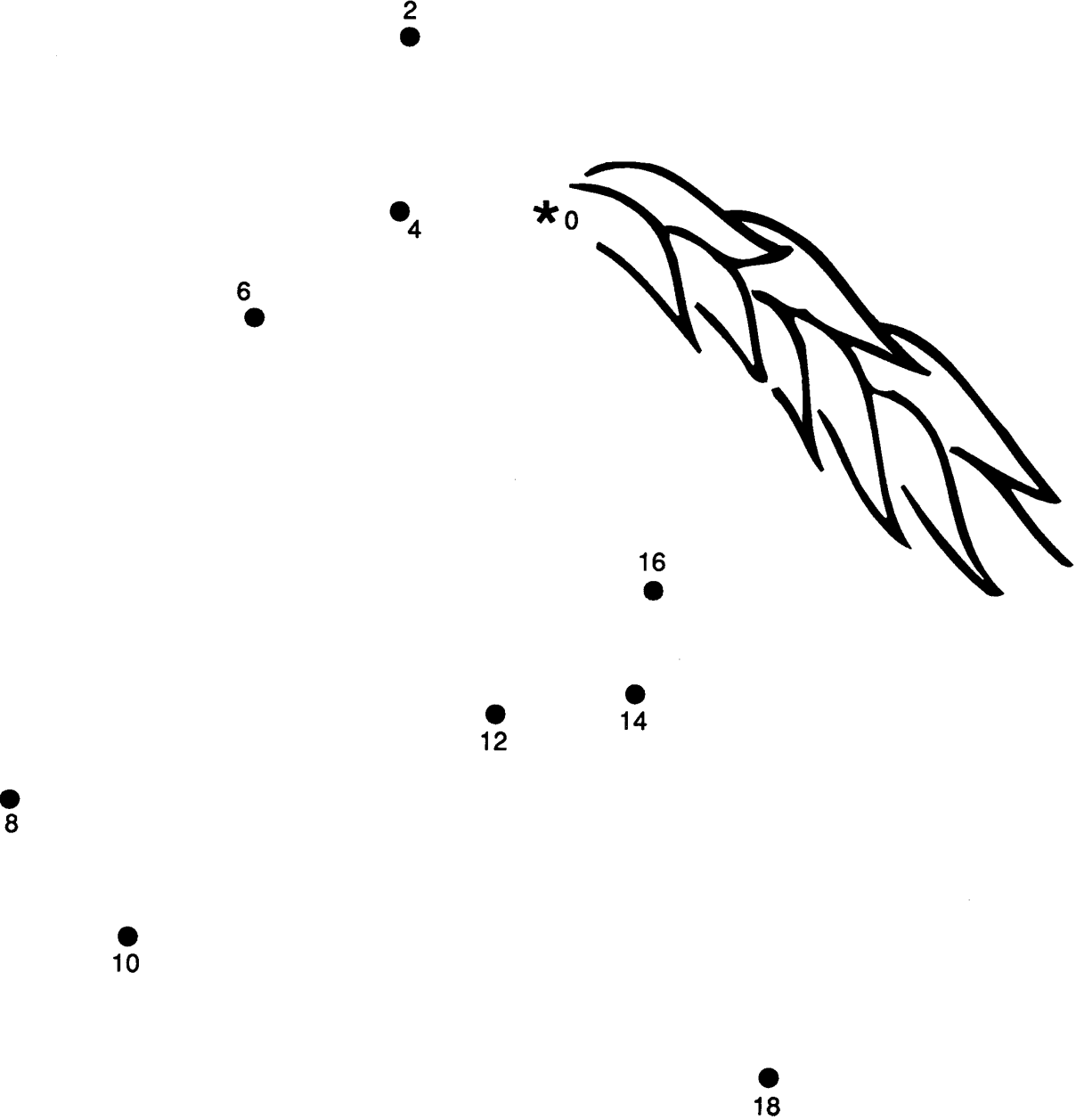Place these blocks in the string picture.
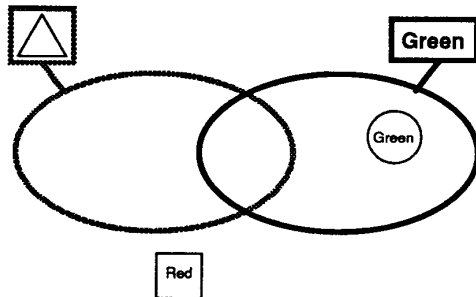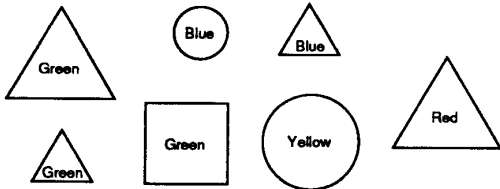
We hope you enjoy working with string pictures.
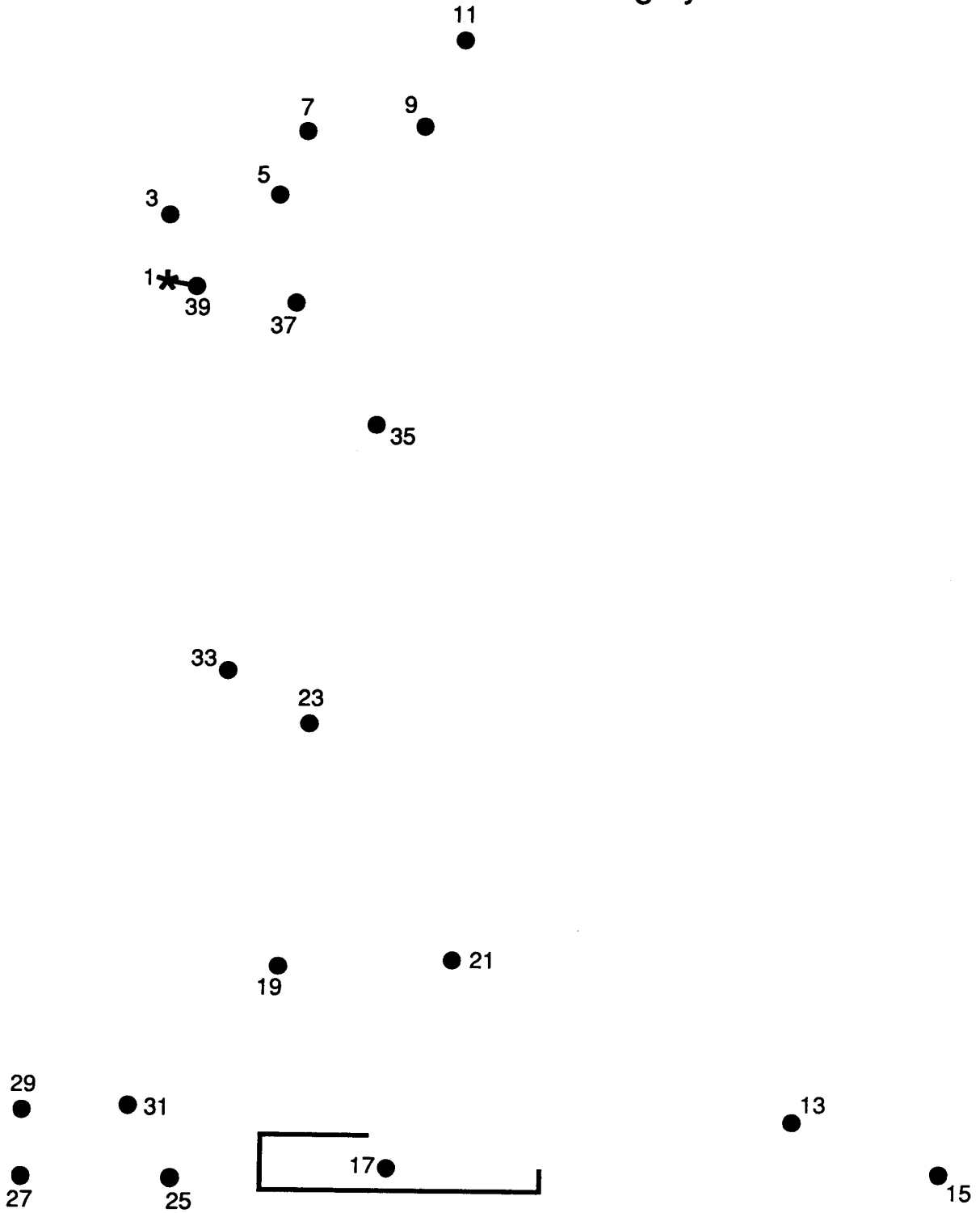
Sincerely,

Start at the star. Join the dots, counting by twos.

2

●

4

6

*0

16

14

12

8

10

18

Start at the star. Join the dots, counting by twos.

11
●

7   9
●   ●

5
●

3
●

1 ★ ●
   39
      37
      ●

● 35

33
●

23
●

19 ●   ● 21

29   13
● ● 31   ●

27 25 17 ●   15
●   ●   ●   ●

1

Ten little candles
on a chocolate cake.

Wh! Wh!
Now there are eight.

2 Eight little candles
on candlesticks.

Wh! Wh!
Now there are six.

Six little candles
and not one more. **3**

8

7

4 Four little candles
red, white, and blue.

Wh! Wh!
Now there are four.

Wh! Wh!
Now there are two.

Wh! Wh!
Now there are none.

Two little candles
standing in the sun. **5**

6

Start at the star. Join the dots, counting by twos.

4 ●

18 ●

22 ●

2 ●

● 16

20 ●
0 ★ ● 10
40 ●

14 ●

24 ●━━━━━━━━━━━━━● 38

8 ●

12 ●

30 ●   32 ●

6 ●

26 ●
28 ●━━━● 34   36 ●

K132(b)

Ten-Frames