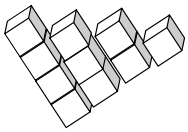
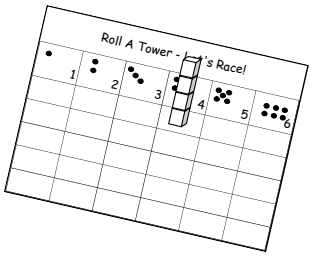
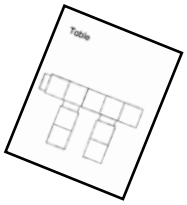
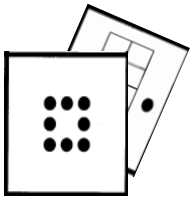




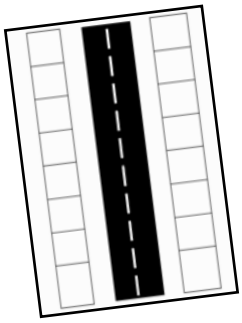
Building Number Sense K-2

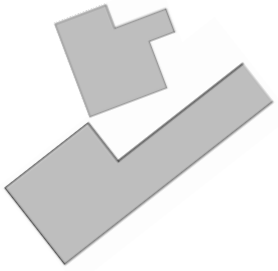
Counting Activities



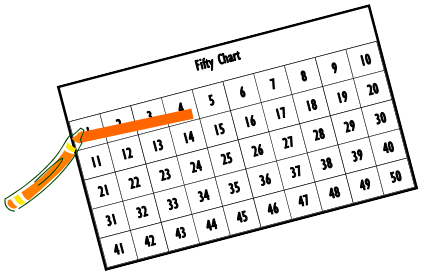


Building Instructional
Leaders Across Oregon
"Developing Algebraic Thinking"





Session 1
Winter 2009



Developing Numbers Sense: Counting Activities K-2

Activity

Counting Activities: Developing Number Sense

Big Ideas of Counting

One-to-One Correspondence Each object in a set is counted once and only once in the counting sequence.

Cardinality The last word in the counting sequence names the quantity for that set.

Conservation- A quantity can be rearranged; even though it looks different, if nothing has been added or subtracted from the quantity, it is still the same – and that the quantity does not need to be recounted each time.

Inclusion The understanding that a subset is part of a larger set. (3 and 7 are both parts of 10)

Subitize The ability of the human mind to recognize quantities, from 1-5 or so ,without having to count objects.

Real Numbers:

Natural numbers - counting numbers (1 to infinity)
Whole numbers – counting numbers from zero to infinity
Integers – positive and negative numbers and zero
Rational numbers – integers, fractions, terminating and repeating decimals
Irrational numbers – non-terminating and non-repeating decimals (i.e., pi, square root of 2, 3)

Build a Staircase

Developing Number Concepts Counting, Comparing, and Patterning (1999) Richardson, p.56

- Unifix cubes, dice with 1-6
- Children take turns rolling a die and building Unifix towers that will be used as stair steps. The goal is to build a staircase from one to six. They can work together to decide where each step should go as they build. If any number is rolled after the student already has that stair step, he or she misses that turn.

Extension:

- Continue rolling the die an dismantle the stair steps one tower at a time until the staircase has been completely removed.
- Use two die (1-3 each) to begin combinations to get to stair steps.

Roll A Tower Race

Developing Number Concepts Counting, Comparing, and Patterning (1999) Richardson, p.54

- Student rolls a dot die and builds the tower indicated, using Unifix cubes. (There are two game boards – 1-6 and 4-9. Use appropriate dice.)
- Student places the tower on the game board in the column for that number.
- Students take turns rolling the die and building towers until one column of squares is filled. That number 'wins'

Questions:

- How did you know how big to make your tower?
- How did you decide where to place the tower on your game board?
- Which number 'won?' How can we find out how many cubes there are in this (pick any column) column altogether? Have a volunteer point to each cube while the class counts together. So how many cubes do we have in this column altogether?

Build A City

Developing Number Concepts Counting, Comparing, and Patterning (1999) Richardson, p.58

- Student takes turn rolling the die and placing Unifix buildings on their side of the game board.
- When all the spaces for the buildings have been filled, the children snap their cubes together and compare them.
- They spin the spinner to see if the person with more or less cubes is the winner.

Creations

Developing Number Concepts Counting, Comparing, and Patterning (1999) Richardson, p.33, 52

- Demonstrate how to use the cards by modeling making your own creations model.
- When introducing the cards, show the children how to build the creation standing up, rather than flat on the table. Require children to make it exactly like the model or card, using the correct number of cubes for each part of the creation.
- Observe student working, and ask about how many cubes they used for the part, or how they knew how many cubes they should be using, or how many cubes they used total, etc.
- Place numeral cards next to the creations: Have a partner count and verify

Extensions:

- Compare: Spin more/less spinner – either pick a creation or build another set of cubes that has more/less cubes as the 'original' creation, depending on what came up on the spinner
- Equal Groups: Student indicates how many cubes would be needed to make two of the creations, three…four…

Shape Puzzles

Developing Number Concepts Counting, Comparing, and Patterning (1999) Richardson, p.60

- Students will need: Unifix puzzle cards, cubes, numeral cards
- Have children select a puzzle shape and fill the puzzle cards with cubes to determine the number of cubes that fit the puzzle.
- Students label the puzzles with a numeral card
- Partners count the cubes and verify that the numeral card is correct

Extension:

- Implement more/less spinner: Start with puzzle, build, label. Spin. Select next puzzle depending on the spinner
- Equal groups: How many cubes will it take to make two (of the same puzzle piece) three?...

Find the Same Amount

Teaching Student-Centered Mathematics K-3 (2006) Van de Walle & Lovin, p. 38

- Use a set of mini dot cards
- Pick up any card, find another card with the same amount to form a pair
- Continue to find other pairs

Extension:

- Find cards that are one more/one less: two more/two less

50 Chart

- Two students work together. They each need their own crayon (different color than partner's) and 1 Fifty Chart to share.
- Students take turn rolling the die, then coloring in the number of squares that matches what they rolled, with their own color of crayon.
- When all the squares are colored in, they go back and count how many squares are colored with their crayon.
- **OPTIONAL**: Students cover (colored) squares with cubes, snap cubes together into towers that can be counted, compared.

Working Levels
(Primary)

Level 4:	**Responsible** **Respectful** **Help Others**
Level 3:	**Responsible** **Respectful**
Level 2:	**Works when reminded**
Level 1:	**Not Working**
Level 0:	**Bothers Others**

What do you notice?

What do you think? Why?

Do you see any patterns here?

What might come next?

What do you predict will happen?

How did you figure it out?

Does anyone have a different answer?

Does anyone have a different way to solve this problem?

Can you convince us?

What do you notice?

What do you think? Why?

Do you see any patterns here?

What might come next?

What do you predict will happen?

How did you figure it out?

Does anyone have a different answer?

Does anyone have a different way to solve this problem?

Can you convince us?

What do you notice?

What do you think? Why?

Do you see any patterns here?

What might come next?

What do you predict will happen?

How did you figure it out?

Does anyone have a different answer?

Does anyone have a different way to solve this problem?

Can you convince us?

Developing Mathematical Thinking with Effective Questions

To promote problem solving, ask…

- What do you need to find out?
- What information do you have?
- What strategies are you going to use?
- Will you do it mentally? With pencil and paper? Using a number line?
- Will a calculator help?
- What tools will you need?
- What do you think the answer or result will be?

To help when students get stuck, ask…

- How would you describe the problem in your own words?
- What do you know that is not stated in the problem?
- What facts do you have?
- How did you tackle similar problems?
- Could you try it with simpler numbers? Fewer numbers? Using a number line?
- What about putting things in order?
- Would it help to create a diagram? Make a table? Draw a picture?
- Can you guess and check?
- Have you compared your work with anyone else? What did other members of your group try?

To make connections among ideas and applications, ask…

- How does this relate to…?
- What ideas that we have learned before were useful in solving this problem?
- What uses of mathematics did you find in the newspaper last night?
- Can you give me an example of…?

To encourage reflection, ask…

- How did you get your answer?
- Does your answer seem reasonable? Why or why not?
- Can you describe your method to us all? Can you explain why it works?
- What if you had started with…rather than…?
- What if you could only use…?
- What have you learned or found out today?
- Did you use or learn any new words today? What do they mean? How do you spell them?
- What are the key points or big ideas in this lesson?

What other questions would you add to this list?

Developing Mathematical Thinking with Effective Questions

To help students build confidence and rely on their own understanding, ask…

- Why is that true?
- How did you reach that conclusion?
- Does that make sense?
- Can you make a model to show that?

To help students learn to reason mathematically, ask…

- Is that true for all cases? Explain.
- Can you think of a counterexample?
- How would you prove that?
- What assumptions are you making?

To check student progress, ask…

- Can you explain what you have done so far? What else is there to do?
- Why did you decide to use this method?
- Can you think of another method that might have worked?
- Is there a more efficient strategy?
- What do you notice when…?
- Why did you decide to organize your results like that?
- Do you think this would work with other numbers?
- Have you thought of all the possibilities? How can you be sure?

To help students collectively make sense of mathematics, ask...

- What do you think about what _____said?
- Do you agree? Why or why not?
- Does anyone have the same answer but a different way to explain it?
- Do you understand what _____is saying?
- Can you convince the rest of us that your answer makes sense?

To encourage conjecturing, ask…

- What would happen if…? What if not?
- Do you see a pattern? Can you explain the pattern?
- What are some possibilities here?
- Can you predict the next one? What about the last one?
- What decision do you think he/she should make?

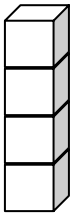
What other questions would you add to this list?

Build A Staircase

Materials: Connecting cubes

1-6 Dot cubes

Take turns with a partner.

Roll a cube.  Build a stack to match. 

Each time you build a new stack, put it in order with your other stacks.

If you roll a number and already have a stack – you will skip a turn.

Try to make a 1-6 staircase first!

Roll A Tower

Materials: Roll a Tower game board, 1 for each player

Connecting cubes

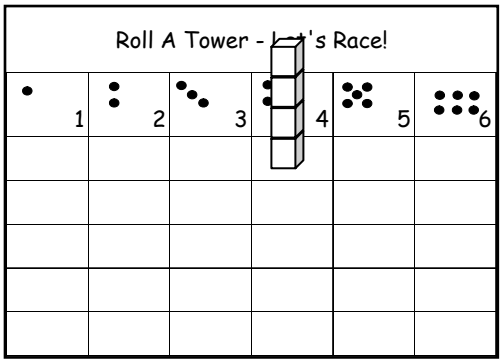
1-6 Dot cubes, 1 for each player

Roll a dot cube. Build a tower of cubes to match.

Place the tower on your game board in the column that matches your number.

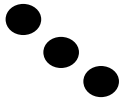
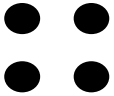
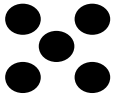
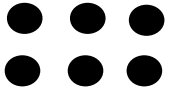
Keep rolling and building towers.

Which number will fill up first?

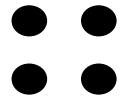
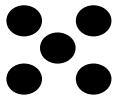
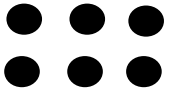
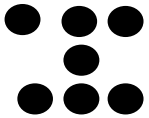
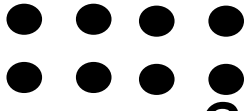
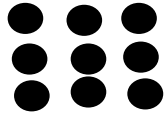


Developing Number Concepts Book 1 (1999) Kathy Richardson, page 54

Roll A Tower - Let's Race!

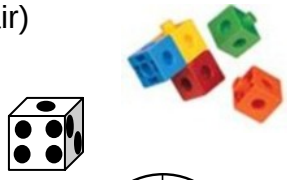
1	2	 3	 4	 5	 6

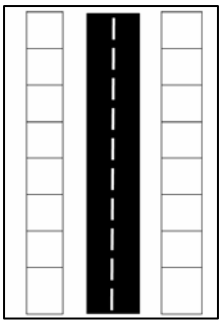
Roll A Tower - Let's Race!

 4	 5	 6	 7	 8	 9

Build A City!

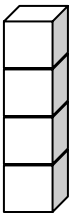
Materials: Build A City game board (1 per pair)
Connecting cubes
Dot cubes (0-5)
More or Less spinner





Take turns with a partner.

Roll a cube and build a stack of cubes to match the number rolled. Place the 'building' on your side of the game board.



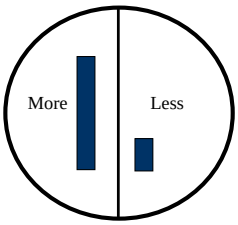
Each new turn you will use the next space on your game board.

If you roll a zero ("0") you skip over one space and build in the next square on your next turn.

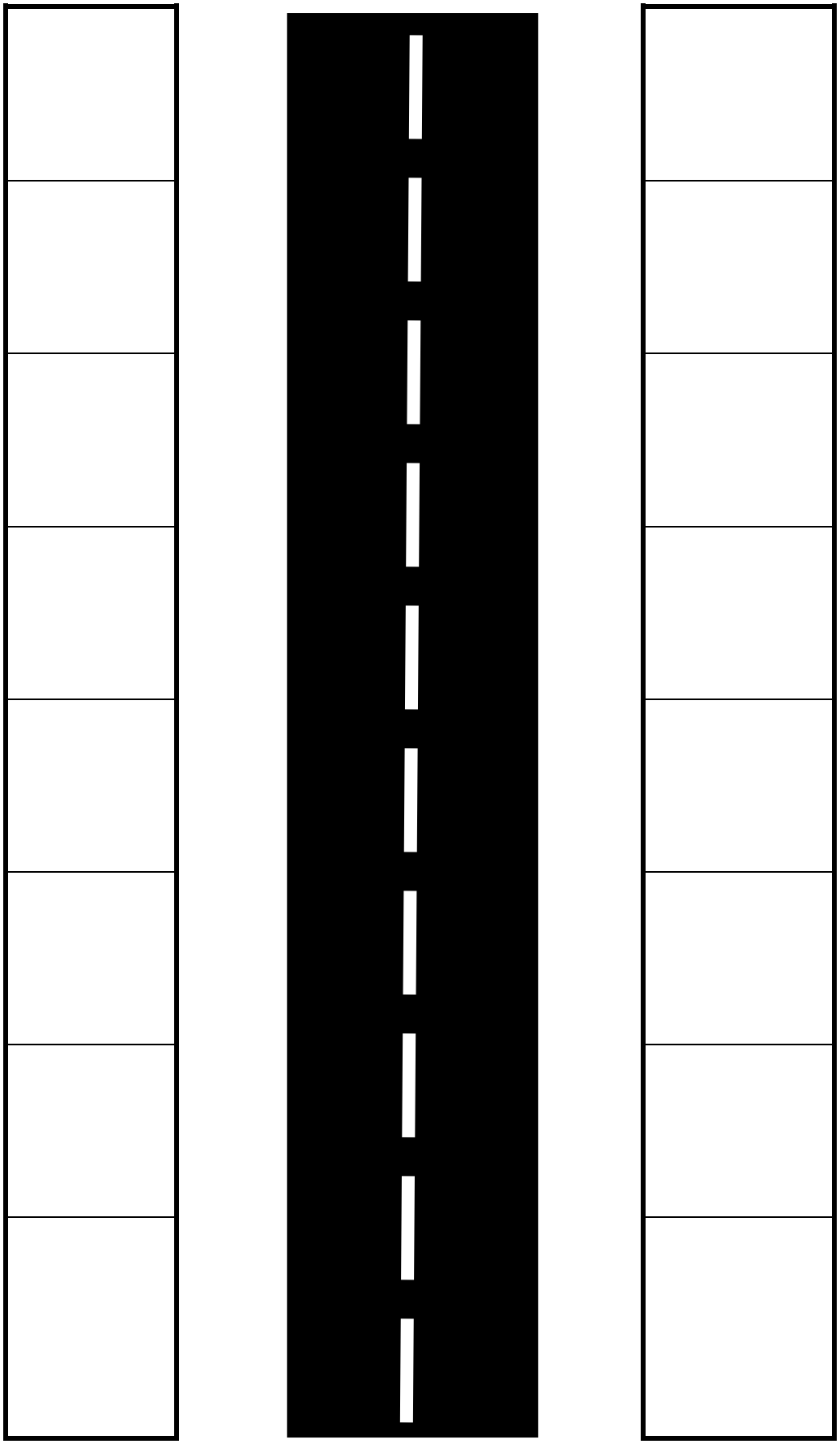
When the spaces are filled make a skyscraper! Snap all your cubes together.

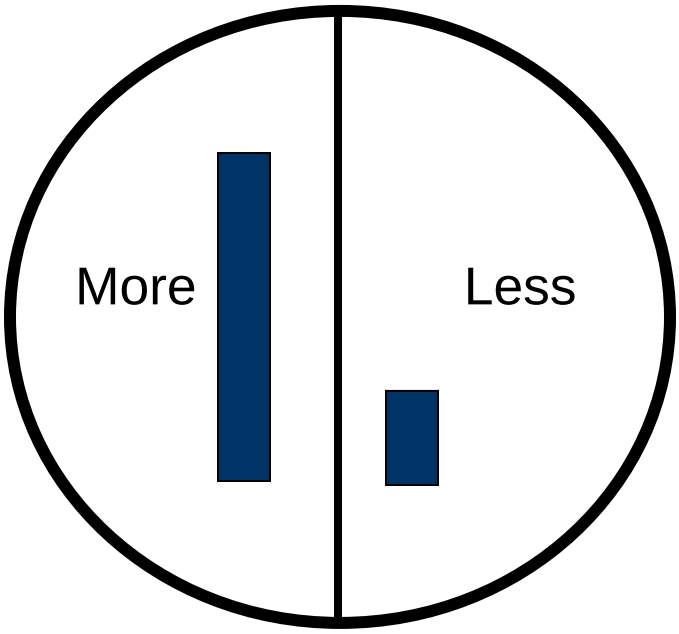
Compare your skyscrapers

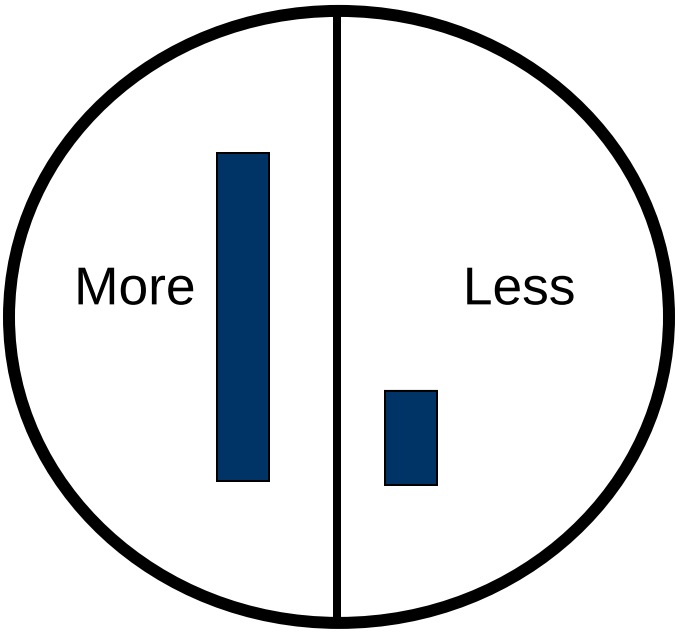
Spin to see who wins.



Developing Number Concepts Book 1 (1999) Kathy Richardson, page 58

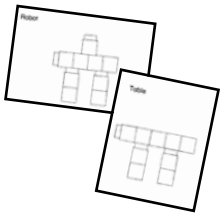



More
Less

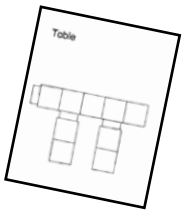

More
Less

Creations

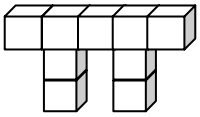
Materials: Creation Cards
Connecting cubes
Blank paper
Pencil



Choose a card.

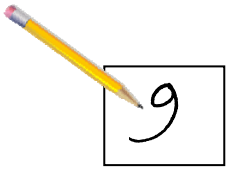


Build what you see on the card. Make it stand up!



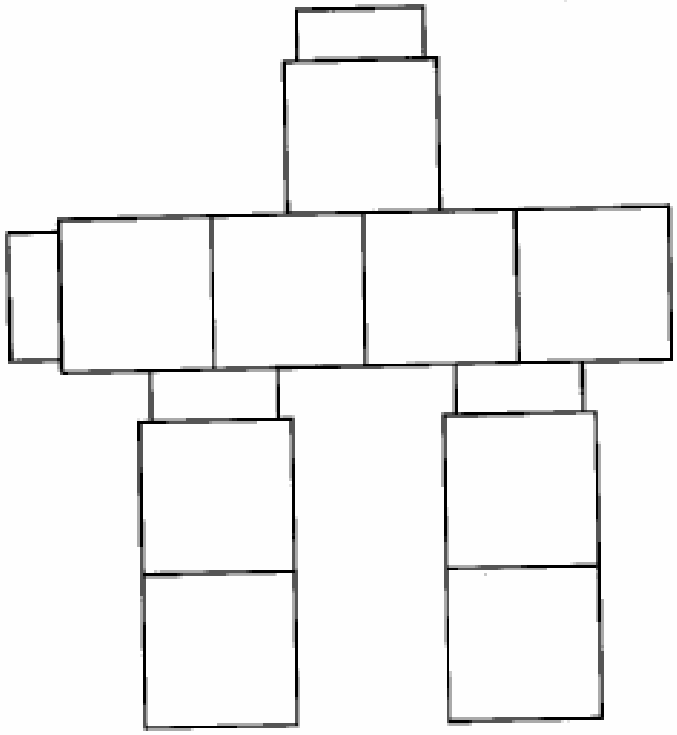
Count the cubes.

Write the number on paper and match it to your creation.

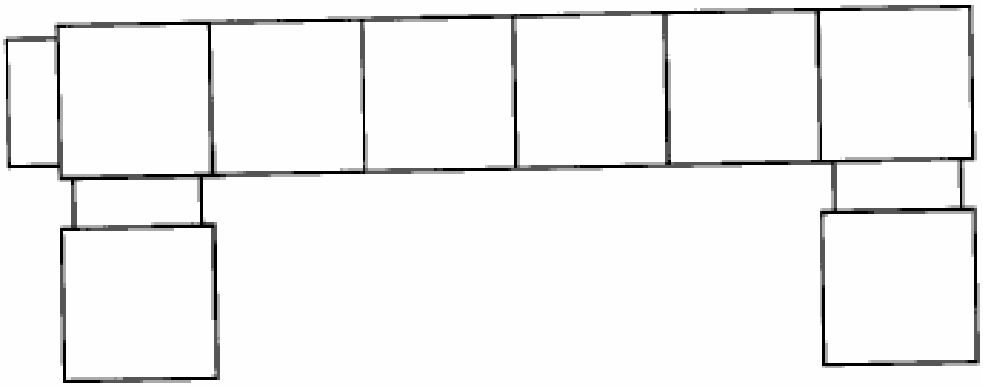


Developing Number Concepts Book 1 (1999) Kathy Richardson, page 33 and 52

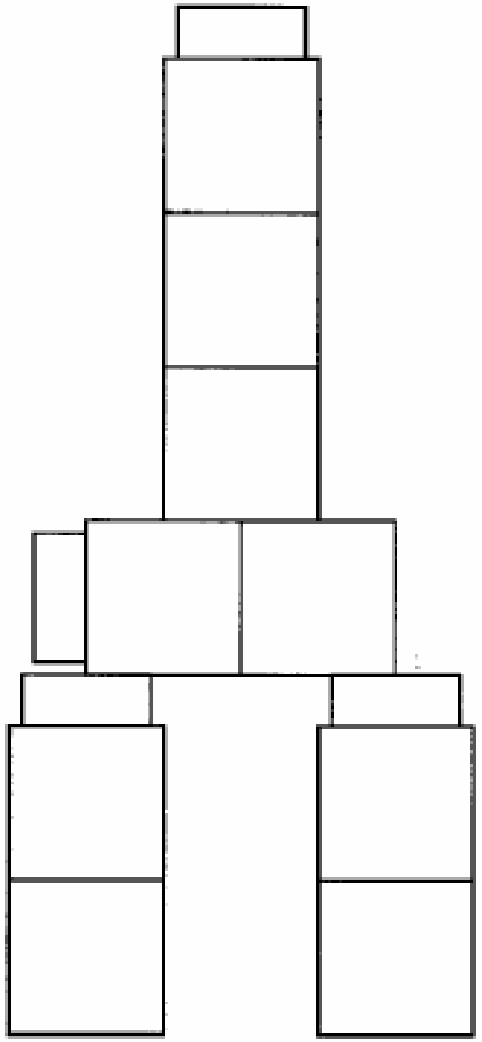
Robot



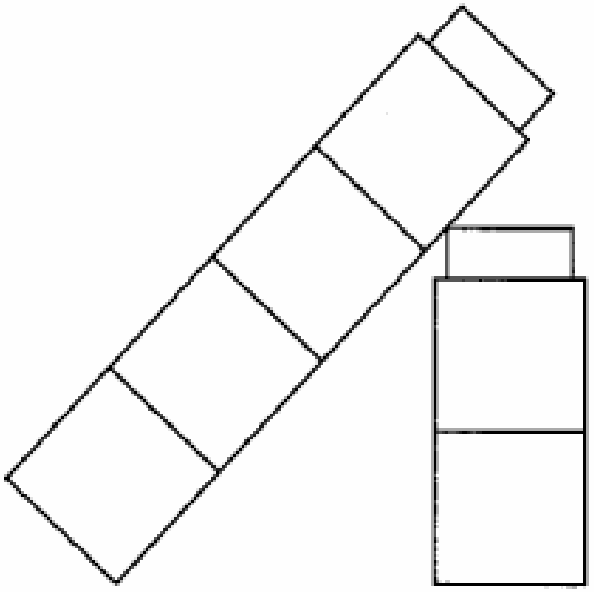
Bench



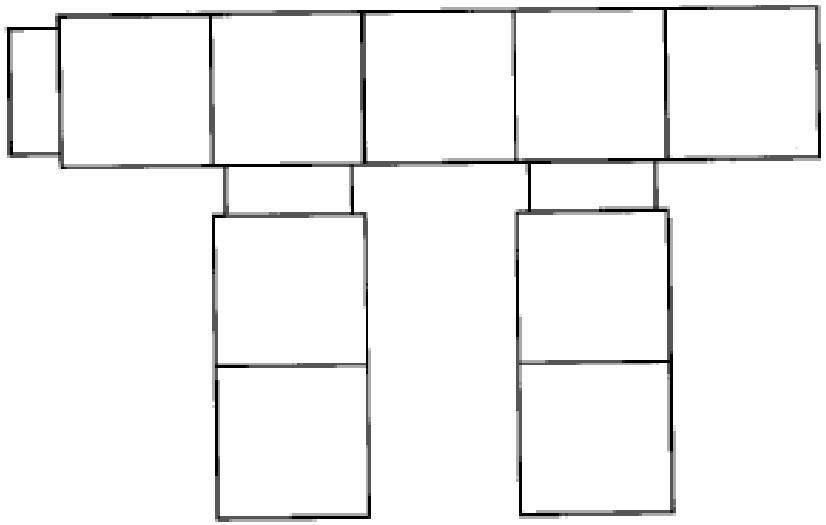
Fireplace



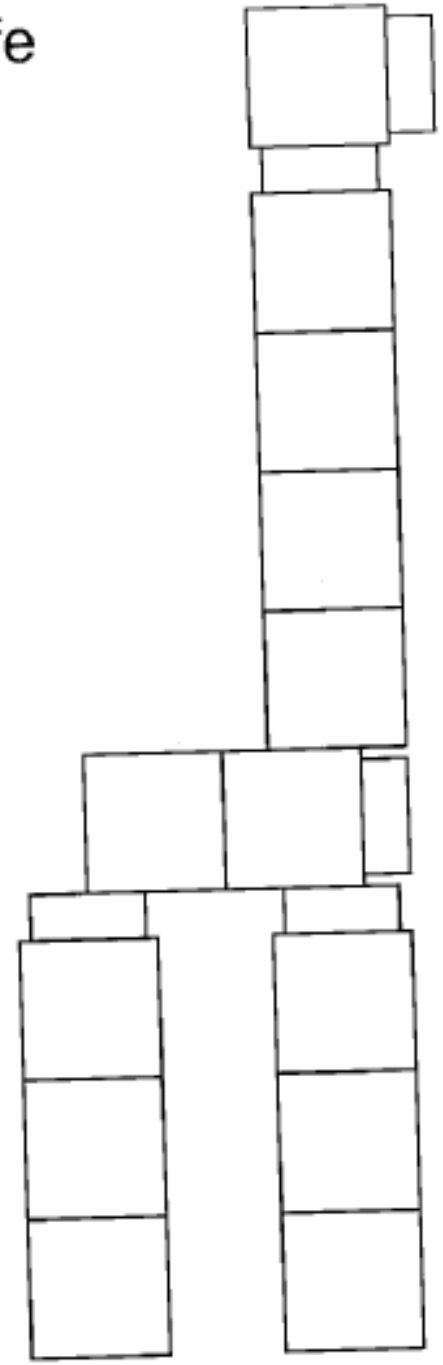
Slide

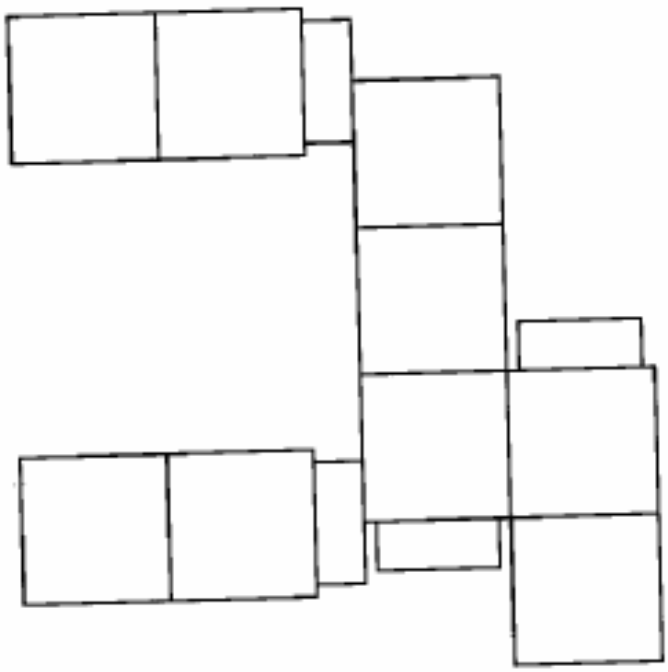


Table



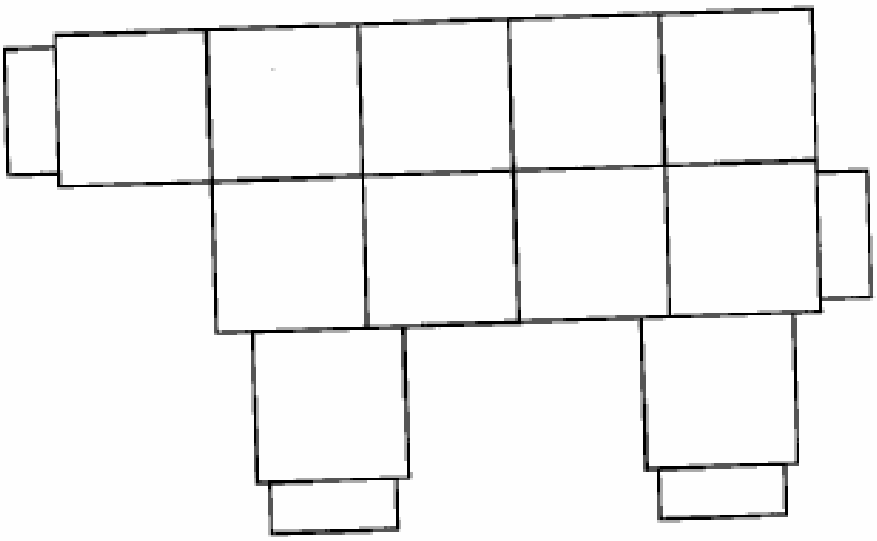
Giraffe



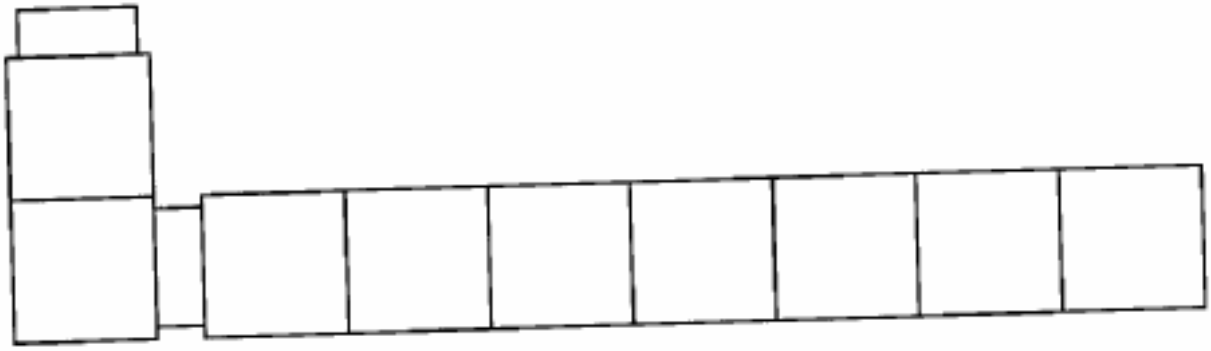


Horse

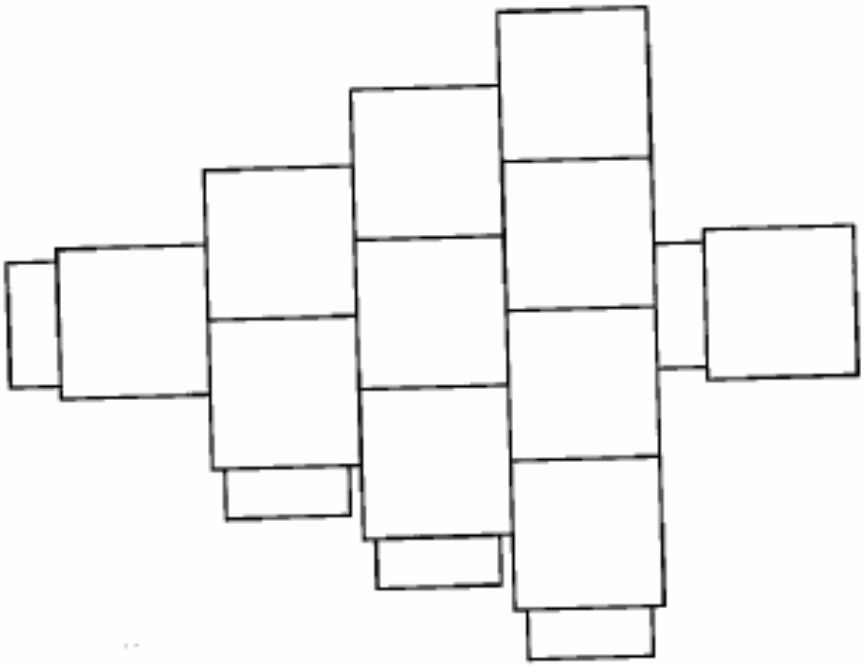
Pig



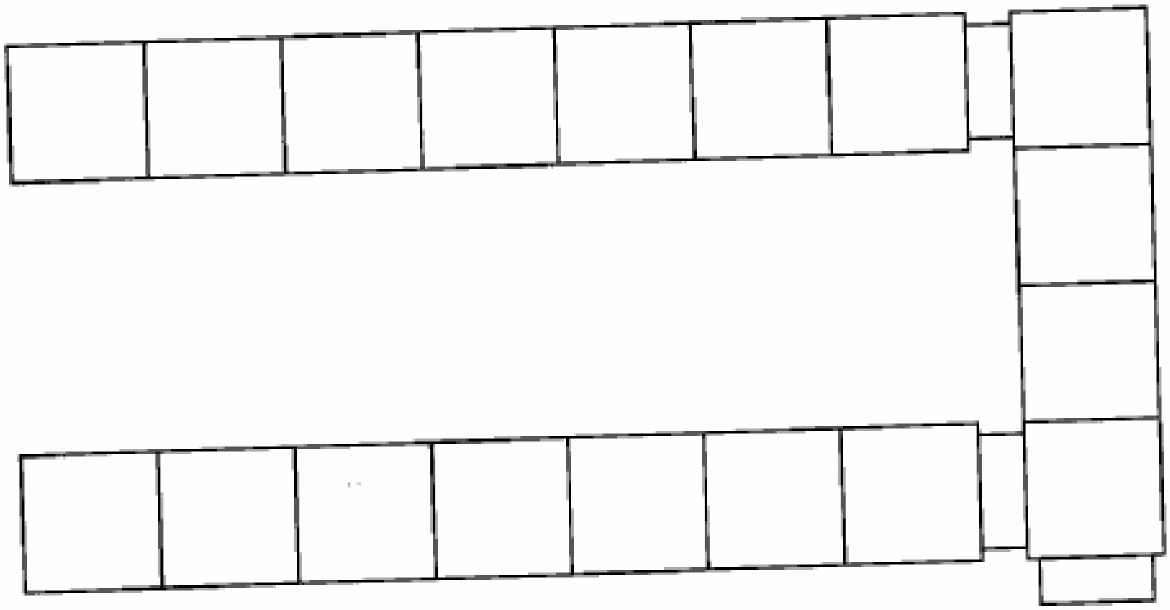
Caterpillar



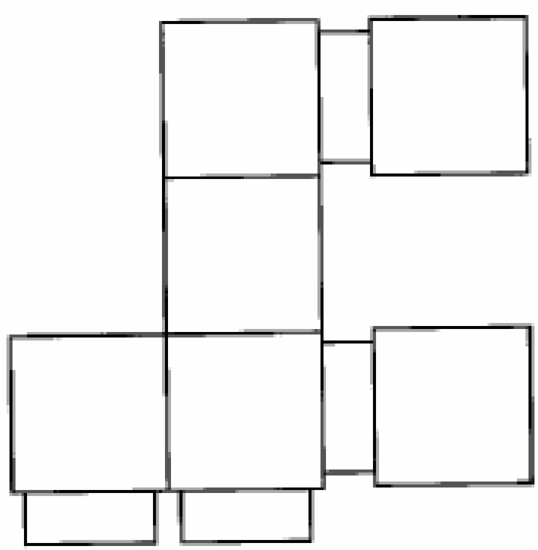
Tree



Doorway



Dog

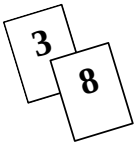


Shape Puzzles

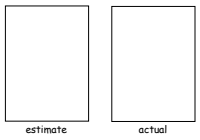
Materials: Shape puzzles

Connecting cubes

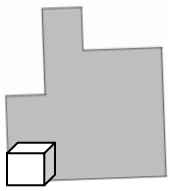
Numeral cards



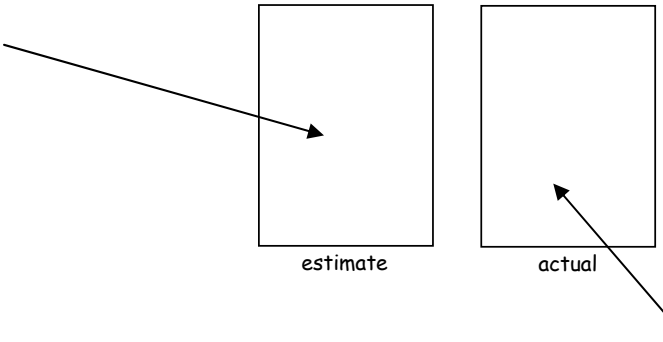
Estimate/actual mat, 1 for each player



Choose a shape card. Fill it with cubes.

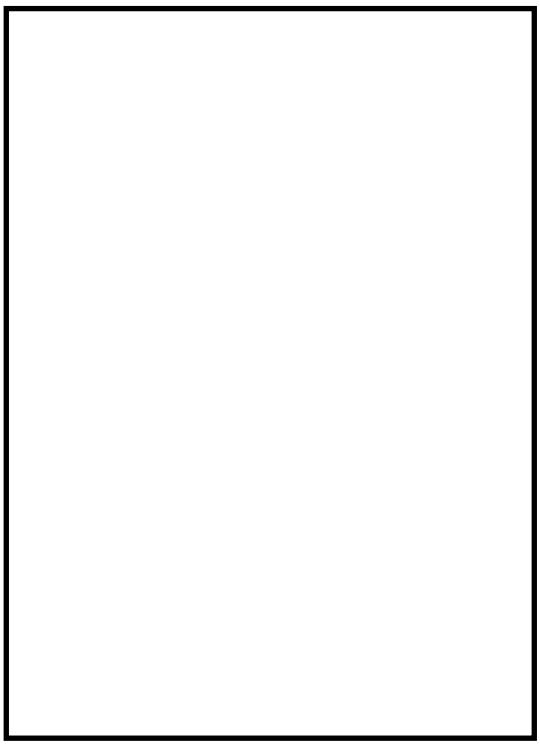


Guess – how many cubes? Show your estimate with a numeral card.

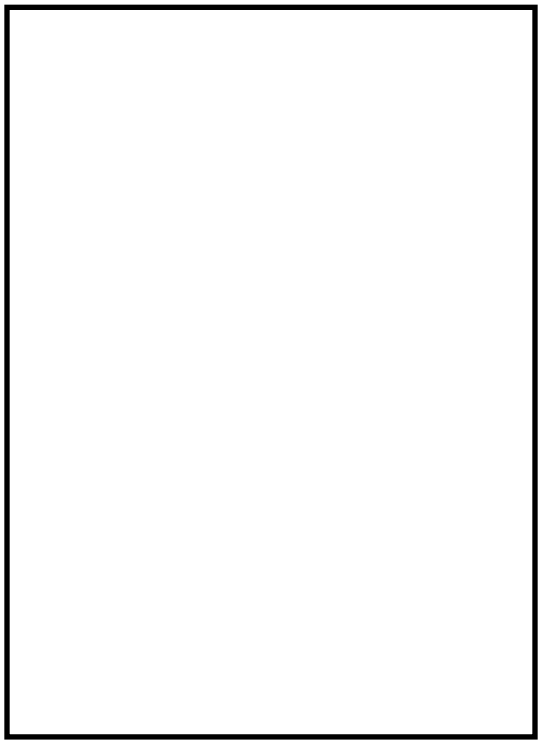


Count!

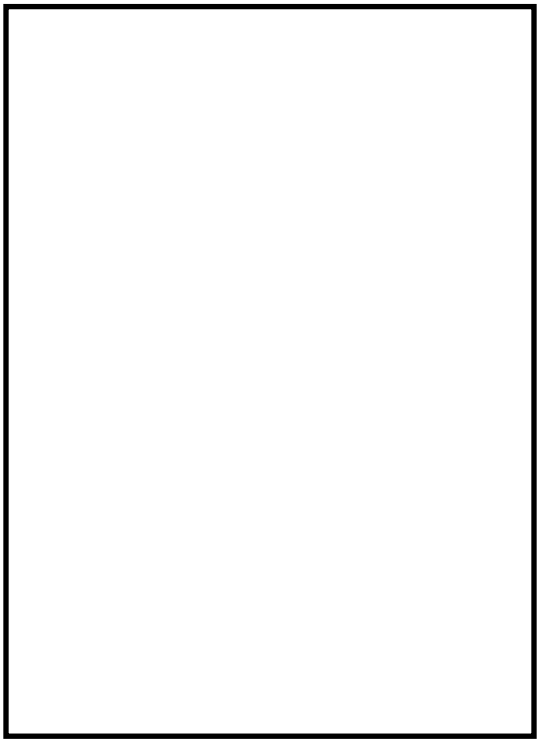
Developing Number Concepts Book 1 (1999) Kathy Richardson, page 60



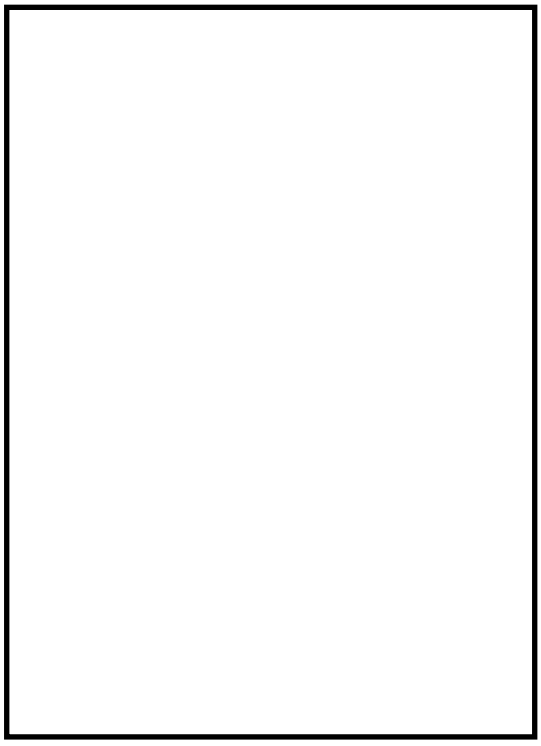
estimate



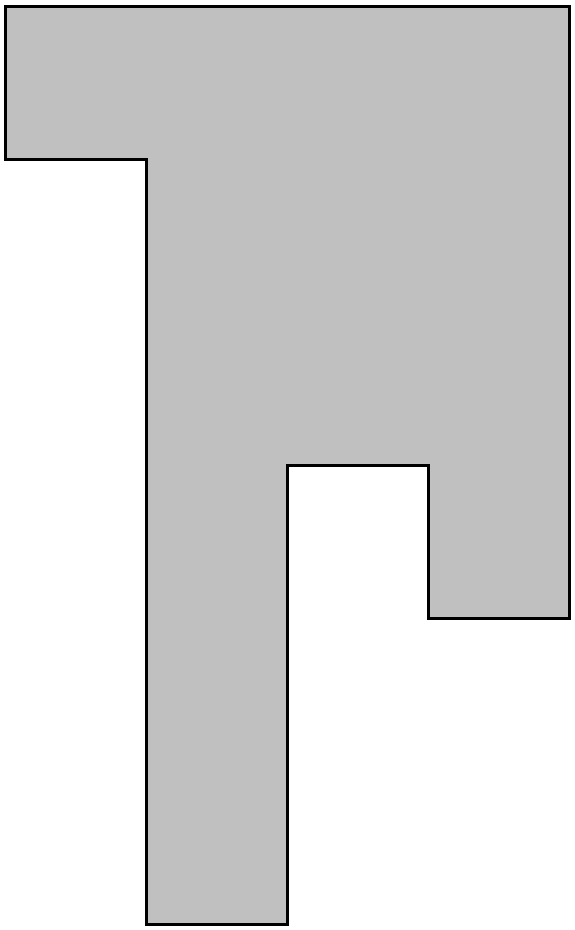
actual

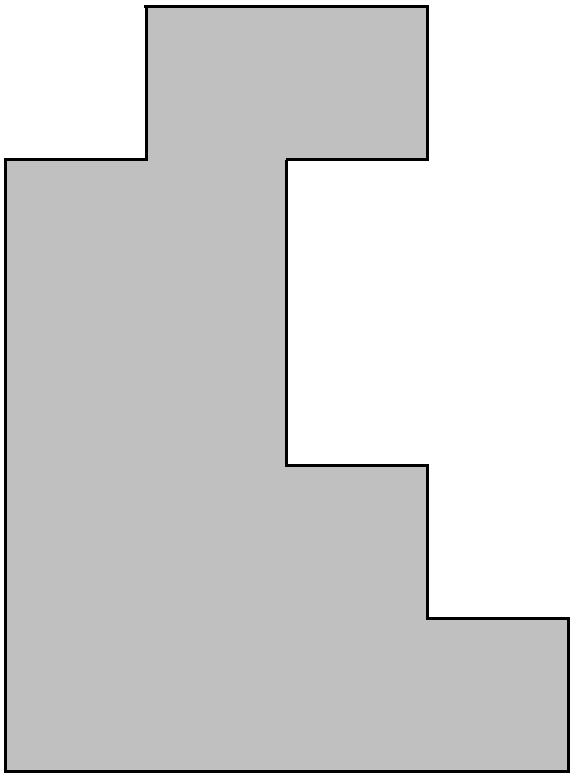


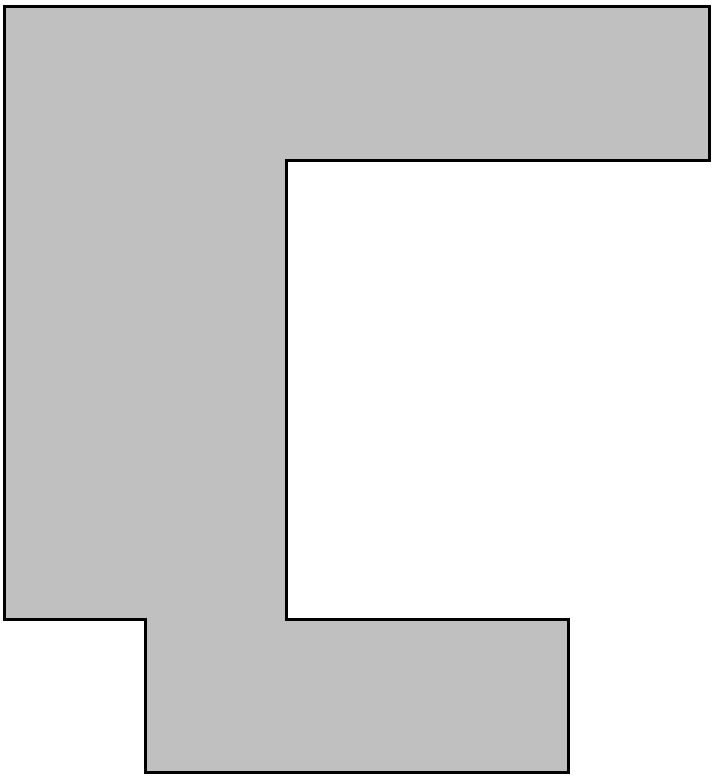
estimate

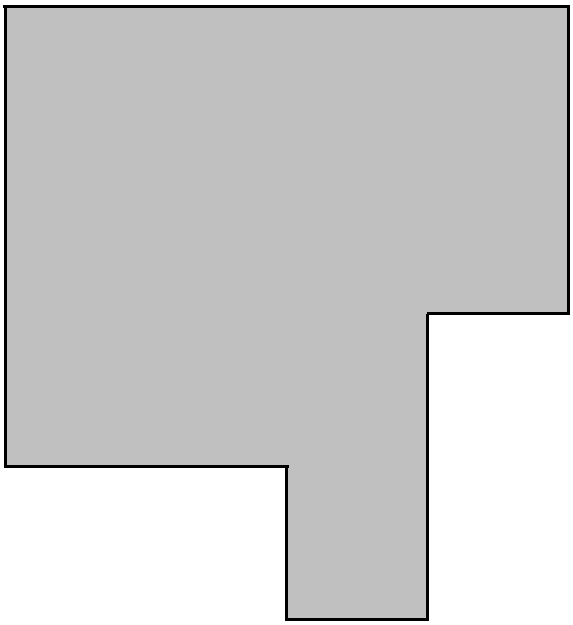


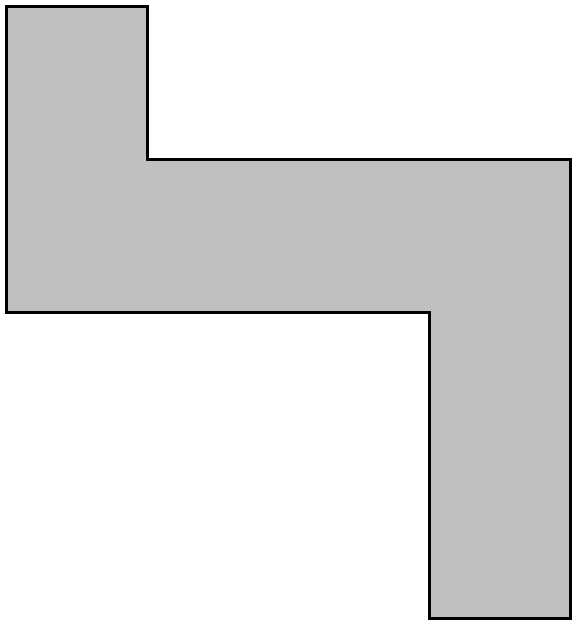
actual

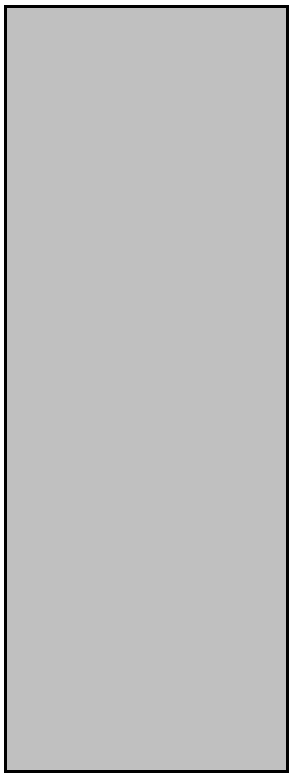


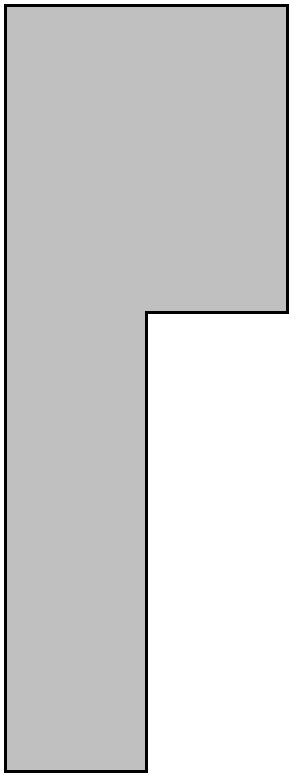


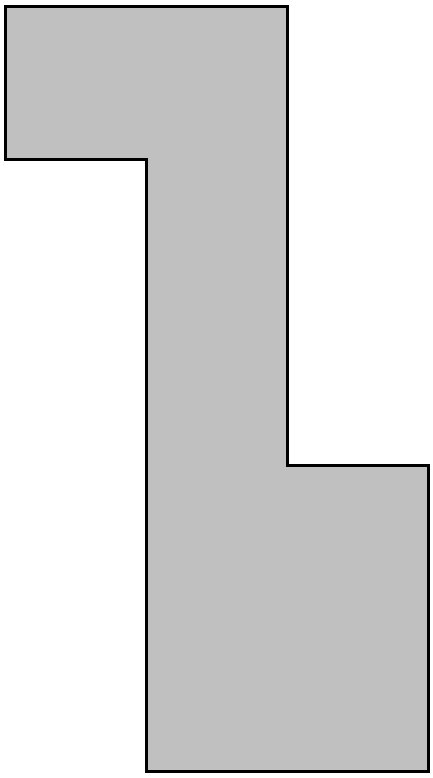


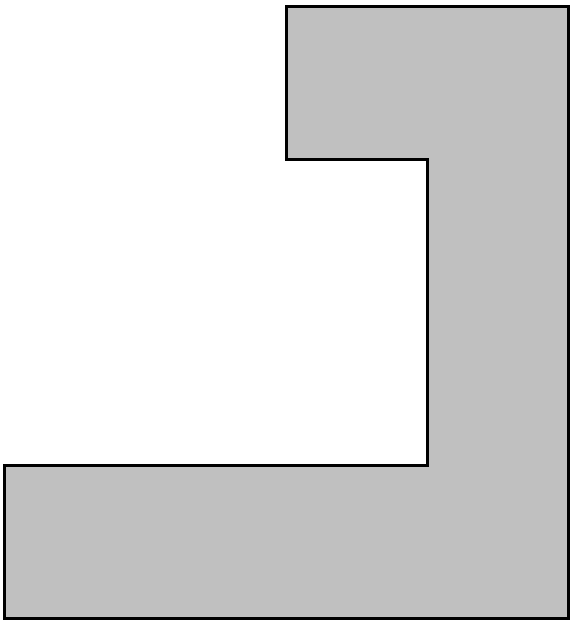


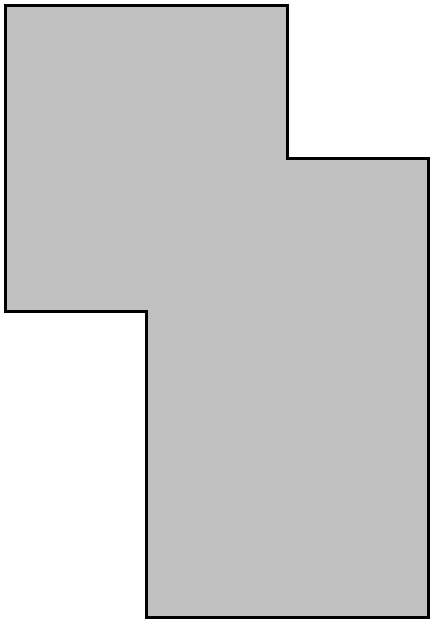


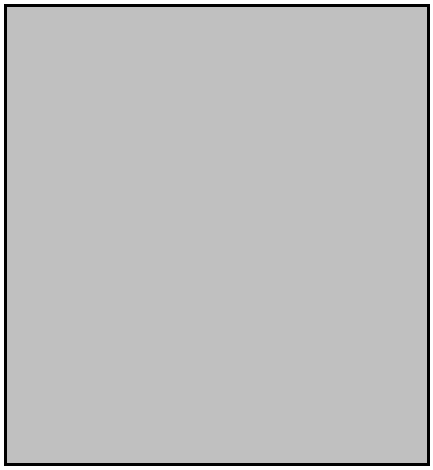


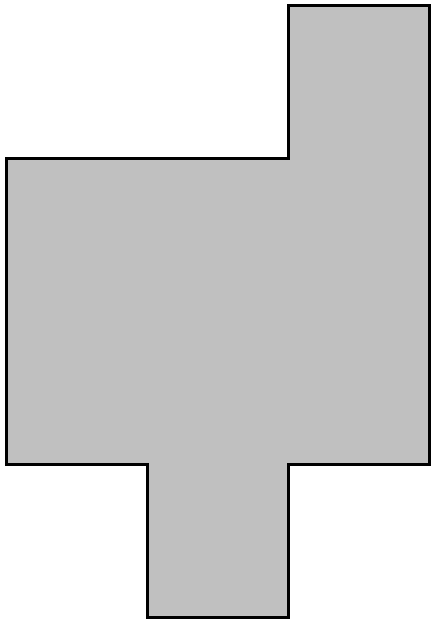


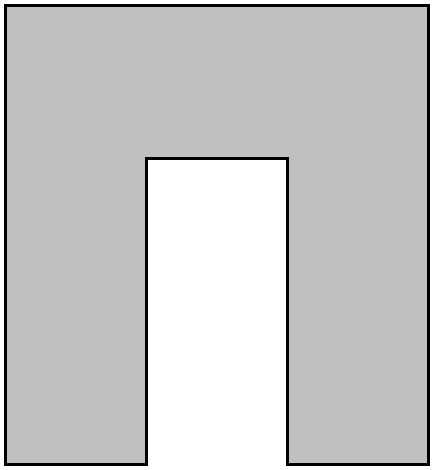


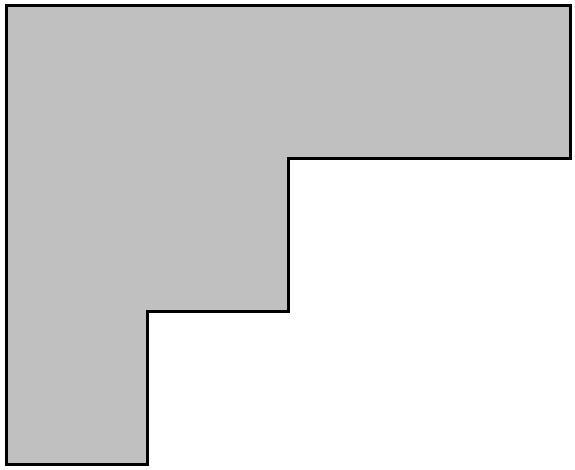


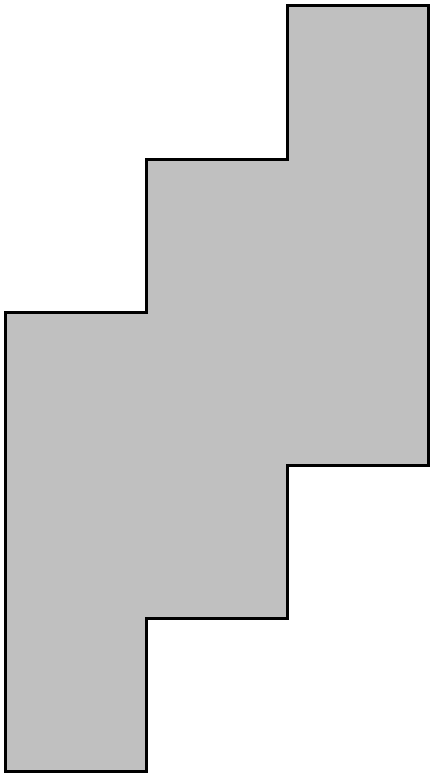


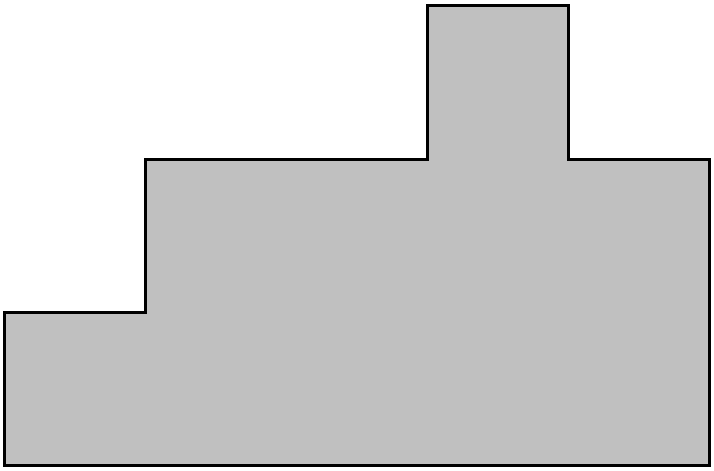


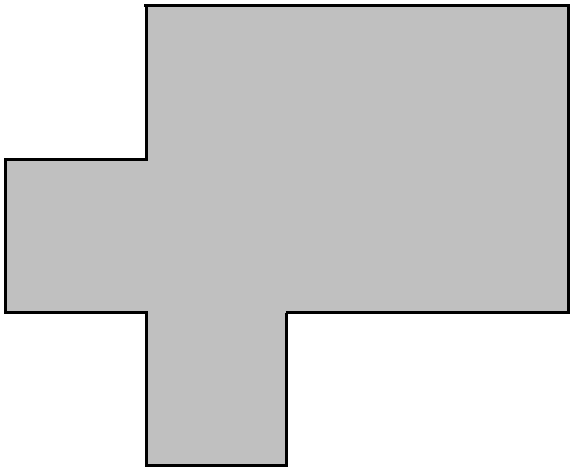


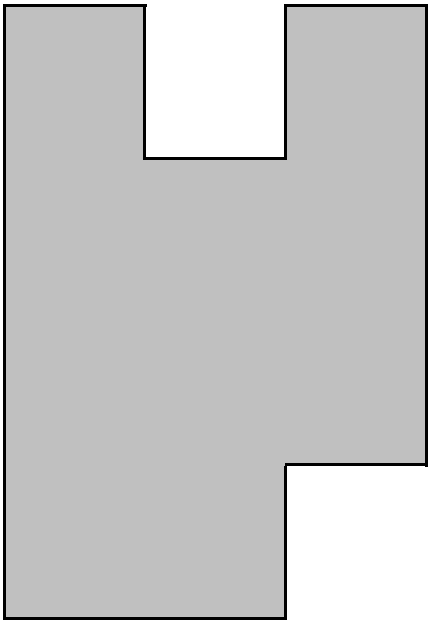


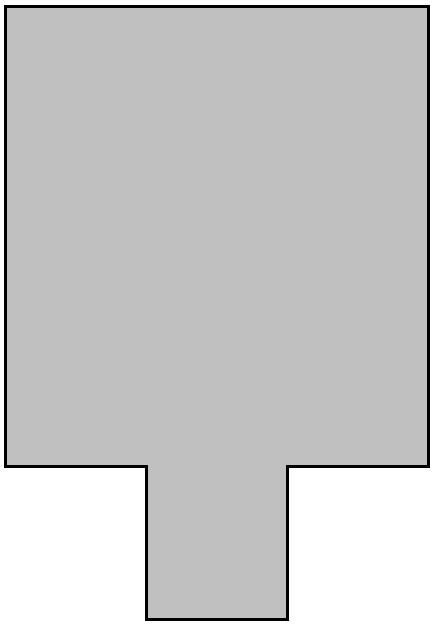


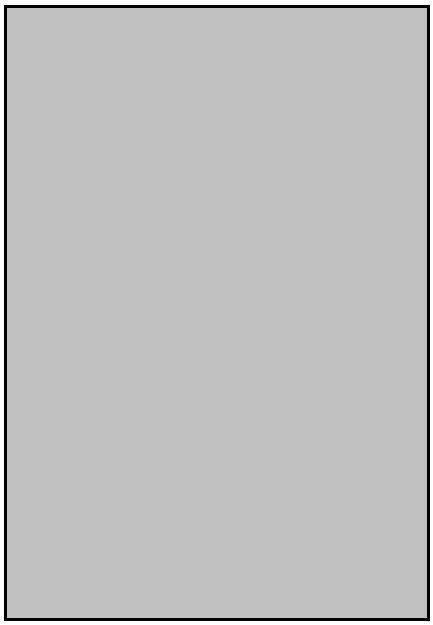


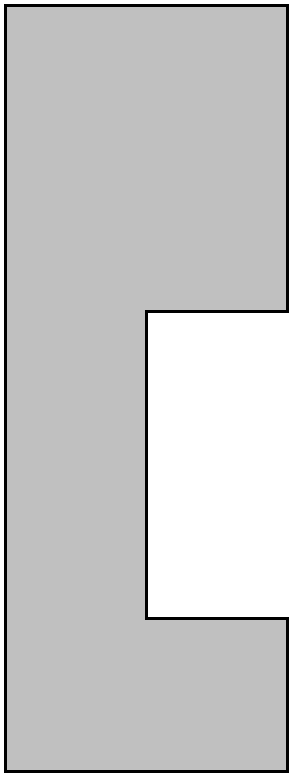


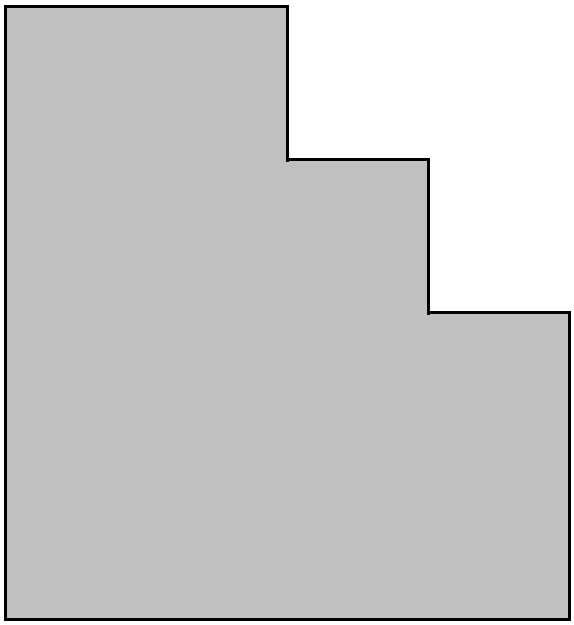


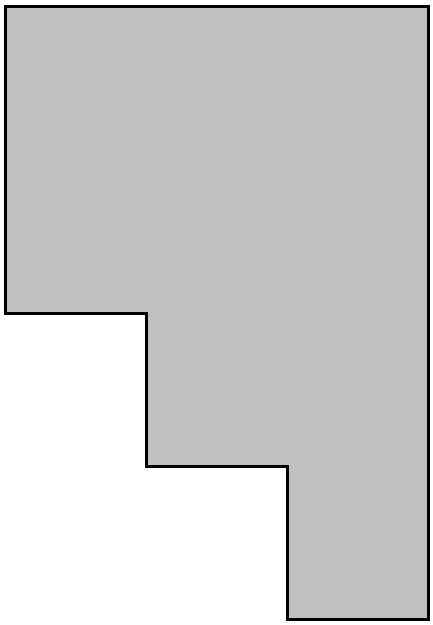


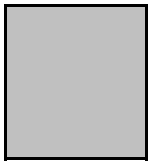


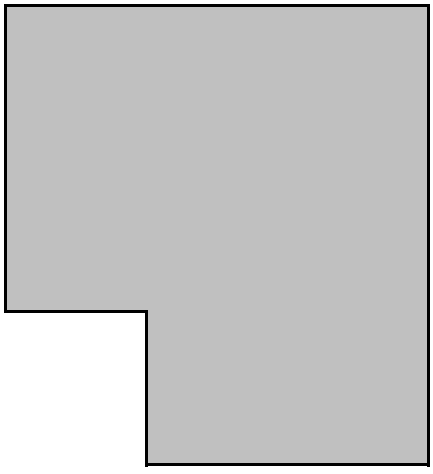


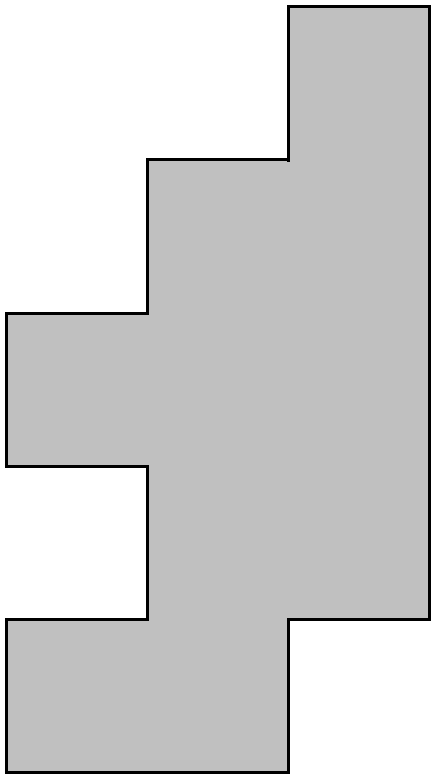


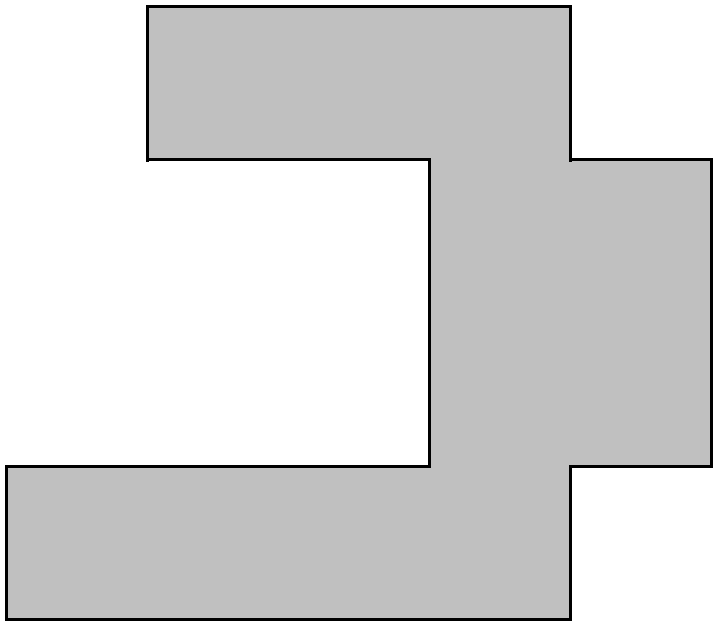


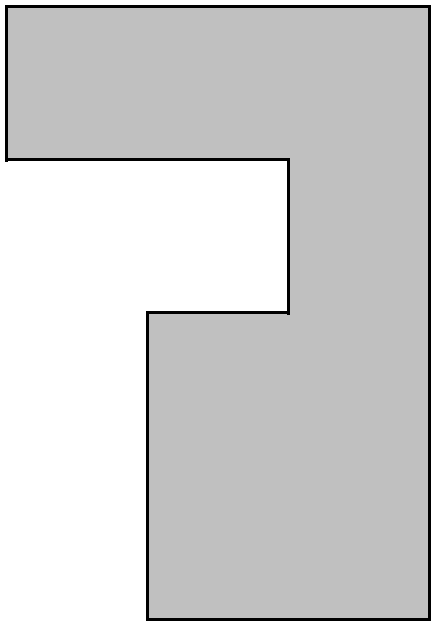


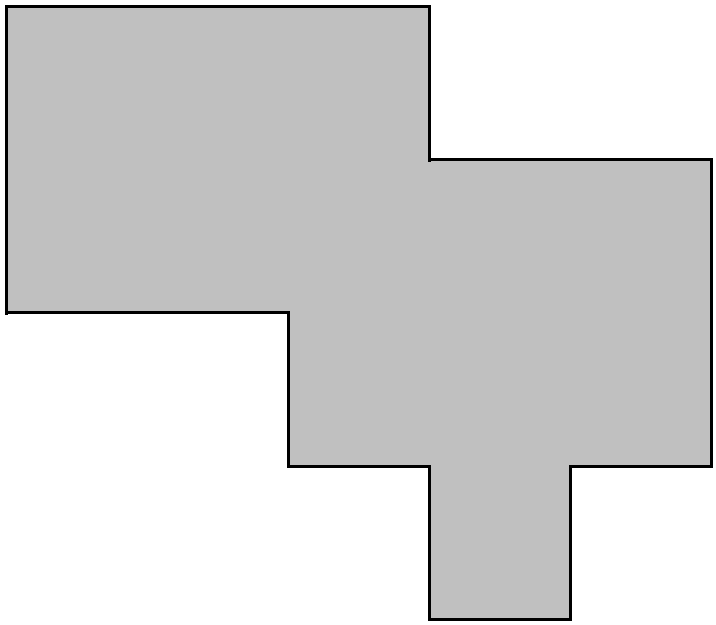






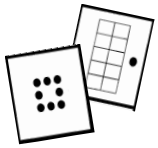






2.2 Find the Same Amount

Materials: Collection of Mini Dot Cards



Spread out the dot cards so you can see them.

Pick up one card.

Find another card with the same amount.

Check with your partner – is it a match?

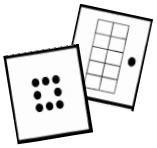
Take turns until all the matches have been found.

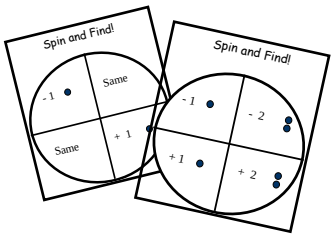
Teaching Student-Centered Mathematics K-3 (2006) Van de Walle & Lovin, page 38

2.2 Spin and Find!

Materials: Collection of Mini Dot Cards

Spinner





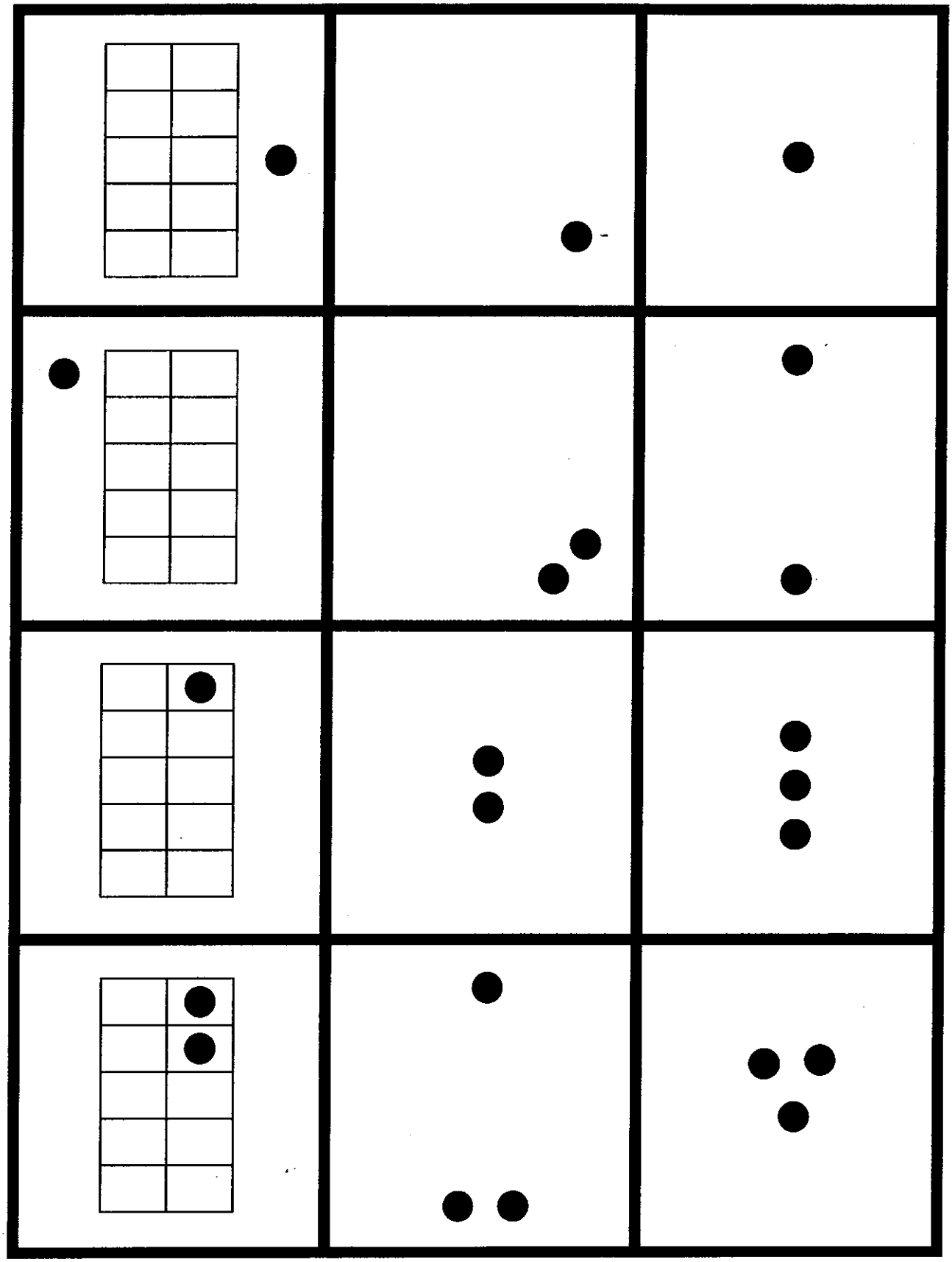
Spread out the dot cards so you can see them. Take turns.

Pick up one card. Spin. Find a card to match the rule.

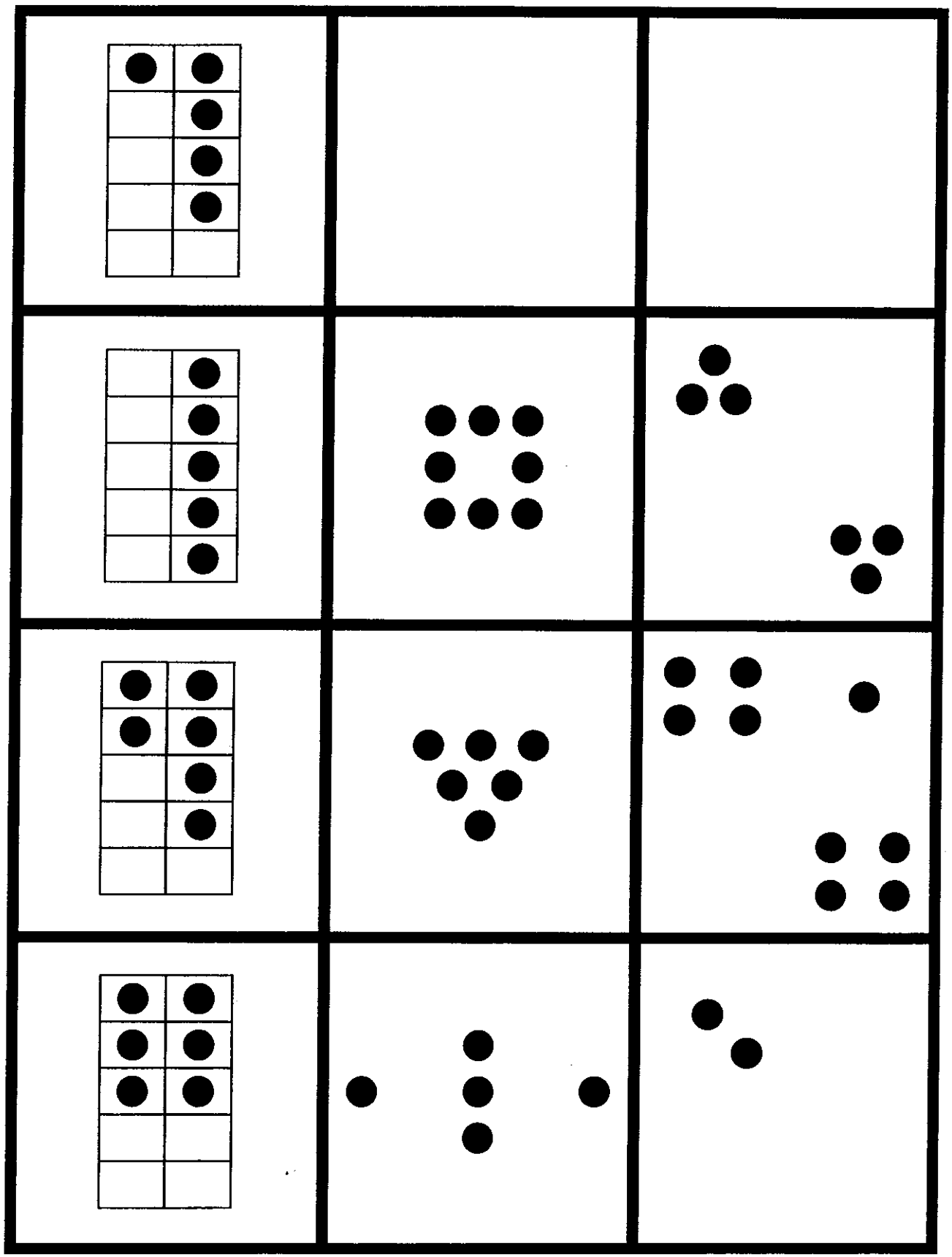
Check with your partner – does it match the rule?

Take turns until you can't find any more matches.

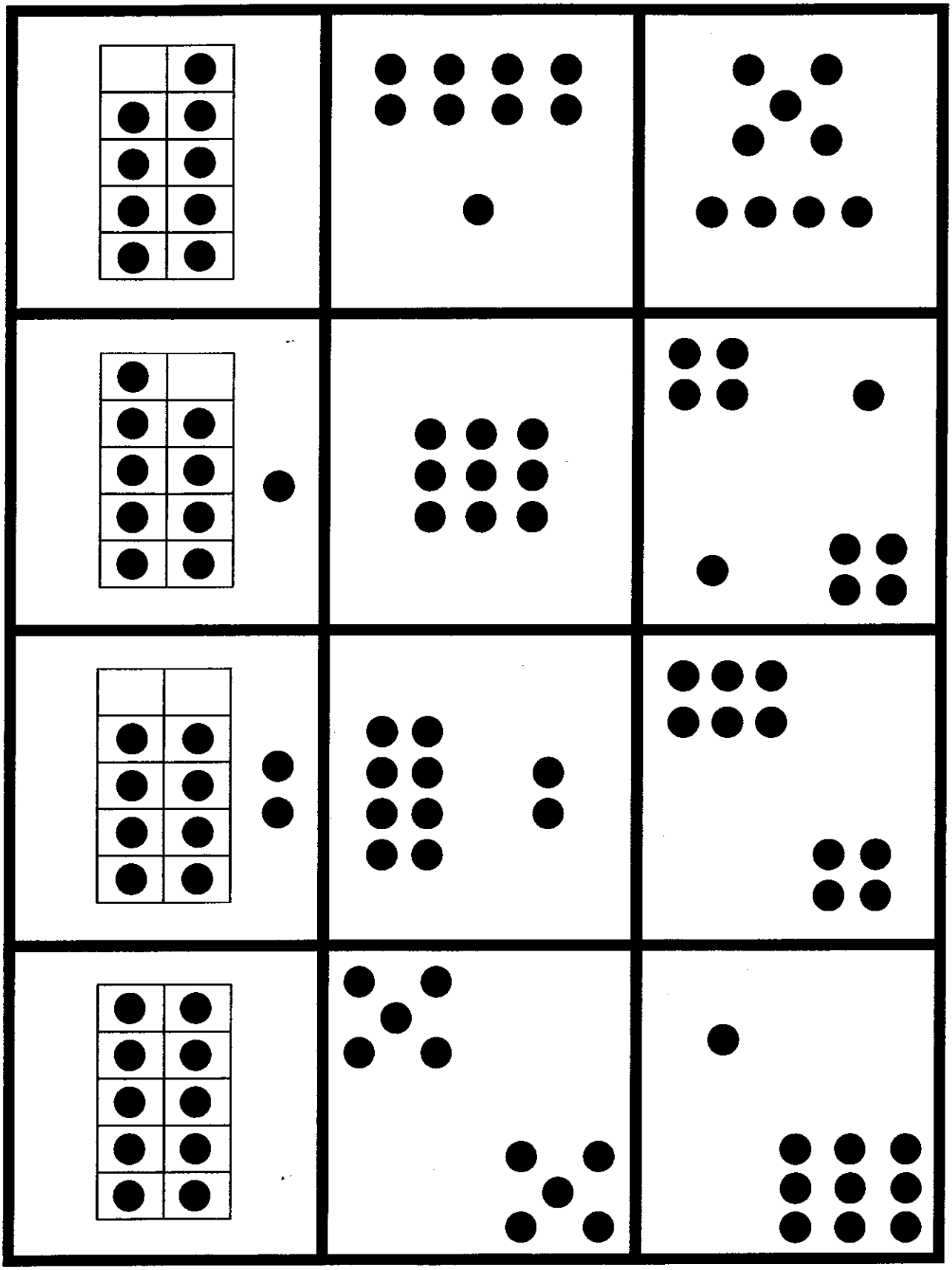
Teaching Student-Centered Mathematics K-3 (2006) Van de Walle & Lovin, page 38



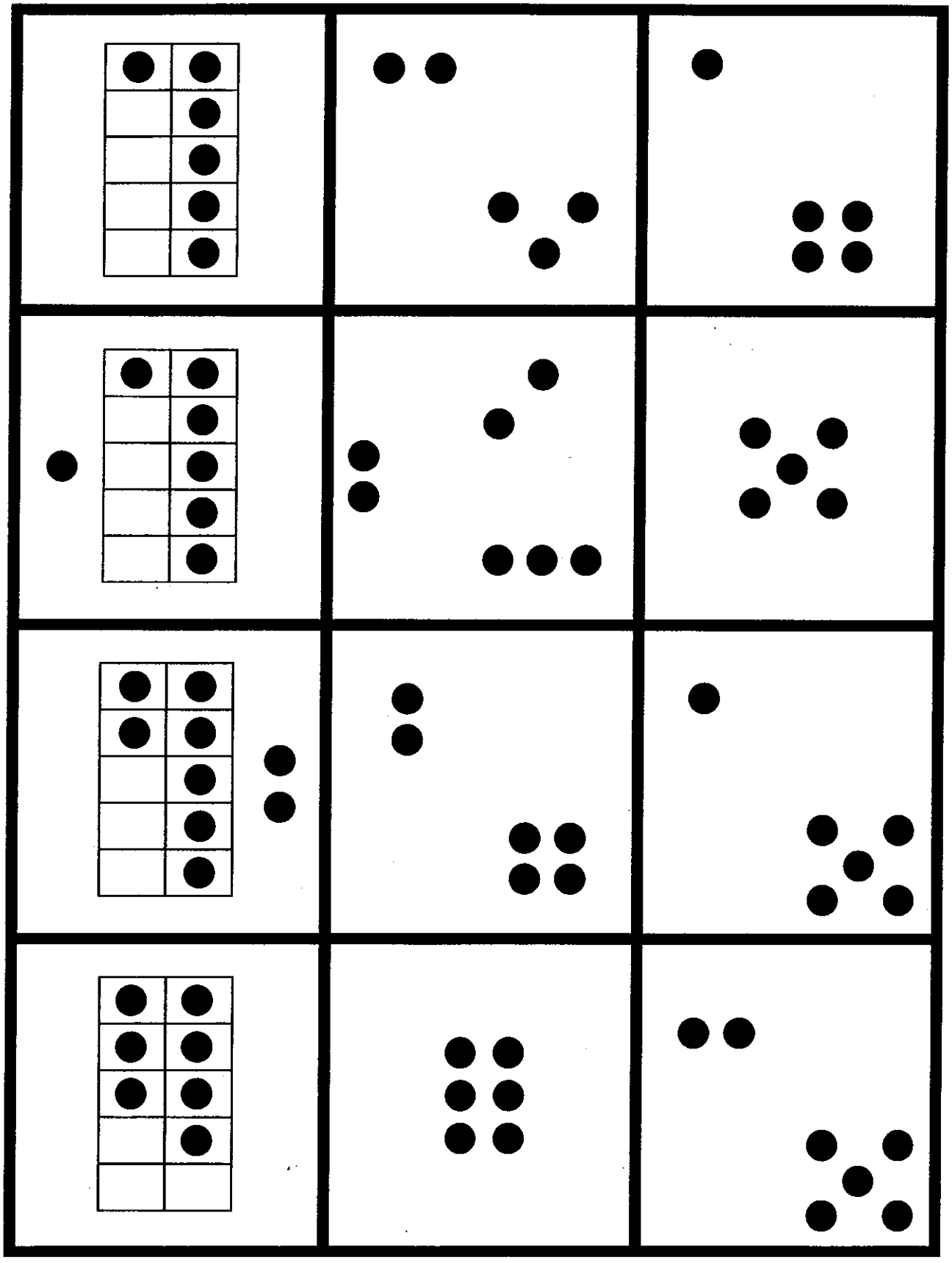
BLM 3—Dot cards



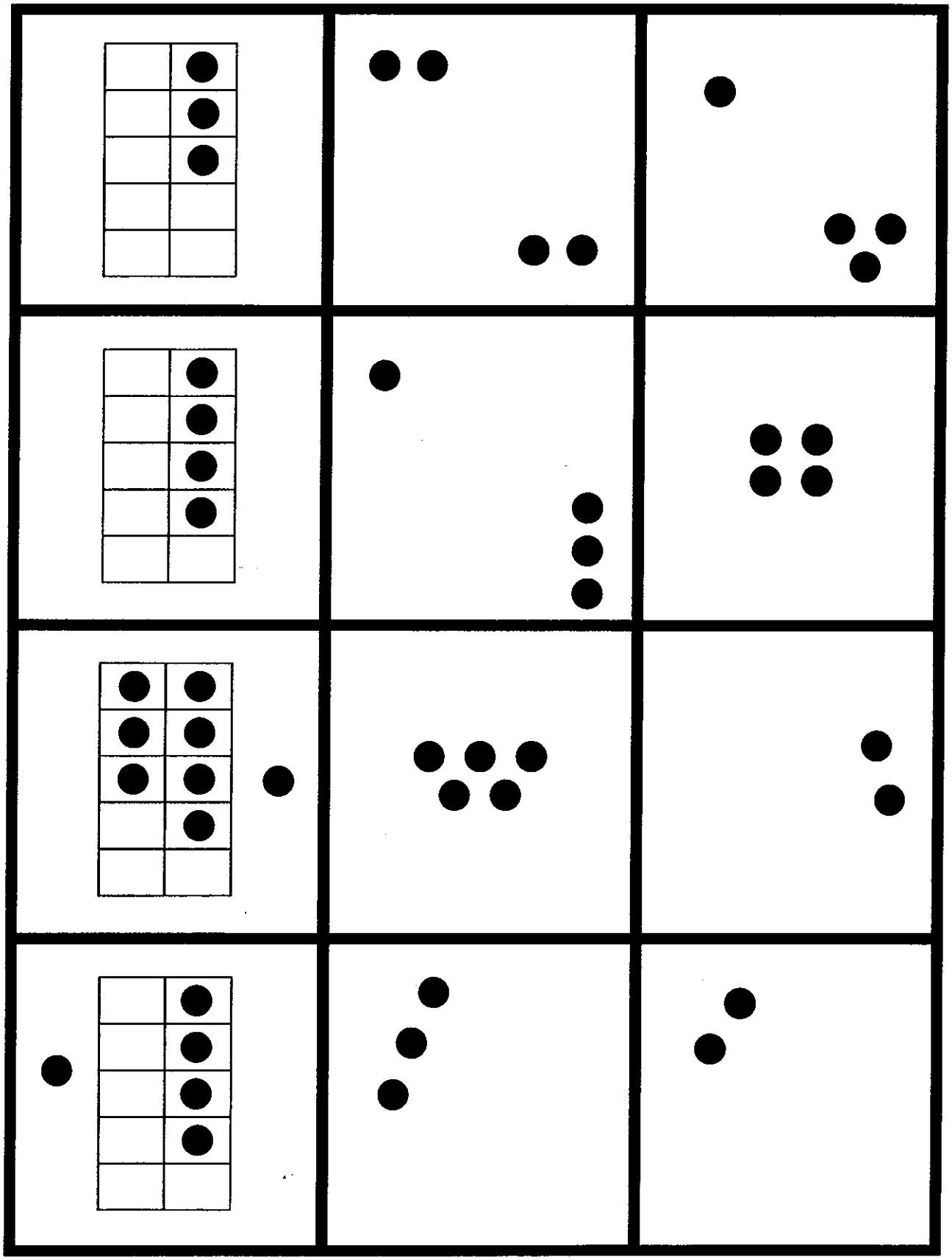
BLM 4—Dot cards



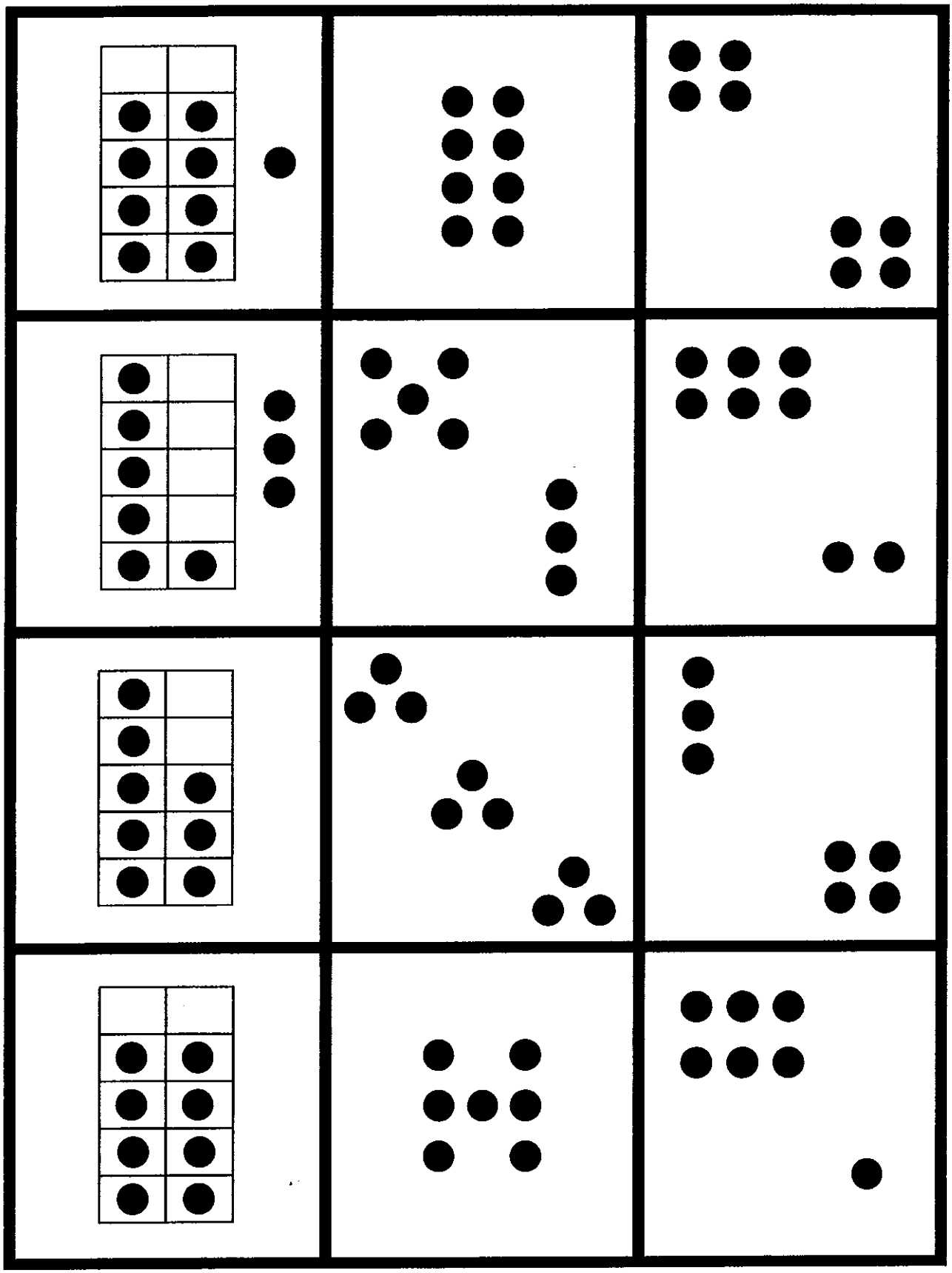
BLM 5—Dot cards



BLM 6—Dot cards

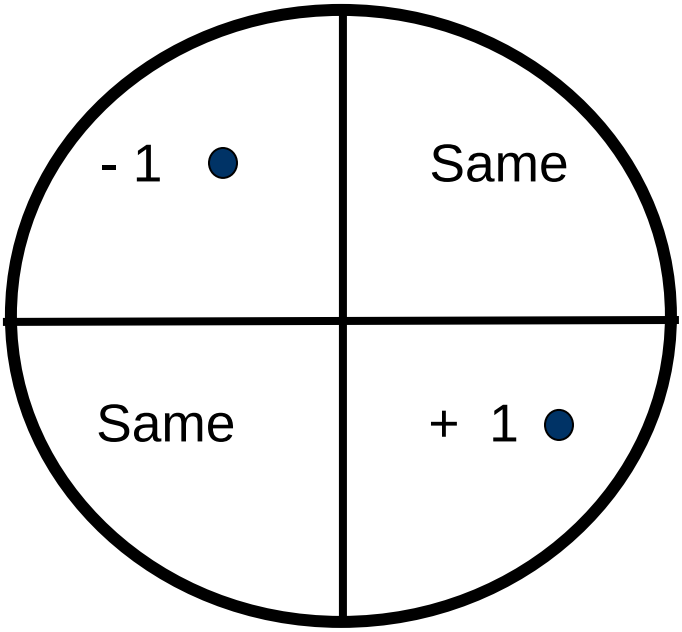


BLM 7—Dot cards

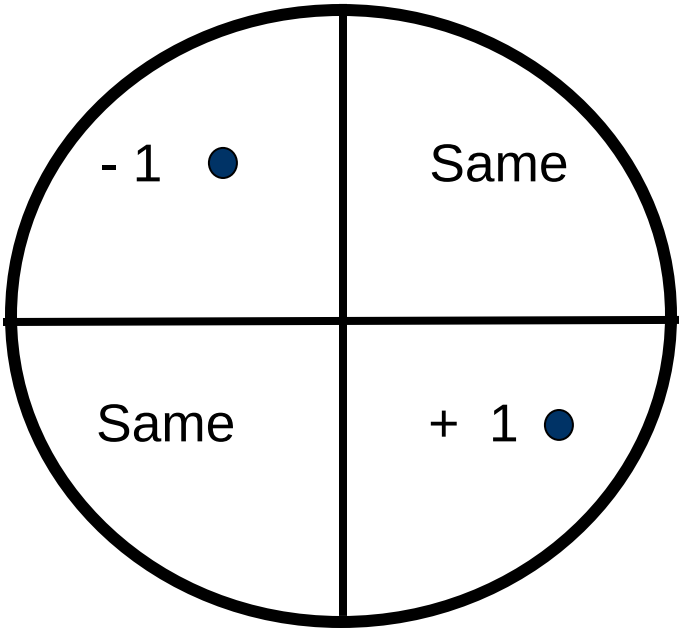


BLM 8—Dot cards

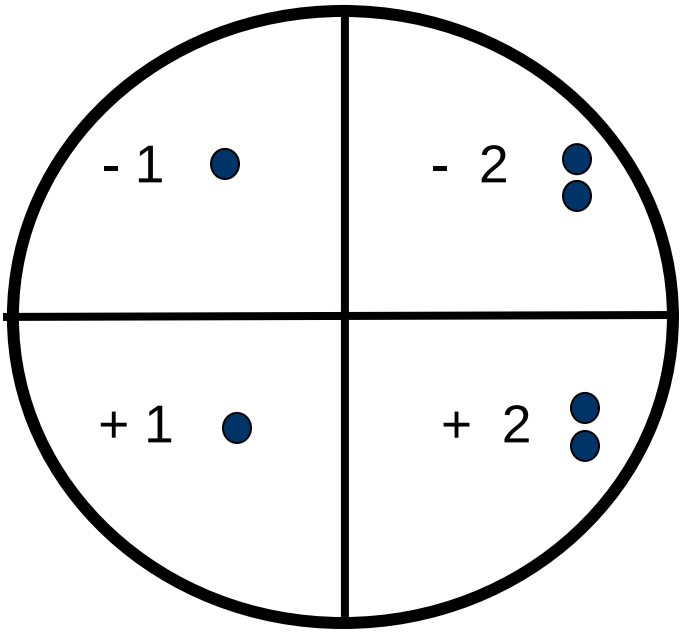
Spin and Find!



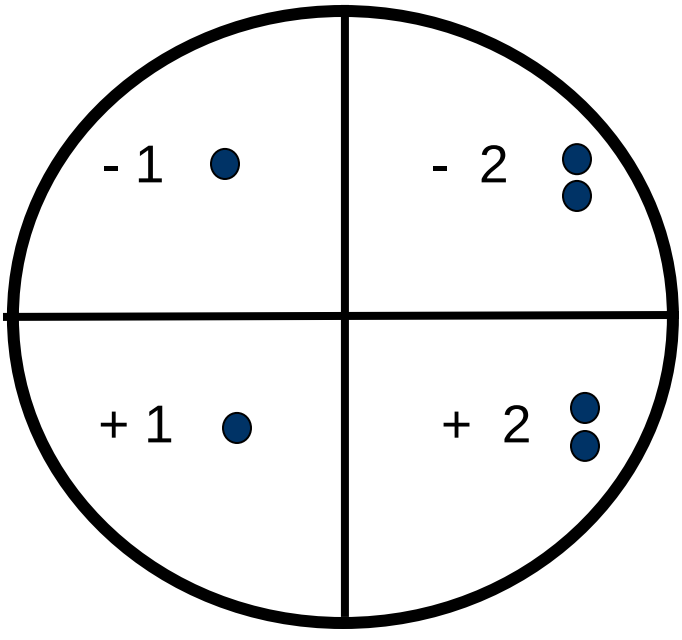
Spin and Find!



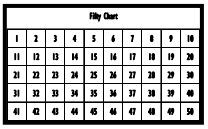
Spin and Find!



Spin and Find!



Fifty Chart



Materials: 50 Charts, 1 for each pair

2 colors cubes or counters (each player uses a separate color)

Number cube

Take turns with a partner. Each person will use a different color of cubes.

Roll a cube. Cover the matching number of squares on the fifty chart.

Fifty Chart									
				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

Keep taking turns until you get to 50.

Talk with your partner:

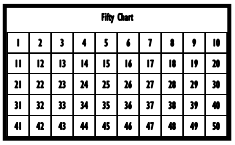
Who do you think has the most? Why?

Count:

Who actually has the most? By how much?

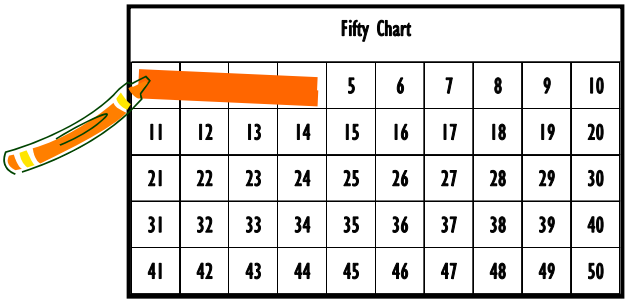
Fifty Chart

Materials: 50 Charts, 1 for each pair
crayons
Number cube



Take turns rolling the cube with a partner.

Roll a cube. Cover the matching number of squares on the fifty chart.



Keep taking turns until you get to 50.

Talk with your partner:

Who do you think has the most? Why?

Count:

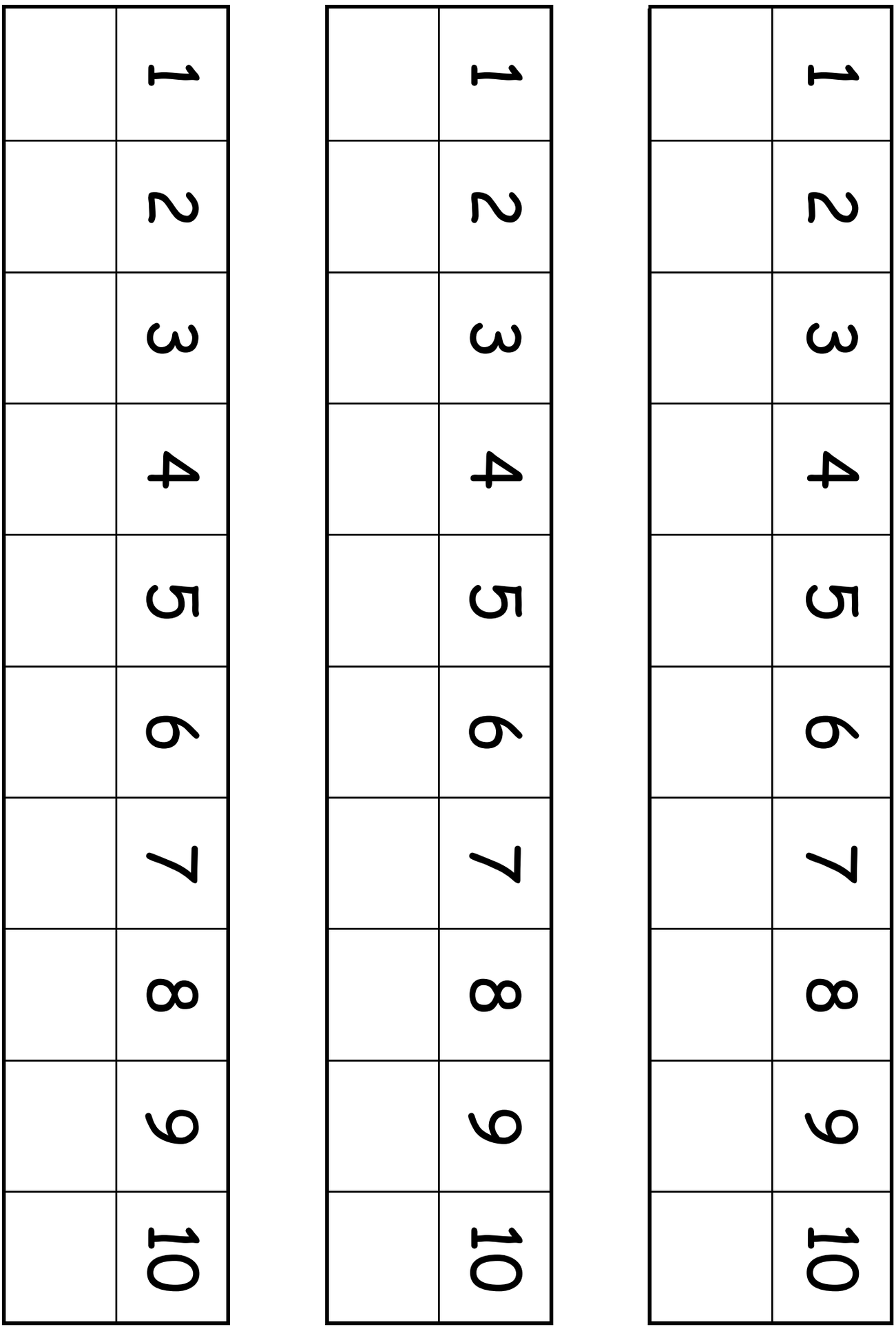
Who actually has the most? By how much?

Fifty Chart

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

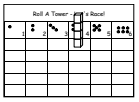
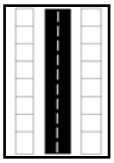
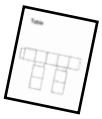
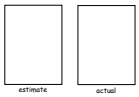
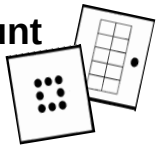
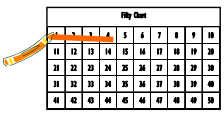
Fifty Chart

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



Check Mat to 10

NAME _____ DATE _____

 **Build a Staircase**	**Roll-A-Tower Race**  
Build A City 	**Creations** 
 **Shape Puzzles** 	**Find the Same Amount** 
50 Chart 	

Number Talks: Thinking with Numbers

Number Talks provide opportunities for children to work with computation in meaningful ways. During Number Talks, the teacher presents various problems to groups of children and asks them to share the processes they used to figure out "how many?" Number Talks can be held either with the whole class or with small groups. When children are working with the whole class they will have opportunities to experience a wide range of problems and many different ways to solve them. When working with a small group, the teacher can make sure all the children have the opportunity to share their processes, if they wish, and can more easily tailor problems to meet the needs of a particular group.

About 8-10 minutes

Implementing Number Talks

Cathy Young

Helpful Hints

1. Do number talks every day but for only 10 minutes. A few minutes every day is better than a lot of minutes infrequently.

2. Ask questions such as:

- How did you think about that?
- How did you figure it out?
- What did you do next?
- Why did you do that? Tell me more.
- Who would like to share their thinking?
- Did someone solve it a different way?
- Who else started the problem this way?
- Who else used this strategy to solve the problem?
- What strategy did you see being used?
- Which strategies seem to be efficient, quick, simple?

3. Experiment with using the overhead, the whiteboard, chart paper.

4. Consider having students "circle up" in chairs or on the floor.

5. Give yourself time to learn how to

- record students solutions
- listen to and observe students
- collect notes about student strategies and understandings

6. Determine what numbers or problems you select – use what you have heard from previous number talks as well as the focus of your daily classroom instruction.

7. Do number talks with yourself and others to try new strategies and increase your own confidence.

8. Name/label the strategies that emerge from you students:
use doubles Break apart numbers make it simplermake a "10"

Use landmark numbers Use a model to help Use what you already know

Start with the 10's place Think about multiples Counting on

Think about money Traditional algorithm

9. Use related problems: 3x14, 3x 114, 3x 1014 or 7+8, 27+8 or 3x7. 6x7

10. Do number talks in small groups.

11. Ask students "To do as much of the problem as you can".

12. Give students lots of practice with the same kinds of problems.

13. Use numbers for subtraction and addition that require students to work past a ten or hundred.
    a. Example: 56+7. 87-9, 25+6, 94+8, 106-8

14. Give students opportunities to add and subtract 9, then 8,etc, using a friendly number to work with
example: 68+10=78 so...68+9=77

15. Expect students to break apart numbers, not count on their fingers show them how.

    Example: 6+8 (think of 6 as 4+2 then add the 2 to 8 to get 10 and just add the remaining 4 to get 14)

16. Show the strategy you used. Make sure they know it not "the" way, just another strategy.

17. Give students larger numbers so they can give "estimates".

18. If you use chart paper, write down the student's names next to their solution to keep track of who is participating and their strategies. Use the following assessment guide:
    a. Can figure it out by (counting on, using an involved strategy, etc

18. If you use chart paper, write down the student's names next to their solution to keep track of who is participating and their strategies. Use the following assessment guide:
    a. Can figure it out by (counting on, using an involved strategy, etc
    b. Beginning to use efficient strategies (can complete some of the problem efficiently
    c. Just knows or is using efficient strategies

19. Create a safe environment. When children feel safe, they are comfortable in sharing an answer – even when it different from everyone else's.

20. Provide concrete models (snap cube "trains, base 10 blocks, money, etc.)

21. Give opportunities for children to "think first" and then check with models.

22. Have students occasionally record their thinking and the steps they use to solve a problem.

23. Encourage self-corrections; it's okay to change your mind, analyze your mistake and try again.

24. Provide number stories.

25. Be curious; avoid making assumptions.

26. Give number talks time to become part of your classroom culture. Expect them to follow the usual learning curve stages. "Keep on keeping on" and you will get positive results!

KIDS LIKE NUMBER TALKS!

Routine: Tell Me Fast Cards
Three Days

Suggested Dot Cards

Day 1: Start with three cards: three dots, a different arrangement of three dots, four dots (kinder ~ start with three cards: 1 dot, 2 dots, three dots)

Observation Notes: When you show a Dot Card that has the same number of dots in a different arrangement, look around to see if there are students who clear their counters and start over, versus students who realize that the same counters can be used, even though the card "looks different".

Materials: counters (not more than 10 per student), work mats (optional), Dot Cards

***Note: These directions include instructions to "tell your hand", "tell your friend", and "tell me". This is a variation on the ELL strategy of Think-Pair-Share. When students have their own think time, they can whisper their "answer" into their hand, cupped over their mouths. Then they can tell their friend what they are thinking. ("Friend" usually just means "neighbor"; you can use any terminology that is helpful for you.) Then they can share out the answer to you/the whole class. Choral response is good for this activity, as it's not a test. If a child has an incorrect number of counters, they will see that in the process.*

Process: Hold up a card with a dot pattern showing and ask students to place the number of counters onto their mat that they think they will need to cover the dots on the card.

Ask students to count their counters and then "tell their hand" how many they are using. Ask them to turn and "tell a friend" how many counters they are using. Ask them to "tell me" the number of counters, or call on a volunteer if you aren't using choral response.

Place the card in front of a student, and have him or her place their counters on the dots on the card, while the whole group counts. If the child needs to make an adjustment (add or subtract counters to make it match the card) have everybody count again.

Once children have become familiar with the cards, flash one and put it down quickly, encouraging students to call out the number of dots without counting and without counters.

Adapted from Kathy Richardson, *Developing Number Concepts with Unifix Cubes*, by Mia Buljan for Hayward Unified School District draft 5/08

Day Two: Start with four cards: three dots, four dots, a different arrangement of four dots, five dots (kinder ~ start with three cards: two dots, three dots, a different arrangement of three dots.)

Day Three: Start with four cards: five dots, a different arrangement of five dots, six dots (kinder ~ start with three cards: two dots, three dots, a different arrangement of three dots.)

Routine: What Do you See?

Adapted from Chris Conifer, *Teaching Number Sense Grade 1* by Mia Buljan for Hayward Unified School District draft 5/08

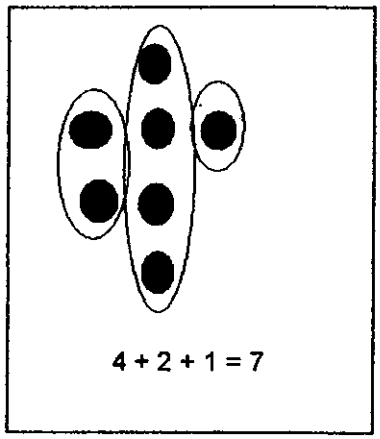
Purpose: Create a math environment where students are encouraged to explain their thinking. Starting with dots feels safe and exciting for even underperforming students. These activities also help students to think about quantities attached to different numbers. A large part of algebraic thinking is understanding that a quantity can be decomposed, or broken apart, into different smaller parts. Dots help students break quantities in lots of different ways.

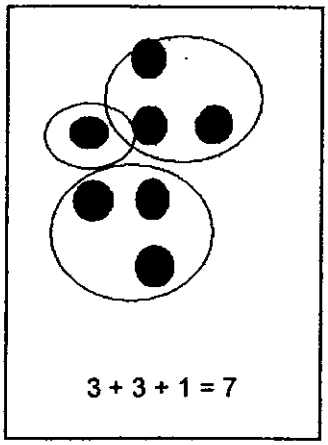
Materials: Dot Pattern Cards 1 through 3; 12 - 15 red/yellow counters per students; a blank page for students to work on; poster or chart paper for group recording.

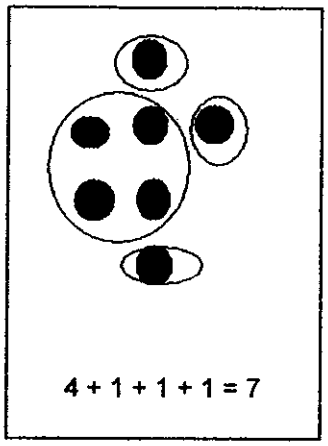
Procedures:

- Set the procedures by telling students that we are going to use the dots to make their blank page look just like the dot pattern page that you will be showing them. "We will be thinking about how many dots you needed to make my pattern." Explain that in this activity, we will not call out, even when we think we know how many dots are needed. When we want to share an answer, or show that we are finished, we will place a "thumbs up" sign in front of our chests.
- Explain that you are going to show them a pattern card now. "You won't have enough time to count all the dots, so pay close attention to the groups or shapes that you see that help you remember what to build."
- Flash the Dot Card for 3 or 4 seconds, slowly sweeping across the room so all students can see it.
- As students get to work, explain that in a moment, you will be showing them the card again. When students are ready, flash for another 3 - 5 seconds, slowly sweeping across the room so all students can see it. "Decide if yours looks like mine, or if you see something now that you want to change."
- Say, "Show me a thumbs up when you know how many dots you used to make your pattern look like mine."
- Collect answers. Collect all answers and keep asking, "Did anybody see a different number of dots?" Record all the offered answers. Ask, "Can all of these be the right answer?"
- Show dots without flashing (hold dot card until all students have created the pattern correctly. If a student seems spatially confused, hold the card next to their paper to recreate or allow them to build right on your card.)
- Verify how many dots it took by having them whisper to their hands; then, have them share with a neighbor. Finally, get a group response.
- Say, "Who wants to share what they saw that helped them figure out how to make my dots?" Record responses (see example below). Keep asking, "Did anybody see it differently?" until they have shared their thoughts. As you record, you may want to put their names next to their share.
- When recording on chart paper, have copies of the dot pattern all queued up. As students explain their thinking, circle groups of dots to indicate what they are explaining. Put quantities with their explanations and verify as a class that each one sums to the same number that they all got as their answer for the number of dots required to make the pattern.
- After recording, ask them to share any patterns they notice or anything they see, especially if there are any that seem the same to them. It's not uncommon at all for students to "suddenly realize" that "they all equal 7!" What's obvious to us is not at all obvious to them.

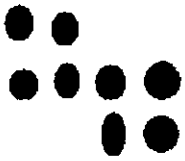
Example of recording, Dot Pattern Card #1:



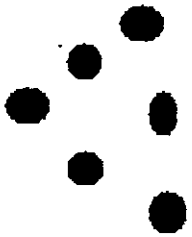


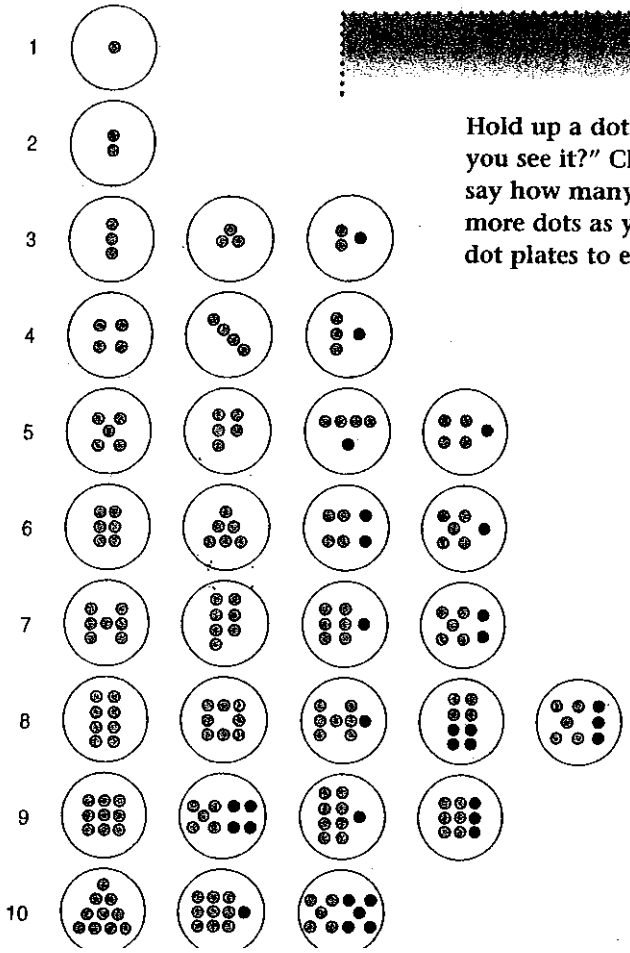


Dot Pattern Card #2
Day 10



Dot Pattern Card #3
Day 11





ACTIVITY 2.9

Dot Plate Flash

Hold up a dot plate for only 1 to 3 seconds. "How many? How did you see it?" Children like to see how quickly they can recognize and say how many dots. Include lots of easy patterns and a few with more dots as you build their confidence. Students can also flash the dot plates to each other as a workstation activity.

The instant recognition activities with the plates are exciting and can be done in 5 minutes at any time of day or between lessons. There is value in using them at any primary grade level and at any time of year.

In addition to dot plates, a good set of materials is a set of dot-pattern dominoes. Make a set of dominoes out of poster board and put a dot pattern on each end. The dominoes can be about 2 inches by 4 inches. The same patterns can appear on lots of dominoes with different pairs of patterns making up each one. Let the children play dominoes in the regular way, matching up the ends. As a speed activity, spread out all of the dominoes and see how fast the children play all of the dominoes or play until no more can be played. Regular dominoes could also be used, but there are not as many patterns.