



Nifty Numbers

Prepare a deck of cards with sets and numbers. See Blackline Masters. Play concentration, matching set and numeral.

(1.01g)



Look And See

Have children create pictures/designs using plane geometric shapes. Glue paper shapes of designs on paper. Count and record the number of each shape used. Give the picture a name.

(1.01a, 3.01)



Patterns Galore

Using a number line, highlight the numbers 7, 10, 13, and 16. Have the children fill in the next three numbers to continue the pattern. “How did you know what numbers to choose? In your math journal begin with 30 and write the next four numbers in this pattern.”

(5.03)



Brain Teaser

One cool day, Tom wrapped his jacket around him and went to the park for a picnic. On the way to the picnic table, he had to pass ten trees. He had gone by six trees when he realized he had dropped his jacket. He went back past three trees to find his jacket. He put it on and turned around to go on to the picnic table. He passed five trees. How many more trees does Tom have to pass to get to the picnic table?

(1.04)



Let's Explore

Use the following activities to explore names for ten:

1. Give each student ten two-color counters. Ask students to show combinations of ten.
2. Students then record by coloring the circles on individual strips of paper. Allow time for each child to explore and record the combinations.
3. Make a class book entitled, “Collections of 10.” Each student may contribute a page of his or her own drawings or may cut out pictures to show ten.
4. Encourage children to think of other ways to show ten. For example, one dime or a yearly calendar with two months crossed off.

(1.03)



Writing About Math

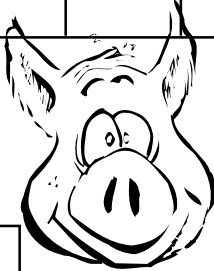
Write a story about Tom's walk in the park. Use the numbers two, six and eight to tell about things he saw.

(1.01a)

Starting Post

Oink Oink !

Go back two

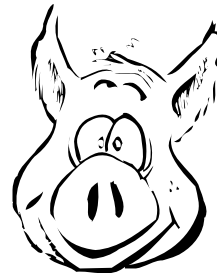
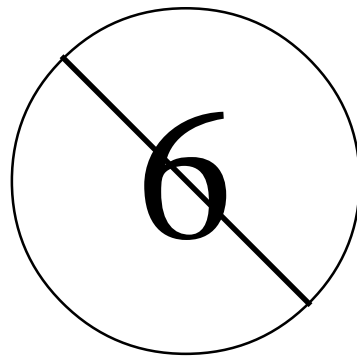


Oink Oink!

Materials: Gameboard, markers, die

Number of players: Two

Directions: Roll the die and move that amount of spaces. Keep rolling as many times as you like, but beware of the number six. If you get a six, you must go back to *Starting Post*. Take turns. The first person to reach the "Oink Oink" is the winner.



Lose a turn

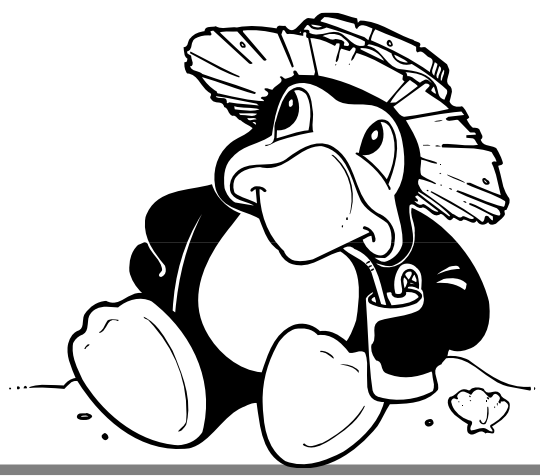
Lose a turn

(1.01a)

(1.04)

Name _____

1. Show me $3 + 2$ with some objects.
2. Show me $7 - 4$ using the items here.
3. Show me $2 + 2$.
4. Show me $4 + 5$.
5. Show me $6 - 5$.
6. Show me $3 - 3$.
7. Show me $8 - 4$.
8. Show me $1 + 9$.



To the Teacher ..

Grade 1
WEEK
9



General Notes To Teachers:

Why make a connection between literature and mathematics?

The use of literature in the classroom can...

- integrate mathematics into other curriculum areas
- provide a meaningful context for mathematics
- support the art of problem posing
- demonstrate that mathematics develops out of human experience
- foster the development of number sense
- address humanistic, affective elements of mathematics
- celebrate mathematics as a language
- provide an aesthetic dimension to mathematical learning
- motivate investigations
- introduce or develop notation
- foster use of mathematical language
- stimulate independent, creative thinking
- encourage choice and decision-making
- assess student's abilities and inclinations

A suggested list of children's books with literature/mathematics connections can be found in *Blackline Masters*.

Mental Math

1. What is two less than six.
2. If you had five cookies and ate three, how many would you have left?
3. How many sides do two triangles have.
4. What number is between 15 and 17?
5. How many feet on five birds?
6. Write the sum, four and two more.
7. Which has fewer sides, a rectangle or a triangle?
Draw your answer.
8. Yes or no, "Does Monday come after Wednesday?"

Powerful Potpourri

In a small group (three to five children), provide manipulatives (Unifix cubes, buttons, counters, paper clips, etc.) for children to model the number sentences that you read aloud. Use this activity to assess 1.04.



Nifty Numbers

Help children become familiar with calculators with the following activities:

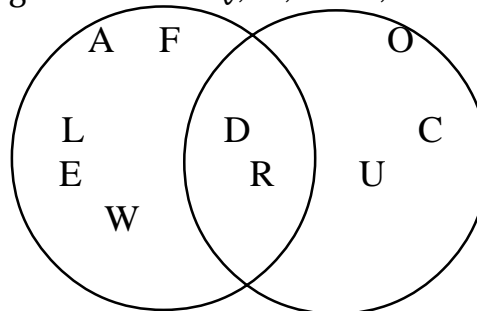
1. Call out numbers zero through nine. Have the students enter each number one at a time and then clear after each number.
2. Introduce + and =.
Call out series such as $3 + 1 = 4$
Focus on + 1

(1.01c)



Brain Teaser

Where do these letters belong in the diagram below? Q, T, K, P, S



(5.02)



Look And See

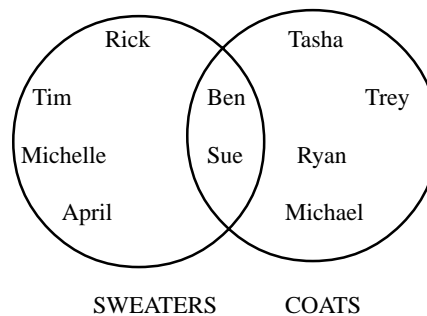
Place a collection of items on the overhead such as a pencil, a crayon, a pair of scissors, a piece of chalk, etc. "Think out loud" as you decide how you would sort the items (ex. things that you can write with, things that cut, etc.). Put another group of objects on the overhead and have a volunteer sort the items into groups, describing their rule.

(5.01)

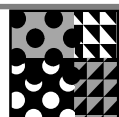


Let's Explore

Classify students by their clothing (ex. sweaters or coats). Make a large Venn diagram with string or rope on the floor for children to stand in as they fit themselves into either group or both groups. Make a chart with the same information using the children's names to indicate where they stood. *Always make connections between activities, models and symbolic records.*



(5.02)



Patterns Galore

Provide each child with a 12 x 18 sheet of construction paper and crayons. Direct children to draw a repeating pattern of shapes and colors as a border around all outside edges. (ABAB pattern not acceptable!)

(5.03)



Writing About Math

Draw ten bugs. Color some of them black. Color the rest red. Write a story and a number sentence about the bugs.

(1.04)

1 Up



Materials: Gameboard, four sets of cards numbered 1-10 (Print a set in each of the following colors: red, blue, green, orange).

Number of players: Two-four players.

Directions: Shuffle and deal all cards to the players. The player who has the red 1 begins play by placing the card on the gameboard. Play continues clockwise. The next player must either place a red 2 on top of the red 1, or place a 1 of another color on the gameboard, or pass. Play continues until one player has played all the cards in his or her hand.

RED

BLUE

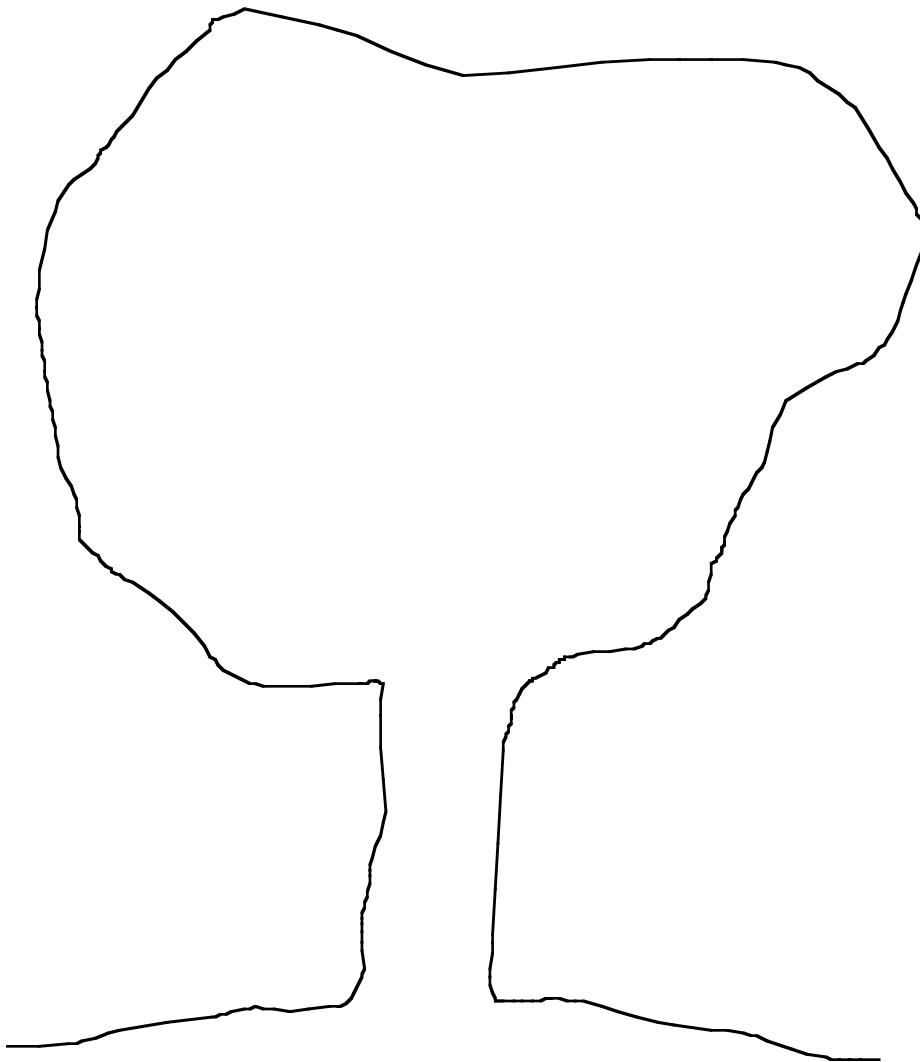
GREEN

ORANGE

(1.01d)

Use Directional Words

Name _____

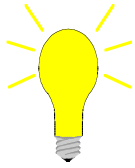


(3.04)

To the Teacher ..

Grade 1

WEEK
10



Nifty Numbers: Be sure to give students time to explore the calculator on their own before your lesson, for their desire to “play” will be stronger than their desire to follow your directions.

Explorations with calculators should be designed to enhance the memorization of number facts and promote interest in numbers and their relationships.

Calculators are important tools. They do not replace mathematical thinking; you must tell the calculator what numbers and operations to use. Calculators allow students to focus their energies on solving problems and to easily try alternative solutions. They also allow students to solve problems that are too difficult for pencil and paper. Number sense and good estimation skills are important when students use technology to carry out computations. Explore some “what if” situations with the calculator. “What if the cost of gas goes up four cents...? What if we build the patio two feet wider...?”

Another idea: Use the calculator to investigate skip counting.

1. Ask the students to clear the screen. What does the display show?
2. Press $+$ then press **2**. What does the display show? If you continue pressing $=$, what happens? (skip counting by 2’s).
3. Try it with subtraction also. Begin with a number such as 20. Press $-$ then press **2**, $=$. Continue to press $=$ until the display shows **0**.
4. Try subtracting 5 from 20; 10 from 20.

Mental Math

1. Marcy had six cents. She earned two cents. How much money does she have now?
2. What comes next? 27, 28, 29, _____.
3. How many wings are on three birds?
4. How many sides do two rectangles have?
5. Which is less 10 or 13?
6. What comes next: 40, 50, 60, 70, _____.
7. Which has the most sides: a square, triangle, or hexagon.
8. What comes next: 46, 45, 44,

Powerful Potpourri

Directions:

Draw

- an apple in the middle of the tree
- a fence to the left of the tree
- some grass under the tree
- a sun over the tree
- a bird on top of the fence
- a basket to the right of the tree
- an apple inside the basket.



Nifty Numbers

(1.01a)

Prepare number word flash cards. See Blackline Masters. Divide class into two or three teams. Have a relay race in which the first child in each line races to correctly read the number word on the card displayed. The child who reads the word first goes to the back of the line. The first team to have all members read a number word wins. See Blackline Masters for flashcards.

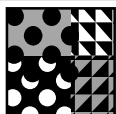


Look And See

Show the class a model of the

following solid geometric figures: a sphere, a cube, a cylinder and a cone. Label each shape with a word card. Play "I Spy." Encourage each child to use directional and positional words as they try to identify the location of the shape in the classroom. If possible, bring the shape to the front of the classroom or bring in examples of these shapes from home. Build geometric solid sculptures with the shapes collected.

(3.02)



Patterns Galore

Direct the children to stand at their seats. Have them respond appropriately to your directions. "Snap your fingers two times, clap your hands two times, tap your foot four times." Repeat this twice. Ask, "What is my pattern?" Continue using verbal directions and changing patterns.

(5.03)



Brain Teaser

Guess my number. My number is:

- A number between 1 and 23
- A two-digit number
- The sum of the digits is 6
- The 3rd number you say when counting by 5's beginning at 5.
- What is my number?

(1.02)



Let's Explore

Question: How many different ways can you cover a hexagon?

Activity: Show students an assortment of pattern blocks. Put the hexagon in the middle and cover it with two blocks. Are the blocks the same or different? Cover with three pieces. Are they the same? Have students trace and color each new way they discover to cover the hexagon. Sort these into covered by the same or different blocks.

(3.01), (3.03), (3.04)



Writing About Math

Look at square and rectangular shapes in your classroom. Write a list of the likenesses and differences between these two shapes.

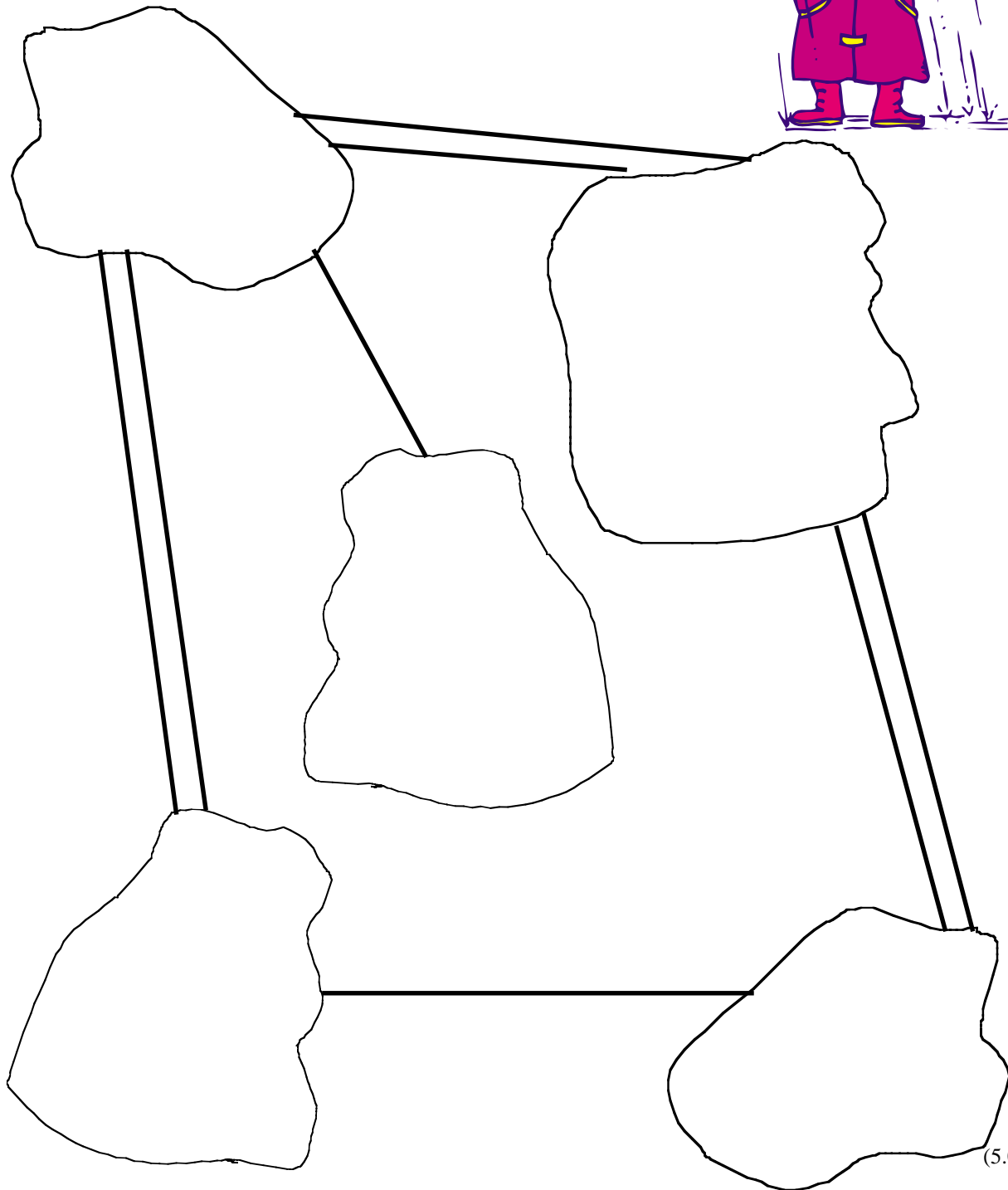
(3.01, 3.03)

Mud Puddle Connects

Materials: Gameboard, attribute blocks

Number of Players: Two







Directions: Begin by placing an attribute block in any mud puddle. Students take turns (but help each other) placing other attribute blocks on the gameboard, such that they are different from neighboring puddles by the number of lines connecting the puddles.















(5.01)

(5.03)

Name _____

1.       _____

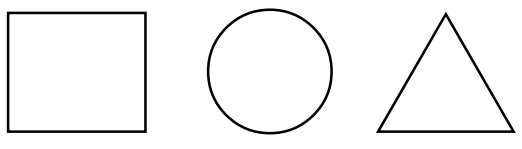
2.    |    | _____

3.       _____

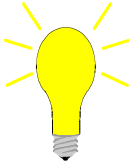
4. Find the mistake in this pattern. Put an X on the first shape that is in the wrong order. Rewrite the pattern correctly.

~ ~ // ~ ~ // ~ // ~ ~

5. Create your own pattern using these shapes.



To the Teacher ..



Tickle Your Brain

Play “Guess My Number.” If the game is played in the classroom, suggest that the children use available “helps” such as a Hundred board, number lines, calendar, etc. Give clues slowly. Give a range of numbers as possible answers. When all clues are given, ask, “What’s my number?” Call on a child and repeat the clues to check the answer given. If incorrect answer is given, call on another child and follow the same steps again. Use clues such as, but not limited to:

1. My number is between _____ and _____.
2. My number is a one (or two) digit number.
3. You say (or do not say) my number when you count by two’s (or five’s or ten’s etc.)
4. My number is 5 less than _____.
5. What’s my number?

Mental Math

1. How many fingers and toes do you have all together?
2. What number comes after 30 when you count by ten’s?
3. What number is equal to seven minus two?
4. How many months are in one year?
5. What is three less than ten?
6. What number is spelled f - i - v - e?
7. Write a math fact that is equal to $3 + 4$.
8. The number of sides on a hexagon and a parallelogram.

Powerful Potpourri

Worksheet may be used for assessment or information to place in the student portfolio.





Nifty Numbers

Write the numbers one through ten on the board in ascending order. Under each word, draw a box large enough for the number word to fit. Fill in the empty boxes with the correct letters as the children spell the number words. Repeat with numbers in random order.

(1.01a)



Brain Teaser

Seven children are swimming in a pool. How many toes are in the pool? How many ears are in the pool?



(1.04)



Look And See

Prepare cards with pictures of geometric shapes through which a line has been drawn. Distribute the cards to the class. Each child will place his card on a graph labeled “equal regions” and “unequal regions.” This activity can be placed in a center for reinforcement. Repeat the activity using “closed figures” and “open figures.”

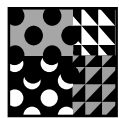
(3.04)



Let's Explore

Grab a handful of cereal that comes in a variety of shapes or colors. Glue the pieces on a grid to show the number of each shape or color you had. Make a tally chart to show the same information as on your real graph.

(4.01)



Patterns Galore

Provide the class with a pattern of objects such as scissors, pencil, pencil, paper clip, scissors, pencil, pencil, paper clip, on the overhead. On the next row follow the same procedure except include an error in the pattern. Call on students to correct the errors and then make a pattern and have another student find the errors.

(5.03)



Writing About Math

Make up three questions to ask about your graph. Give them to a friend to answer.



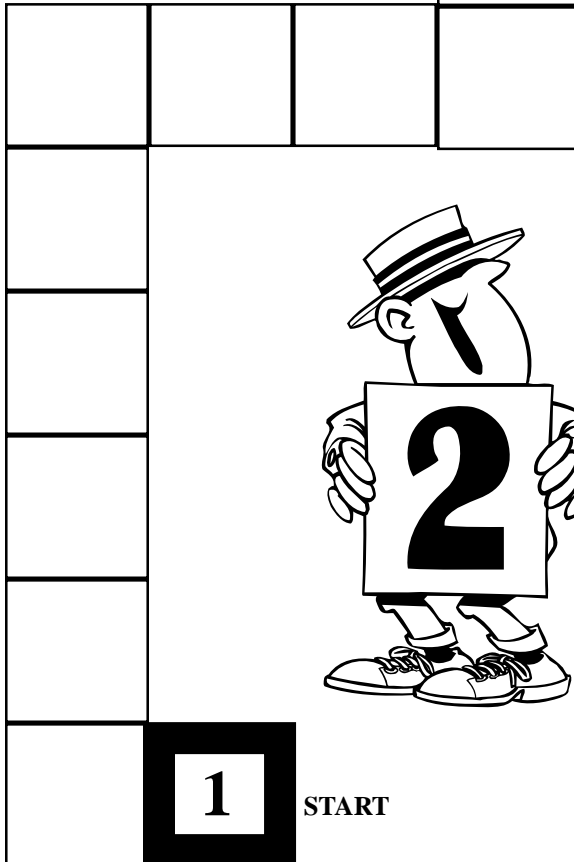
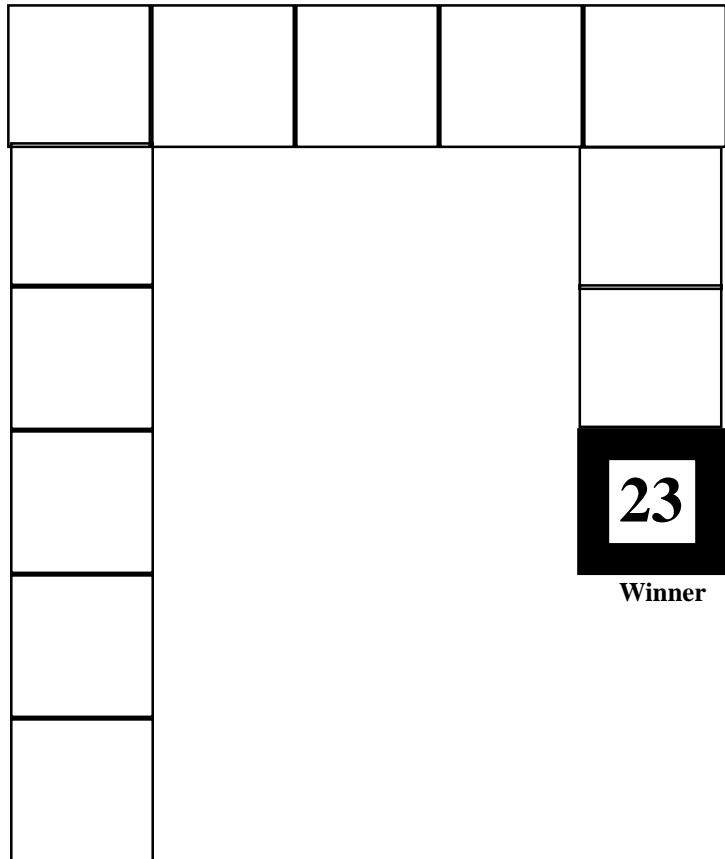
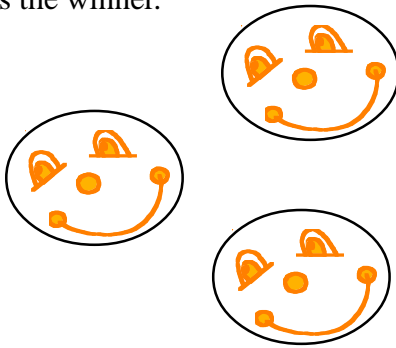
(4.01)

23 Skidoo

Materials: Gameboard, markers

Number of Players: Two-three players

Directions: Players take turns placing one, two or three markers on consecutive spaces on the gameboard. As they place a marker on the board, they must say the counting numbers in sequence beginning with one. Players may not skip any numbers or spaces. The player who places a marker on 23 is the winner.



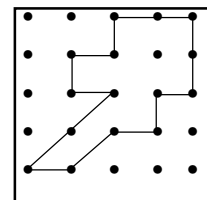
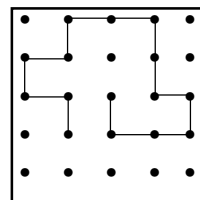
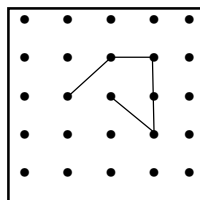
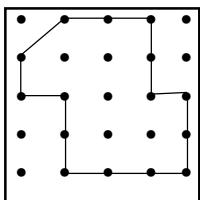
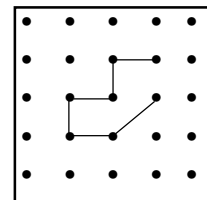
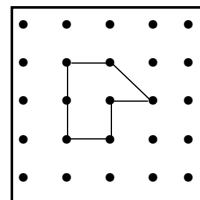
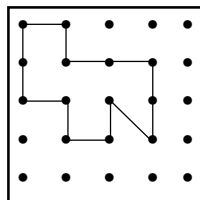
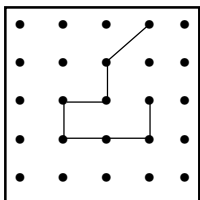
(1.01d)



Directions: Cut out the geoboards at the bottom of the page. Glue each geoboard in the correct space at the top of this page. Name _____

Open Figures

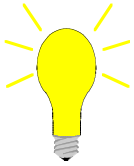
Closed Figures



To the Teacher

Grade 1

WEEK
1 2



Mathematics can make life easier for you when you become a good estimator. Spatial estimation helps you plan how you will rearrange your furniture or how far to jump to cross a puddle of water. Using estimation helps you know whether you have enough money for your purchases before you get to the checkout line. We become good estimators by practicing.

Use your number sense and spatial sense to think about what the answers to problems will be before you start to solve them.

Provide a variety of estimation experiences such as: the number of objects in a clear container, the number of blocks that will fit in a box, the number of steps it is to the playground, or the number of times a student can jump up and down in one minute. When preparing to reveal the answer, ask questions such as: “Do you think there are less than three marbles? Could there be more than 200?” Observe whether or not student responses are reasonable.

🍏 Sample Estimation Activity: The purpose of this is to help students learn to use the given information to refine their estimates. Place a small quantity of candy pieces (no more than twelve for the first estimation) in the jar. Count out three pieces of candy and show them to the class, they may wish to change their estimate. Continue counting out more to show to the students. As the students get more information, encourage them to change their estimates if they feel it is necessary.

🍏 Additional Powerful Potpourri

As a hands-on activity, provide each student with two pipe cleaners. Have them twist the ends of one of them to make a circle. Students can make interesting shapes to show one open and one closed figure. Glue their creations onto separate pieces of construction paper, label as “open” or “closed” and display on a bulletin board.

Mental Math

1. How many legs do four turkeys have?
2. If two girls and four boys are at a party, how many children are there in all?
3. One more than six is _____.
4. If you put eight things into groups of two, how many groups would you have?
5. If the party is the 28th, what is the day after that?
6. What number is spelled e-i-g-h-t?
7. What number is between 47 and 49.
8. If you had eight cents and spent four cents, how much do you have left?

Powerful Potpourri

Additional assessment of open and closed figures may be done by using geoboards and having students demonstrate a figure as directed by the teacher.