

COUNTING STICKS

Objective: The children will learn place value by identifying numbers made up of tens and ones.

Materials Needed:

bag of dried beans or 135 beads
18 popsicle sticks
3" x 5" index cards
2 styrofoam meat trays (7 1/2" x 5") or kitchen trays
super glue and a felt tip marker

How to Make:

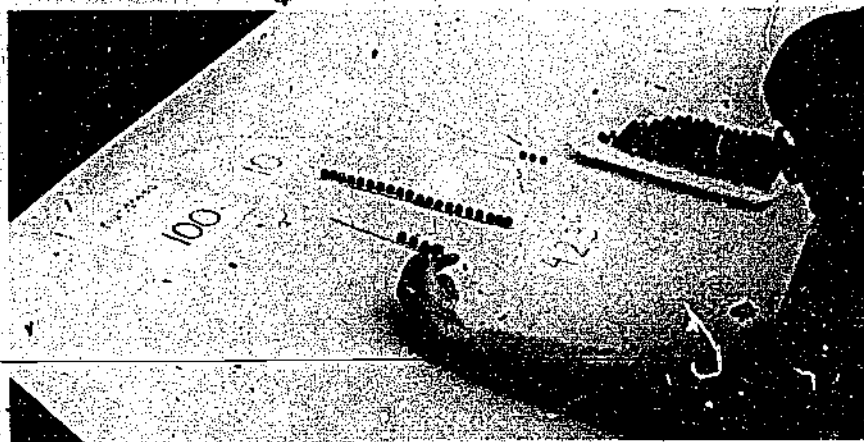
1. Use nine of the popsicle sticks and glue ten beans on each one evenly spaced along the length of each stick.
2. Start at one end of the remaining nine sticks and glue one bean on the first stick, two on the second stick, three on the third stick, and so on up through the ninth stick.
3. Write two digit numerals on the index cards, for example: 17, 26, 31, 45, etc. Use as many combinations as you wish. These are the numeral cards.

How to Play:

1. Place the counting sticks on the trays with all the ten sticks on one tray, and all the one sticks (1-9) on another tray. Explain this to your child.
2. Place the problem cards in a pile face down in front of your child. Ask him to pick one and show it and name the numeral (e.g. 26).
3. Help him to make the number with the counting sticks which the "26" represents. Two ten sticks and the stick with six beans to the right of the ten placement would be correct for "26".

Variations:

1. It may be helpful to make guide cards, labelled "10's", "1's". Place these on the table so that your child will place the sticks under the proper column.
2. You can use the sticks to make a number, and the child can count the beads, identify the number, and find the correct numeral card.
3. The older child can write the correct numeral on a blank index card.
4. The second grade child should practice this game using numbers in the hundreds to learn 3 digit place value. Make 10 sticks with 10 beads on each. Glue these together using a popsicle stick on the underside. Make 9 more of these hundred blocks. Make 3 digit numeral cards. Have your child make the number with the counting sticks in the same way that he did for the 2 digit numbers. The columns are now: 100's - 10's - 1's.



HOOK IN THE HOLE

Objective: The child will learn one to one correspondence. He will also:

- be able to identify shapes
- make patterns using color
- practice counting

Materials Needed:

thin cardboard or oaktag cut out as follows:

- 1 1" square
- 7" diameter circle
- 7" x 10" rectangle
- 7" x 10" triangle
- 14" x 3" rectangle

1 pack thick cotton pipe cleaners in assorted colors

paper squares (1 inch), one for each shape

scissors, pencil, pen, hole punch, styrofoam tray, ruler

How to Make:

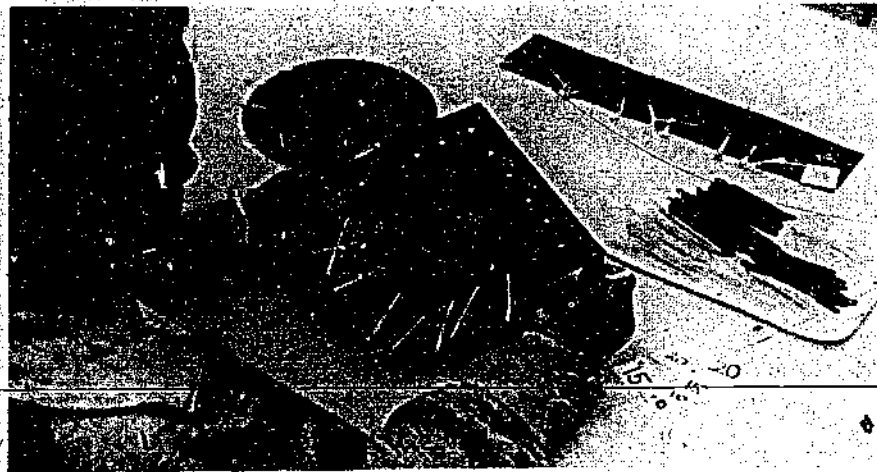
- Take hole punch and make holes following the outline of the shapes. To make holes in rectangle, fold the cardboard lengthwise in half and punch through two layers. Cut off any rough edges with scissors.
- Now cut pipe cleaners, using at least three different colors, into 3 inch lengths and fold each in half. Place onto tray.
- Last of all write numerals on each 1" square to correspond to the number of holes on each shape. Punch one hole into each square.

How to Play:

- Have your child take a shape and place a pipe cleaner hook into each hole. Help your child to count as he works. Encourage your child to work left to right, top to bottom, or in sequence around.
- When completed ask your child to pick up the appropriate numeral square and hook it in to the last pipe cleaner and twist.
- Have him continue procedure with other shapes.

Variations:

- Have your child name all the shapes.
- Take the 12 holed, rectangle strip and 12 pipe cleaners, three of each color. Starting at left, make a pattern with the colors across strip (e.g. red, white, yellow, red, white, yellow, . . .). Ask your child to repeat this procedure with different colored pipe cleaners using different shapes. Ask your child to make up some other patterns.



ADDITION WITH PLAYING CARDS

Objective: The child will be able to correctly add two numbers


Materials Needed:

- 2—3 × 5 blank index cards or paper
- 19 — answer cards cut in the shape of paper hearts
- 1 deck of playing cards (regular deck with the jokers and face cards removed)
- 1 felt tip pen

How to Make:

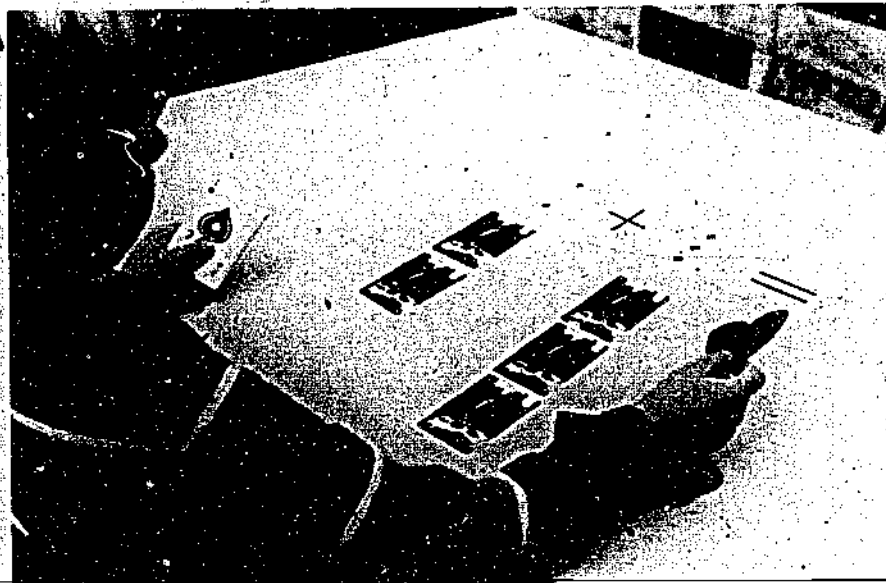
1. On one 3 × 5 card write a plus sign.
2. On one 3 × 5 card write an equal sign.
3. Start with numeral 2 and write one numeral on each answer card continuing to 20.

How to Play:

1. Place the + card and the = card in front of the child this way: 
2. Shuffle the deck of cards.
3. Have the child pick out two cards.
4. Have the child place one card on the left of the + card and one card to the right of the + card.
5. Ask the child to add the two numerals and find the answer card.

Variation:

1. If the child does not know the answer or to check if the answer is correct continue the play by having the child count the amount on the first card and place that many cards face down under the numbered cards. Do the same for the second card. Now count all the face down cards and find the correct answer card.
2. Add dots to the back of the answer cards to correspond to the numeral. This can help the child identify the correct answer.



ADDITION FLAGS

Objective: The child will be able to add two numbers correctly. The sum of the numbers will not exceed ten.

Materials Needed:

- 8 index cards, 3" x 5"
- 10 straws
- 1 orange juice can
- 9 popsicle sticks
- 1 sheet of plain paper
- felt tip pen, scotch tape, scissors
- optional: paper to cover orange juice can

How to Make:

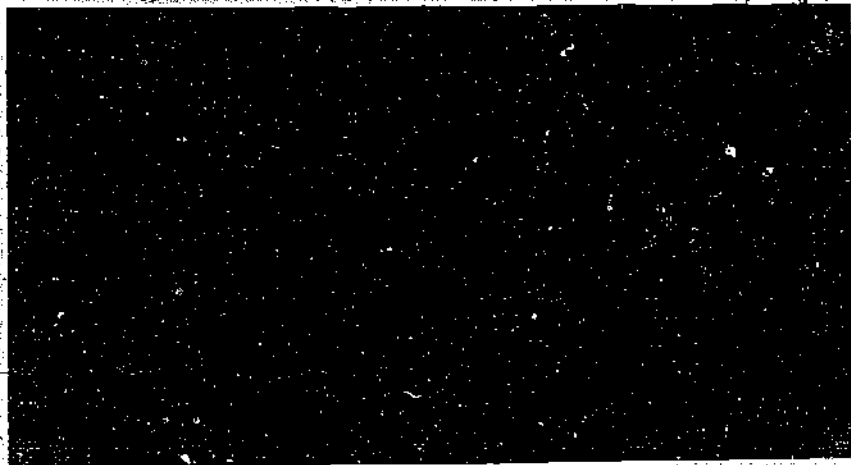
1. On each 3" x 5" card write addition problems. The sum of the problems should not exceed ten. Example: $2+3$, $3+3$, $4+2$, $5+1$, $6+3$, $7+2$, $6+4$, $5+5$ etc.
2. Cut nine triangles 2" high and 3" long.
3. Using one numeral for one triangle write the numerals: 2, 3, 4, 5, 6, 7, 8, 9, 10 on the triangles.
4. Tape one triangle on each popsicle stick near the top, (so that it is a flag).
5. You may want to cover the orange juice can with contact or colored paper.

How to Play:

1. Place the orange juice can in front of the child. Place the problem cards, straws, and flags in separate piles in front of your child.
2. Take a problem card and place it in front of the can. (Or let your child choose one).
3. The child can pick up straws to match the numerals on the problem card starting with the first numeral. (example: $2+1$, your child could count out two straws and then one straw). Place these in the orange juice can as they are counted. The child will count the total number of straws that are in the can by removing them one at a time and placing them in his hand as he counts. He now has the answer to the problem.
4. The child will look for the corresponding answer triangle and place it in the can. Check his answer. Praise his efforts as well as his successes.
5. Repeat the procedure with a new addition problem.

Variations:

1. Add dots to the back of the problem cards — the dots will match the number of straws. This can serve as a hint to your child.



THE SUBTRACTION BOX

Objective: The child will learn to correctly subtract one number from another.

Materials Needed:

1 cigar box; 9 golf tees; 1 large nail
 10 blank index cards, 3" x 5"
 10 answer cards (construction paper or oaktag, or cut index cards), 3" x 3"
 1 styrofoam meat tray or a bowl
 hammer, ruler, pencil

How to Make:

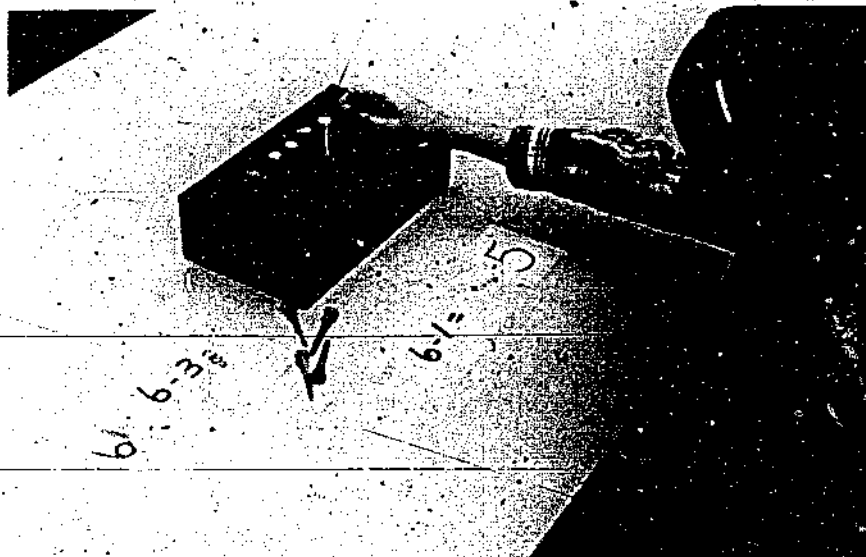
1. Draw a line down the center of the cigar box top (the long way). You may wish to cover the cigar box.
2. Use the hammer and nail to punch nine holes, evenly spaced, down the line. The golf tees should be able to stand in the holes.
3. Write subtraction problems on the index cards, for example: $7 - 4 =$, $5 - 2 =$, $6 - 3 =$, $3 - 2 =$, $6 - 4 =$, $8 - 3 =$, $6 - 2 =$, $7 - 5 =$, etc. Do not use a number greater than 9.
4. Write one numeral on each answer card (0 to 9.)

How to Play:

1. Place the subtraction box in front of your child with the golf tees in a tray at his right and the pile of answer cards at his left.
2. Place a problem card in front of the box. Show your child how to solve the problem by: (a) taking the number of golf tees indicated by the number on the left of the card and placing them in the subtraction box holes; (b) then taking away the number of tees indicated by the numeral after the minus sign; (c) and then counting the tees left in the box.
3. Instruct your child to find that answer card and place it to the right of the problem card so that the entire equation is shown. Read it to him.
4. Take away that problem and let your child select another.

Variations:

1. When your child has mastered the problem solving technique and is familiar with the equation format, you might give him all of the problem cards and let him solve them on his own. When he has all the equations solved, check his work. Praise his efforts as well as his successes.



MONEY SORT

Objective: The child will be able to correctly identify a penny, nickel, dime and quarter. The child will also understand what each coin is worth.

Materials Needed:

- ten each of the following: pennies, nickels, dimes and quarters
- four oaktag or cardboard squares 4" x 4"
- felt tip marker, scissors, clear tape
- container for the coins

How to Make:

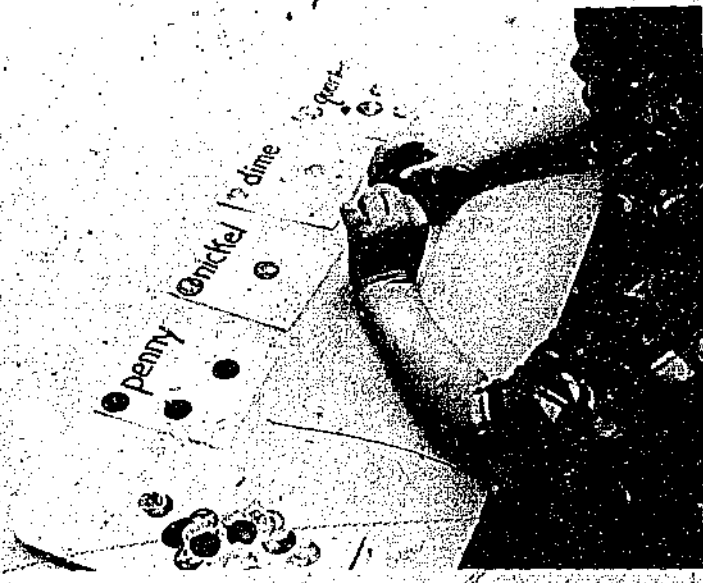
1. Take a 4" x 4" square and tape a penny to the upper left corner.
2. Print the name "penny" across the top of the card.
3. Do the same with the other three coins using the remaining 4" x 4" cards.

How to Play:

1. Place the cards in a row in front of your child.
2. Ask your child to find the penny, then the nickel, dime, and quarter. Do not continue the game until your child can correctly name the coins.
3. When the child has correctly identified the coins, ask the child to find the penny and then ask the child how much a penny is worth. If the child does not know, tell him it is one cent.
4. Continue asking the child to find the coin card you request and asking the child the worth of each of the coins. One cent, five cents, ten cents and twenty five cents are correct responses. You might draw 5 pennies on the back of the nickel card, 10 on the dime card, and 25 on the quarter card to help teach the values.
5. Arrange the cards from smallest amount to largest amount and have the child sort out the remaining coins from the container by placing them on the correct card and repeating the name of the coin and its worth. "This is a penny. It is worth one cent."

Variations:

1. As the child's knowledge in money values increases you can introduce all the different combinations of coins to equal the same amounts. Five pennies or cents is the same as a nickel. Two nickels or ten cents equals a dime etc.
2. You can cut out pictures from catalogs or magazines and glue them on cardboard and write "one cent", "five cents" etc. on the pictures. The child can then use the coins to show how many he would need to buy that item.



MEASUREMENT GAME

Objective: The child will estimate the size of an object, and then measure the actual size of the object

Materials Needed:

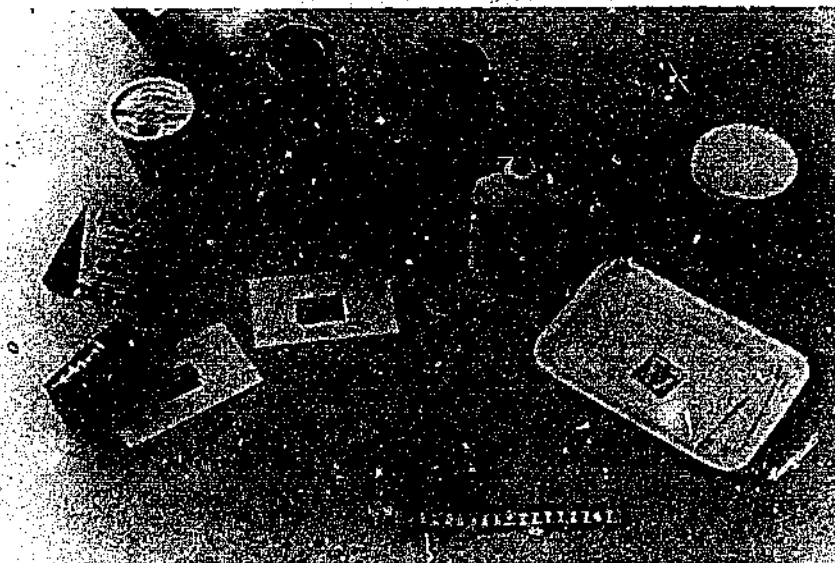
20 blank cards, 3" x 5"
centimeter ruler
shoe box
pictures from magazines or catalogs to match actual objects in the box.
glue, pencil, paper, magic marker

How to Make:

1. Draw or cut pictures from magazines that match the objects that you have gathered and glue the pictures to the 3 x 5 cards. Make sure the objects are not more than 18 centimeters long.
2. Place the matching objects in the shoe box.
3. Place game cards, ruler and pencil and paper in the box for storage until ready for use.

How to Play:

1. Take the box and remove the cards placing them face down on a pile to the left of the shoe box.
2. Adult will take the pencil and paper to record the object cards the child has selected and to record the child's estimate.
3. Child will pick up a playing card, look at the picture and guess how long the object is in centimeters.
4. Parent will record name of object and estimate.
5. Child will remove object from the shoebox and using the centimeter ruler will measure the object.
6. Adult will write correct answer alongside estimate.
7. Continue until all objects have been estimated and measured.



Variation:

A game board to increase perception and measurement skills.

Materials Needed:

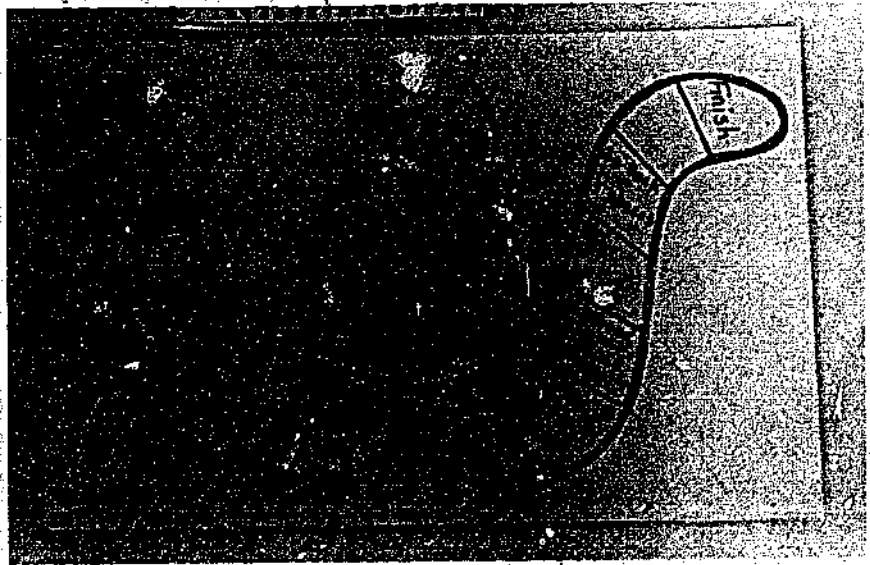
- small centimeter ruler
- 12" x 18" piece of cardboard or oaktag
- felt tip marker
- 35-5" x 2" rectangles cut from oaktag or cardboard
- scissors
- 2 buttons or objects for markers

How to Make:

1. Draw a snake-like design on the 12" x 18" piece of oaktag for the game board, and divide the snake into sections.
2. Print Start at one end and Finish at the other end.
3. Leave most of the sections empty, but on a few write directions such as: Go Ahead 2 Spaces, Move Back One Space, and Take an Extra Turn.
4. On the 5" x 2" cards, draw lines between 1 and 12 centimeters long.
5. Write the numeral 1, 2, or 3 on the upper right hand corner of each card.

How to Play:

1. Place the cards face down in a pile. Put the game board on the table, with the player's markers on start.
2. The first player will pick a card from the pile and using the centimeter ruler he will measure the line on the card placing the 0 cm. at the beginning of the line.
3. If the child can read the correct measurement, he may move the number of spaces the card tells him to by looking at the numeral in the upper right hand corner of the card. (Parent must check each measurement).
4. The next player takes a turn.
5. The game continues until someone reaches the finish line.



PARTS OF A WHOLE

Objective: The child will learn the concepts of a half, a quarter, a third, and a whole.

Materials Needed:

three pictures which your child has made—any size oaktag or cardboard cut to fit each picture exactly
glue, scissors, ruler, pencil.

How to Make:

1. Glue each picture onto the oaktag pieces.
2. Using a ruler, divide the first picture in half, and cut it in half. Divide the second picture into thirds, and cut it apart. Divide the third picture into quarters, and cut it apart.

How to Play:

1. Scramble all of the pieces together. Demonstrate to your child by picking out the pieces that go together to make a whole picture. Say: "These two pieces make a whole picture." Later on say, "These two halves make a whole."
2. Let your child experiment. When she has mastered putting the pieces together, tell her "This is a half. Two halves make a whole." Later ask her: "What is this piece?" pointing to the half. Later, ask her to find the halves. Do the same with the other fractions.
3. Remember that the skills of identifying parts of a whole and of naming those parts correctly develop over a period of time, with much practice.

