SECTION: G

MATH

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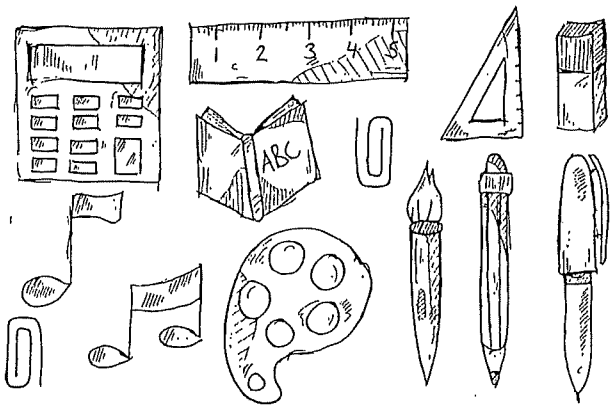


MATH TIPS

1. A positive attitude is a MUST!

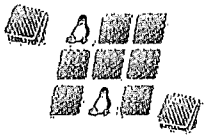
   - Never say, "I wasn't good at math either" or "I never liked math!" or "Girls aren't as good as boys in math"...we learn our attitudes toward math very early!

2. Use lots of manipulatives... plus everyday things at home! 

   - These can be items on your dinner table, toys, clothes, legos, stuffed animals, cars, cards, dice, egg cartons, dried beans, measuring cups, spoons, etc.

3. Play... games, games, and more games! 

   - Cards, board games, dice, on and on and on... games are a great way to learn math facts, strategies, and critical thinking skills!

4. Try this card game! 

   - You need: 1 deck of cards, minus the face cards.
   - Deal out the deck evenly to all players, face down.
   - Play like "war", flipping one card over at the same time, except instead of the highest number taking all the cards, have your child add, subtract, or multiply the cards (whichever skill your child is working on).

Ideas and tips to help with a variety for math

A. Kitchen items for learning

1. Measuring cups / wet and dry
    a. Perfect toys for the bathtub
    b. Rubbermaid tub with flour, sugar, sand, rice, beans, salad macaroni
    c. Let them help with cooking or measuring recipes
2. Egg cartons
    a. Fill cups with popcorn, beans, Etc. count out one in the first cup, two in the second cup, 3 in the third cup, etc.
    b. Use tweezers for fine motor skills
    c. Make art things; butterflies, caterpillars, etc.
    d. What is a dozen?
3. Mealtime
    a. Help set the table... left and right
    b. Count forks, plates, glasses, etc.
    c. What letters do items on the table start with?
    d. Science questions: where does the milk come from?, where does peanut butter come from?, how do onions grow?, compare different kinds of bread... How are they alike / different?

B. Playing cards.. (math, science, reading readiness)

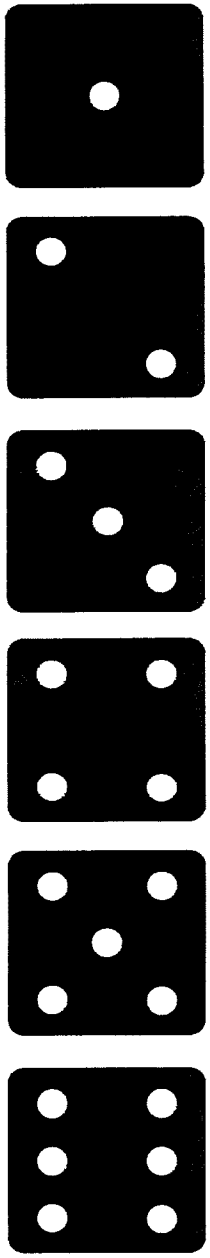
1. Regular deck of cards
    a. Matching: suits and colors
    b. Identify #'s
    c. Put numbers in order
    d. Odd/even... greater/lesser...more/less
    e. Two piles face down/flip over identity, add, whatever!
    f. Play fish

2. Cheap game cards
    a. Snap, Old Maid, Go Fish, Hearts, some have letters and numbers

C. 3x5 cards...

1. Put numbers in order
2. Stacks of odd and even numbers
3. Over 10/under 10

Roll a Sammy the Scarecrow!



Color the hat.

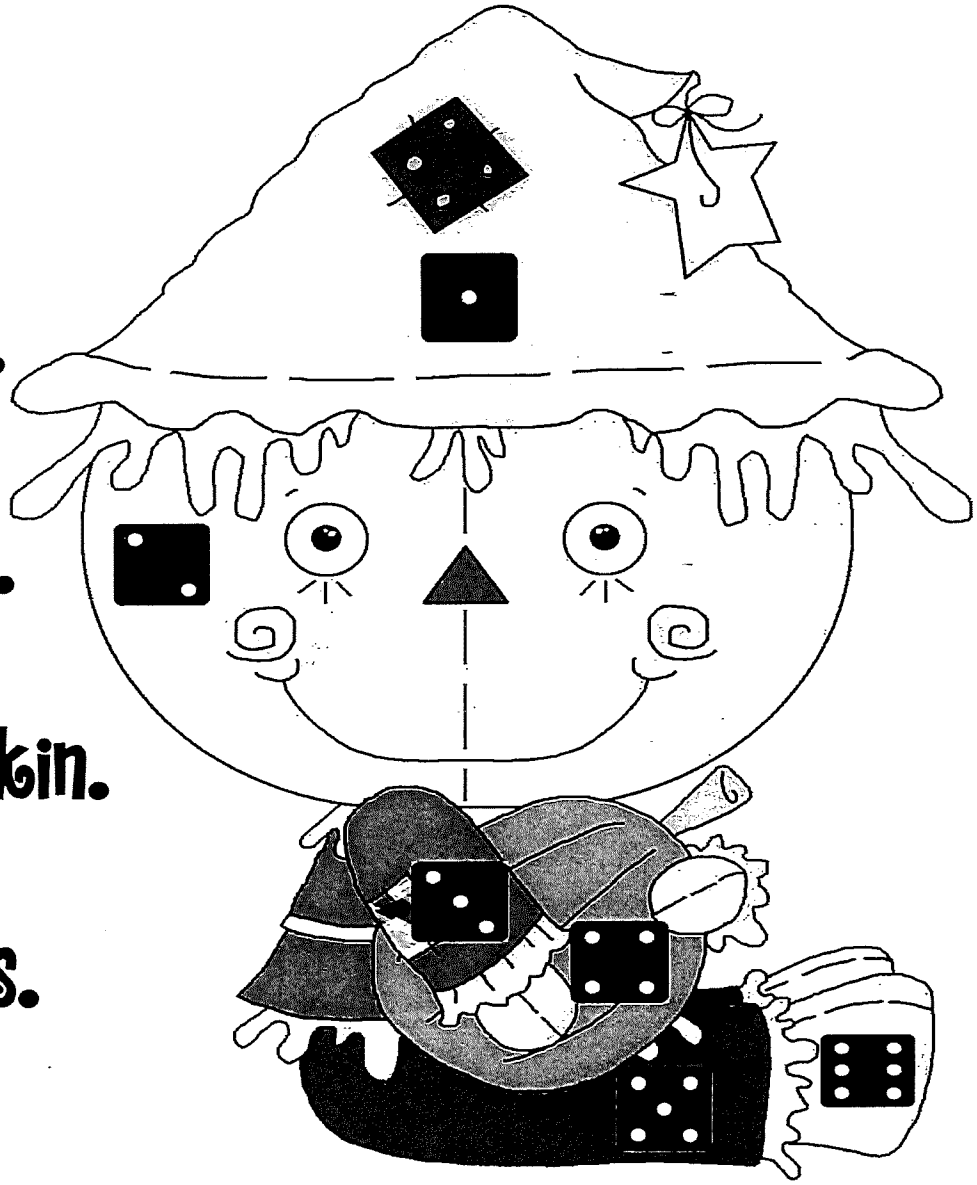
Color the face.

Color the shirt.

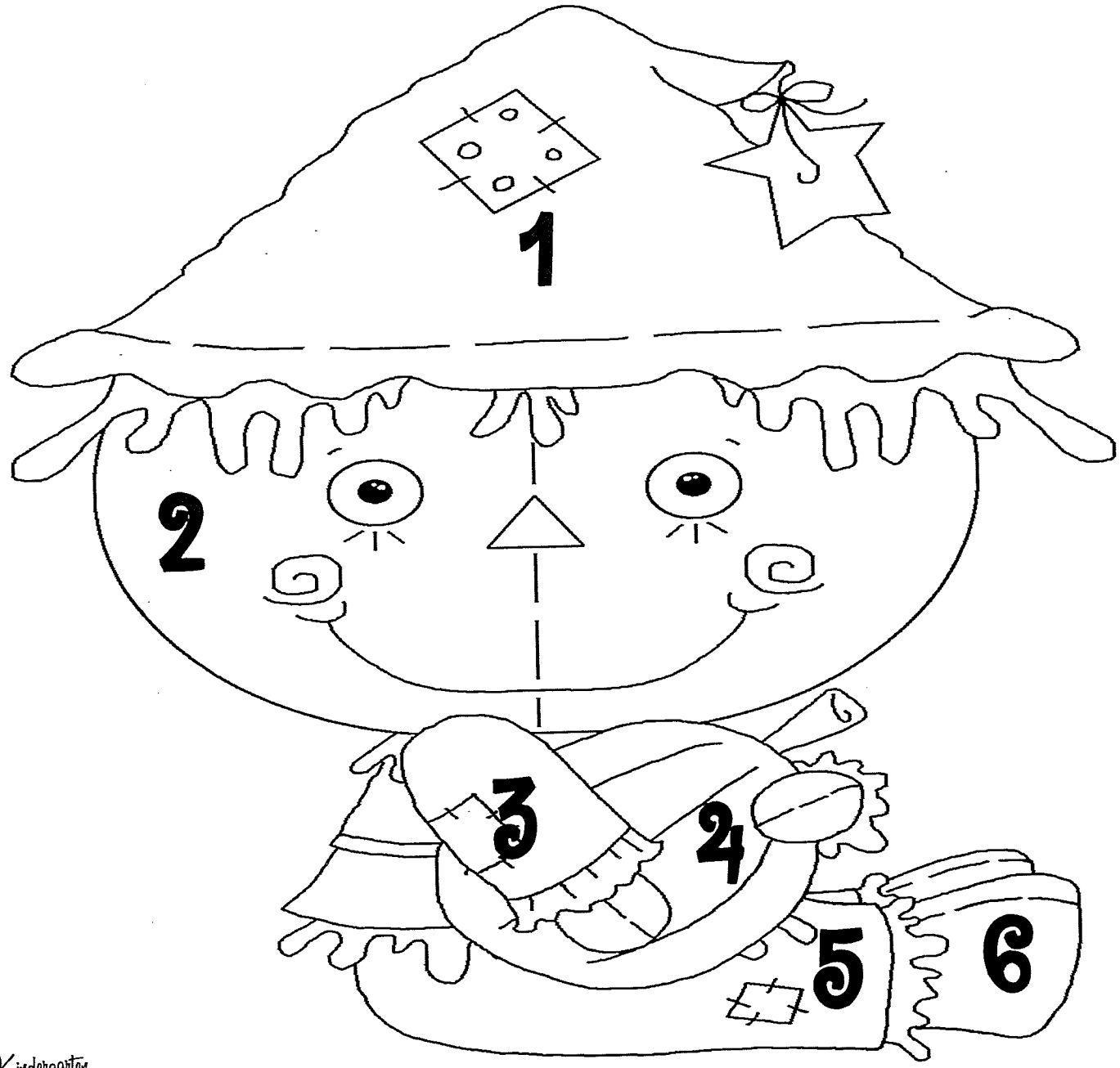
Color the pumpkin.

Color the pants.

Color the feet.



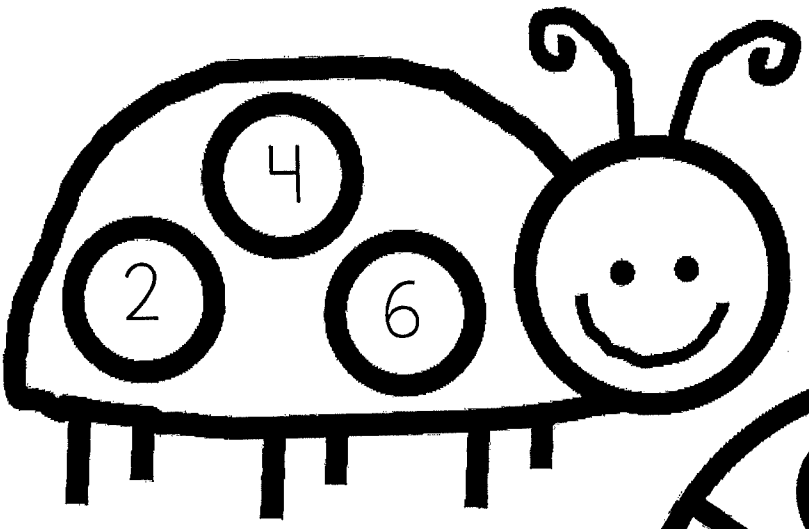
Roll a Sammy the Scarecrow!

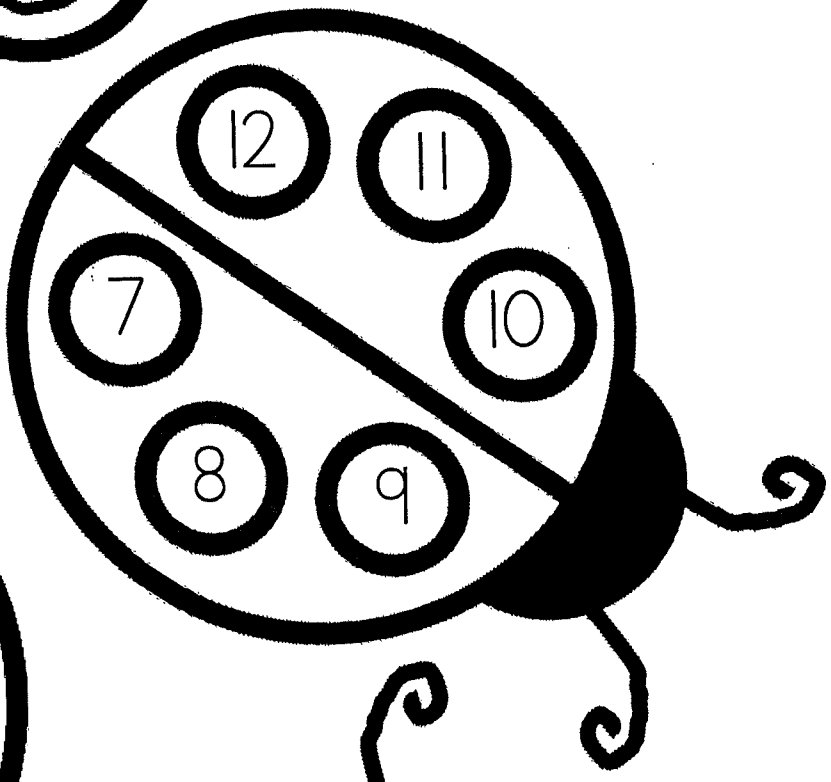


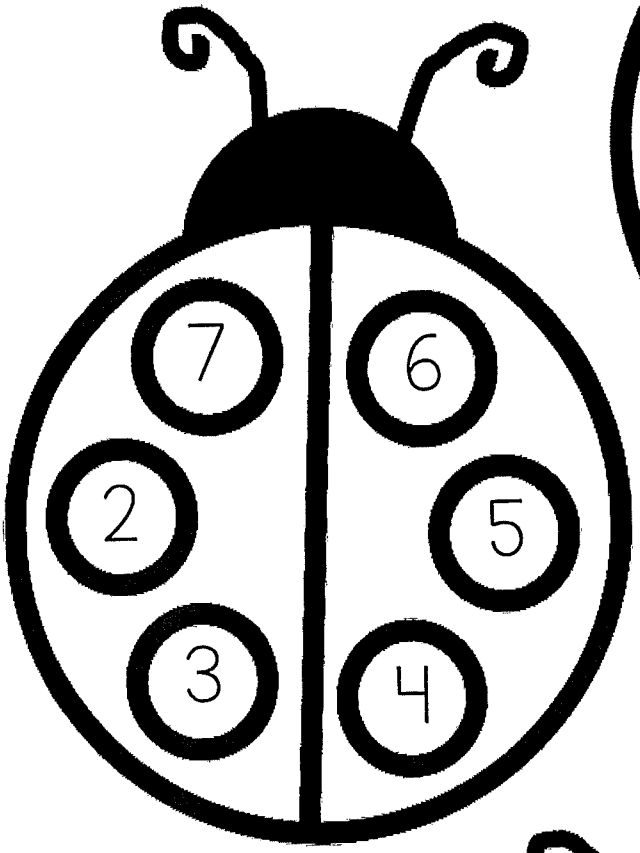
Name _____

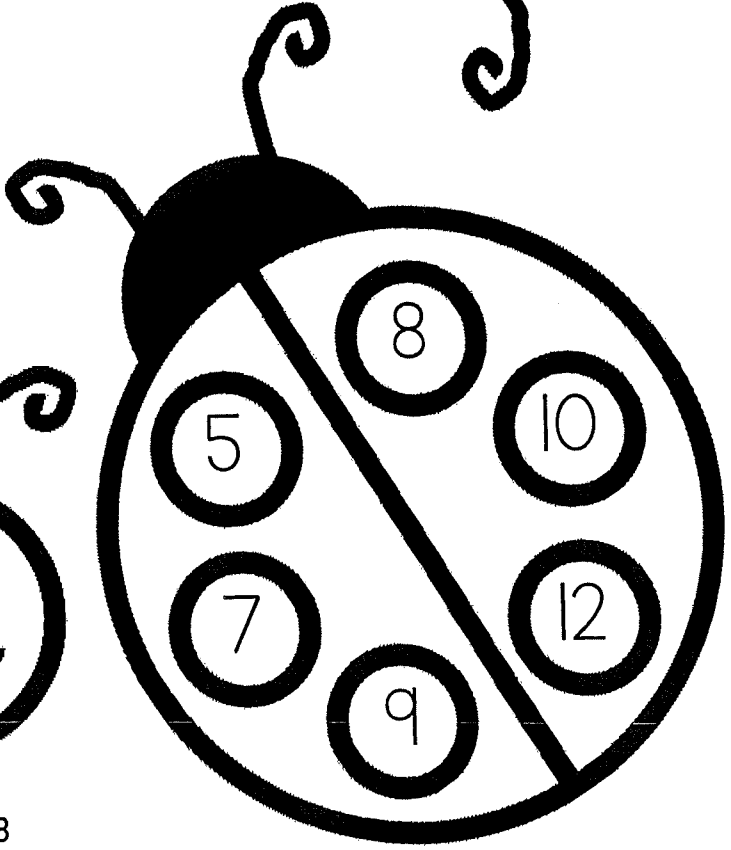
Ladybug Roll & Cover

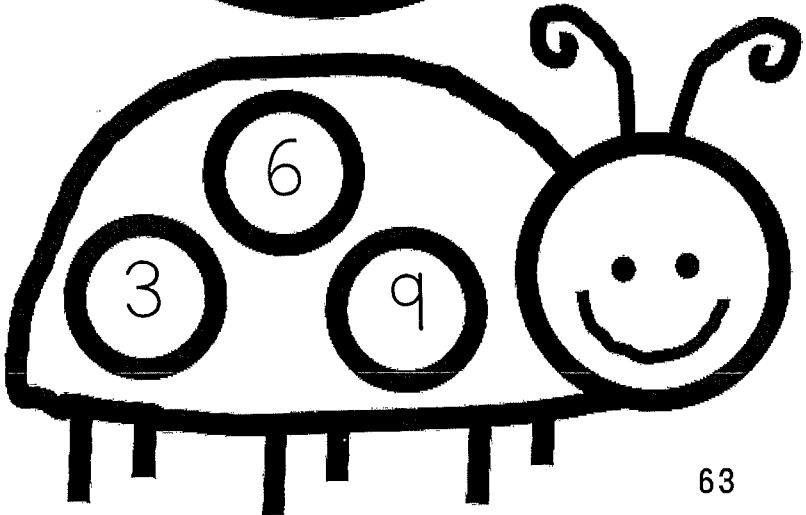
Roll 2 dice. Cover or color the number. Roll until all numbers are covered.







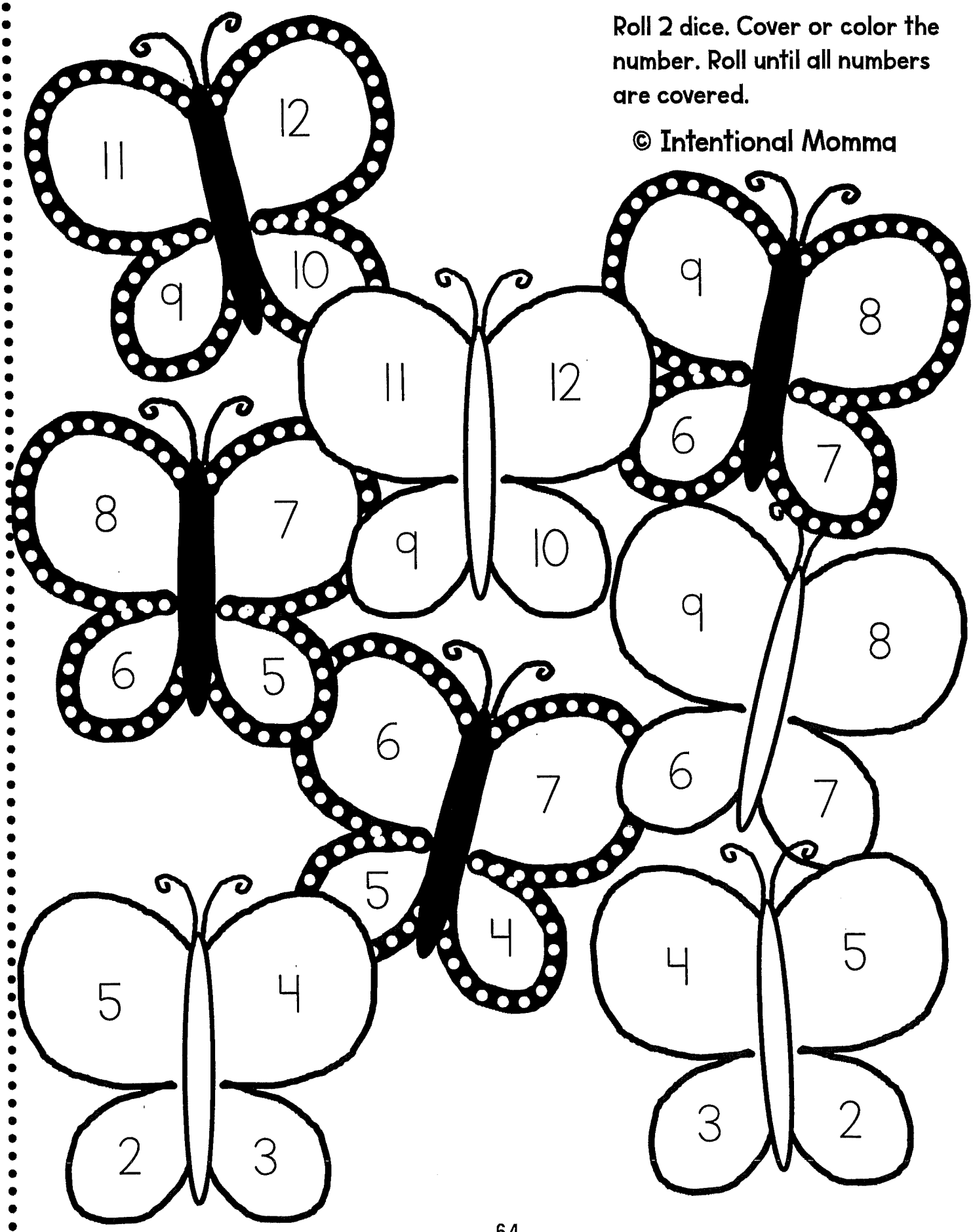




Name _____

Butterfly Roll & Cover

Roll 2 dice. Cover or color the number. Roll until all numbers are covered.



Cover 'Em Up

Object: To teach the concept of odd and even numbers and reinforce addition facts.

Needed: A pair of dice
6 markers for each player
A game board (below)

Rules: Deciding between themselves, one player will play odd numbers and one will play even numbers. Each places a marker on the FREE space on their strip. Taking turns, each player rolls the dice and covers the sum if it appears on their strip. If the number is already covered, or does not appear, the player loses that turn.

To Win: Be the first player to place a marker on each number of your strip.

ODD	FREE	3	5	7	9	11

EVEN	FREE	4	6	8	10	12

Sum and Difference

Needed: One pair of dice
2 players
Paper and pencil

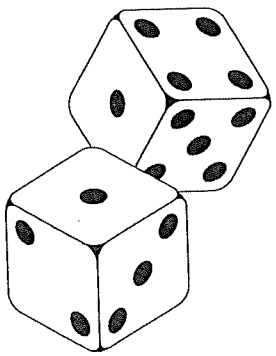
Rules: Taking turns, each person rolls the dice for themself and takes the sum of both dice. The difference between the 2 players' totals goes to the person who had the highest total.

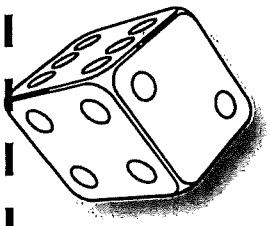
Example:

Player A rolls a total of 11.
Player B rolls a total of 9.

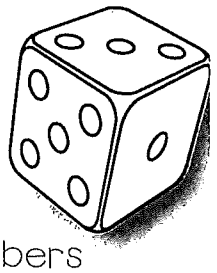
The difference is 2. Player A adds this to his score because his total was higher.

Winner: The first person to get a total score of 30 wins.

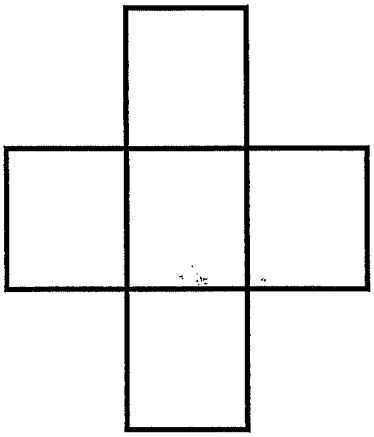
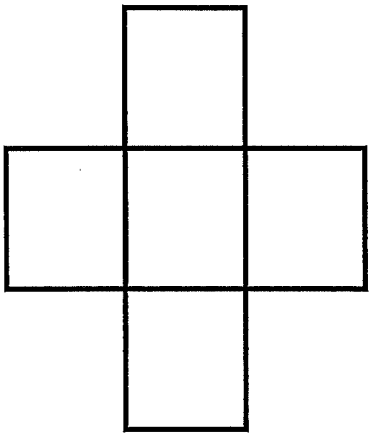
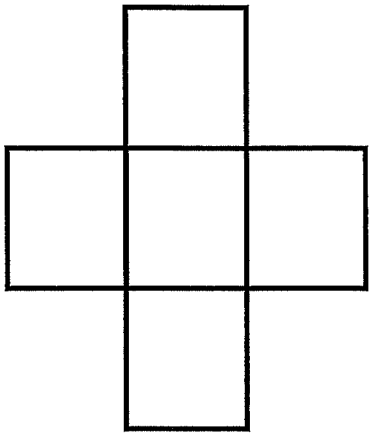
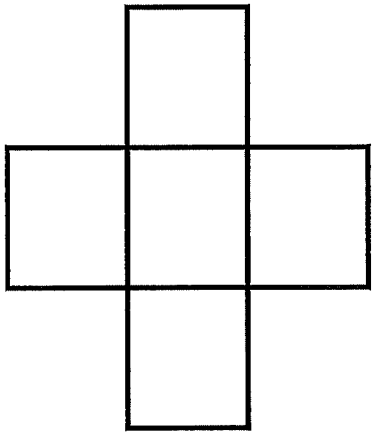
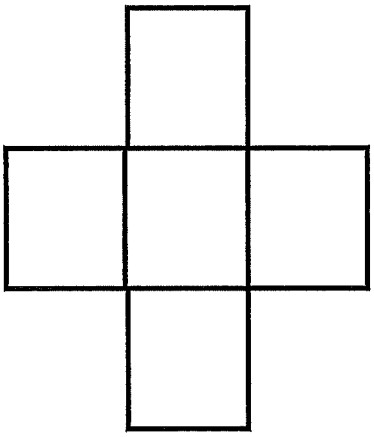
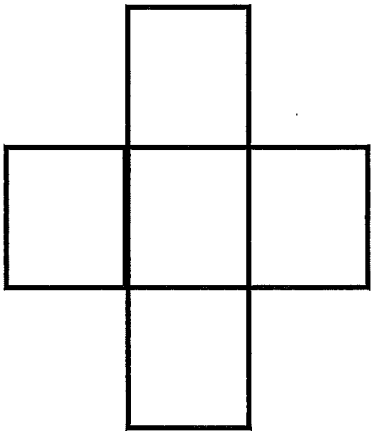
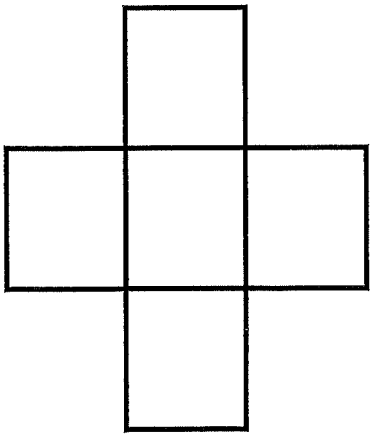
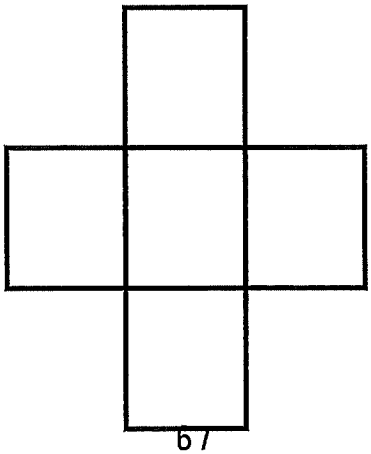
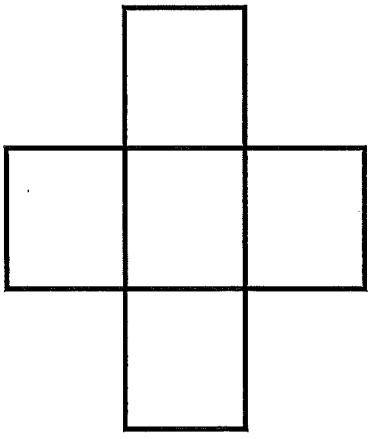


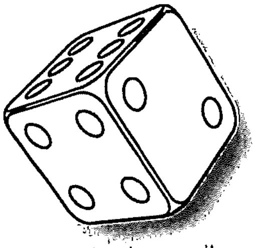


More and Less

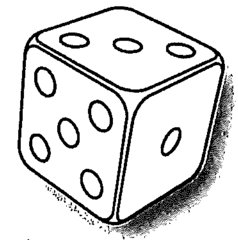


Roll one die and write the number in the middle box. Fill in the numbers for 10 more, 10 less, 1 more, and 1 less.



Fact Families



Roll the dice and write in the 2 numbers. Add to calculate the 3rd number.
Write the complete fact family.

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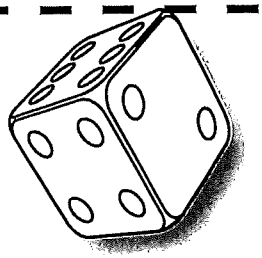
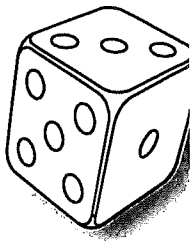
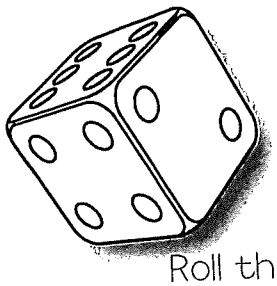


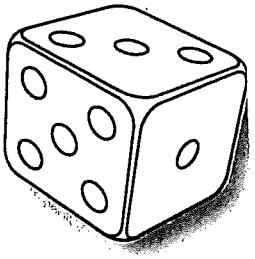
Subtraction



Roll the dice and write in the the largest number first. Write the correct difference in the box.



Addition



Roll the dice and write in the the 2 numbers. Write the correct sum.

ESTIMATION

Estimation... children love to make guesses!

How many potatoes are in the sack?

M&M's in a bag?

Cups in a quart?

Peas in a tablespoon?

Peach halves in a can?

Pickles in a jar?

Everyday Estimation

Kids love to guess about numbers. They also want to be exactly correct. You can provide your child with many opportunities to practice this important math skill.

You can practice at...

- The grocery store when weighing fruits or vegetables.
- How many steps you are going to take to walk from your house to your car, your bedroom to the kitchen, etc.
- How many minutes it takes you to drive to a friend's house, school, or grocery store.

Items that will come in handy...

- Toys, beans, pebbles, macaroni, or other items can be used for estimating. You may need containers like jars, small plastic bags, or any see-through container you may have around the house.

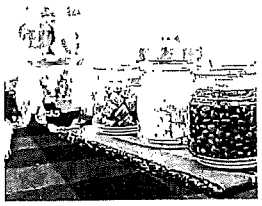
Here are some possibilities:

1. A small jar filled with about 10 marshmallows. You can also fill a same size jar with smaller marshmallows and compare the different amounts. You can ask younger children to compare the two jars and tell you something that is true about the jars contents.
2. A plastic bag with string in it. Is the string as long as your child is tall? As you are tall?
3. A jar filled with large pasta and a same size jar filled with small pasta.
4. A large jar filled with tennis balls.
5. 100 kernels of popcorn unpopped and then the same popped.
6. Estimate the number of jelly beans in a bag before you eat any of them.

Estimation Questions

1. Write your names. How many beans do you think it will take to cover the letters?
2. Which name took up the most beans? Are there any other names you would like to try?
3. How many basketballs would it take to fill your car?
4. How many minutes will it take to get to school or to the grocery store from your house?

Creating these opportunities will improve your child's estimating skills and accuracy.



Math Mats

Using math mats is an excellent way to respond to a story with math. The children use counters to explore the concept of numbers. Counters can be anything that can be used repeatedly, like puff balls or beans. We've included two different scenes created by Mary Baratta-Lorton in her book ***Workjobs II*** (1979). One scene is a tree and the other is a stream. It is important to color the scenes lightly so they are clear and don't distract from the activity. Depending on your child's coloring ability, either you or your child can color the mats.

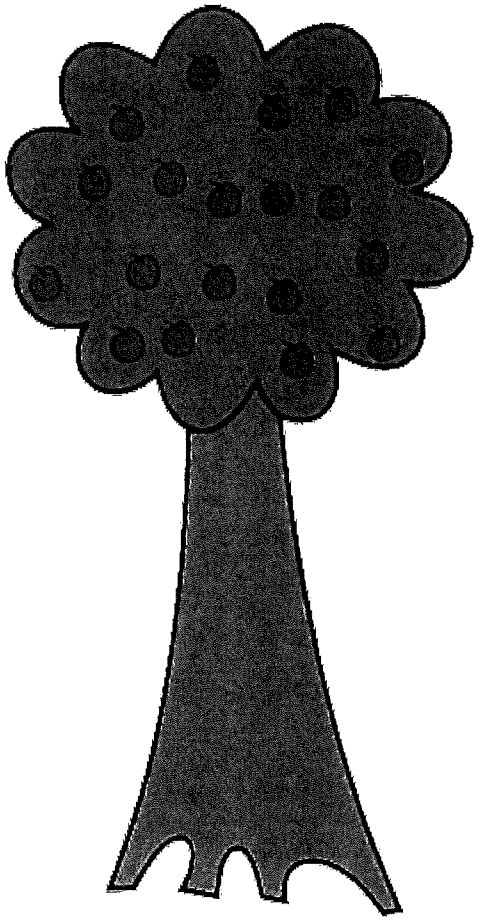
Examples of how to use the Tree Mat:

1. Responding to a story-
Read the book ***10 Apples Up On Top*** by Dr. Seuss. Have your child count out 10 "apples", small red pom poms or whatever else might resemble an apple, and place them on the tree. Tell your child different scenarios such as "The Tiger just grabbed four apples off of your tree. How many apples are left on your tree now?" Have your child take four apples off of the tree, then count the remaining apples. "Oh, now the little bear just took off two more apples! How many apples are on your tree now?" You can also ask, "How many apples do I need to put back on the tree to have 10 apples on my tree again?" Adding the use of number cards would be great practice in recognizing numbers.

2. Responding to a poem or song-
Five little apples swinging in a tree
I sure wish one would fall to me
One fell down
And hit the ground
Now how many apples do you see?
Keep singing until all apples have fallen.

Using the tree to act out poems is great as well:
Begin this experience by having your child place 5 "apples" on his tree. Say the Apple Poem above. When you get to "one fell down" have your child pull one apple off the tree and place on the ground at the base of the tree. Next count how many apples are left on the tree. Continue in this manner until 0 apples are left. Don't forget to use number cards (0-5) for your child to show the correct number either left on the tree or the number of apples that have fallen to the ground.

3. Make up stories about your family and friends and the apple tree.



Examples for how to use the Stream Mat:

For the stream mat use little river rocks, small boats made from natural items like a seed pod, or rubber frogs and a felt "log".

1. Acting out the ***Five Green and Speckled Frogs*** song below can be very fun. Use a felt "log" and have your child place 5 small rubber frogs in the stream on the log. Sing, chant, or read the poem and have the children respond by making the frogs do what the poem is saying.

Five green and speckled frogs
Sat on a speckled log
Eating some most delicious bugs
YYYYUUUUMMMM YYYYUUUUMMMM

One jumped into the pool
Where it was nice and cool
Then there were
Four green speckled frogs

GGGGLLLLUUUUBBBB GGGGLLLLUUUUBBBB

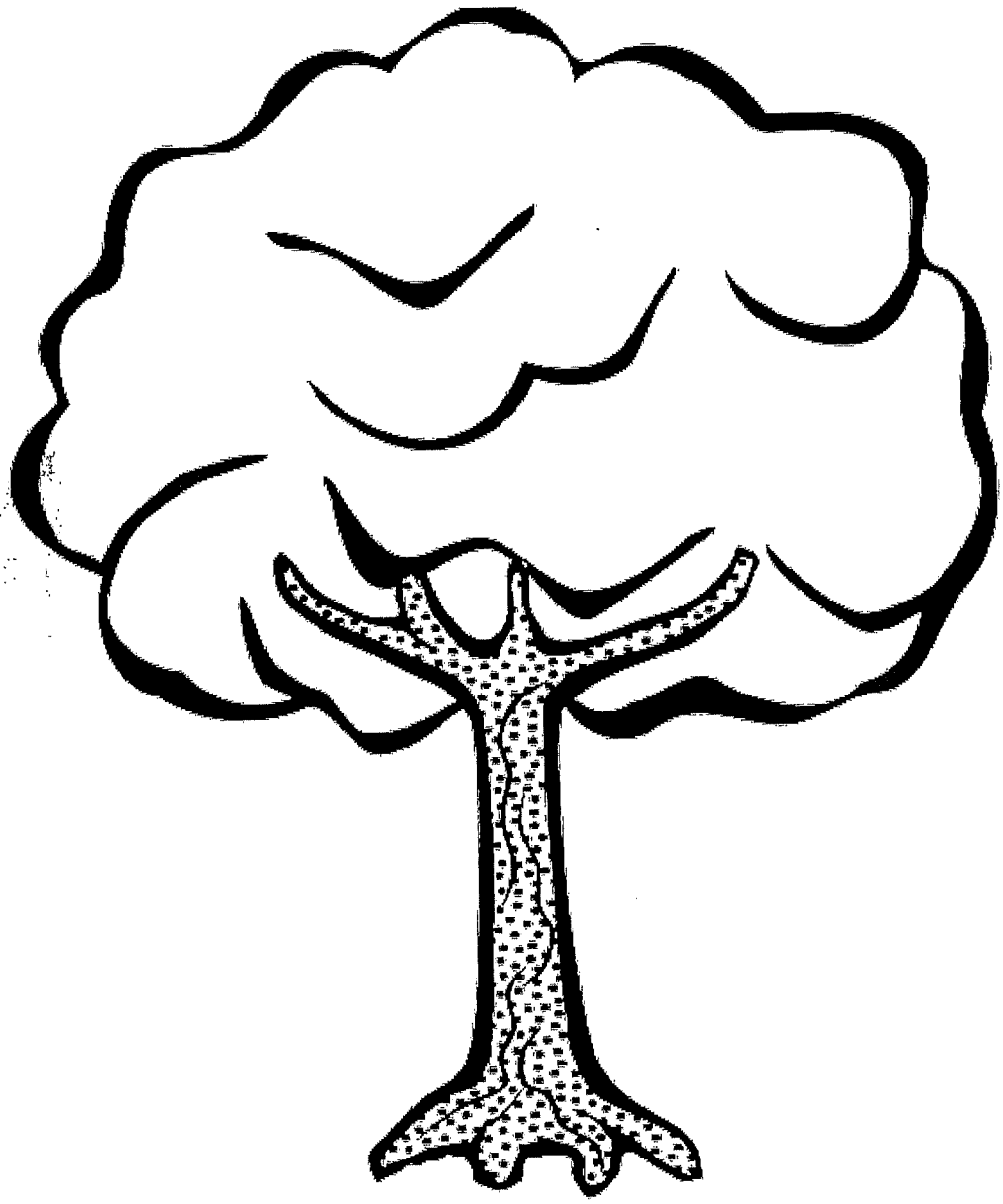
(Repeat in descending order.)

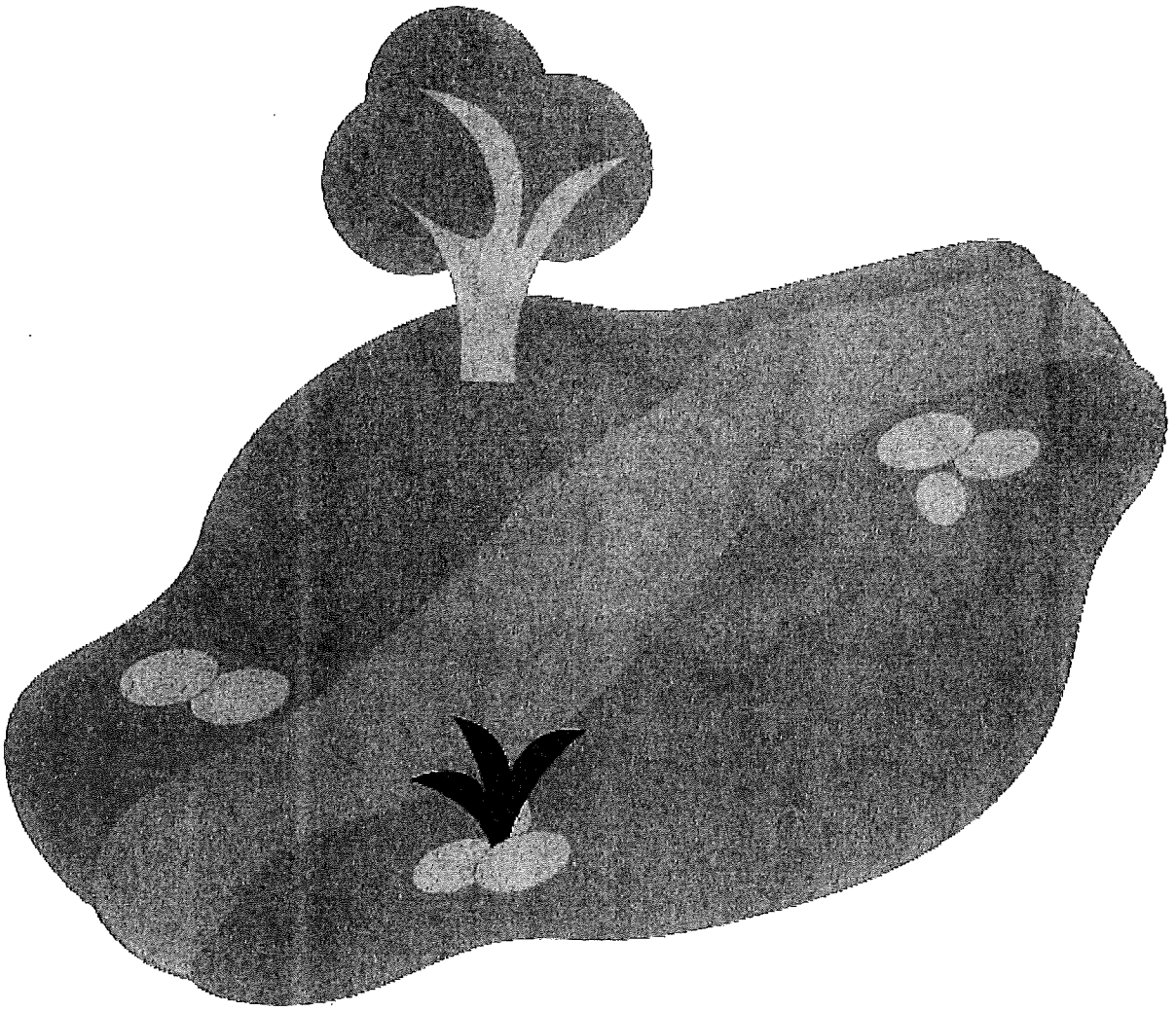
2. Use seed pods as boats to float down the stream. Make up a story of your family, each person having one boat in the stream.

"Oh! No! A frog jumped in and sank Dad's boat! Now how many boats are in the stream? Well now, brother Jake just found another seed pod to use as a boat. He has two. How many boats are on the water altogether?"

This is just an example of storytelling using math concepts of total group, taking away, and adding together using family members as the characters.

Hopefully you understand the flexibility of using these mats to help ***play with the concept of number***. Maybe you can create your own scenes based on where you have visited or stories you have read?





Questions to Help You Explore Math with Your Child

These questions will help you keep the conversation and learning going as you explore mathematics with your child. They promote thinking and further learning. You may want to add some questions of your own.

1. What do you suppose would happen if....?
2. What will you do next?
3. I wonder...?
4. How can we check to see how close your guess is?
5. Why do you think that?
6. How did you figure that out?
7. Do you have any ideas about how we might begin?
8. How can we do this differently?
9. Hmmmm, I had not thought of that. Tell me more about it.
10. What other ways can we show that?
11. Tell me about your design.
12. How did you decide which objects go in the circle?
13. What other things can we find shaped like a square/circle/triangle...?
14. What would you do with this?
15. Tell me how you did that.

**W H O A ! Don't ask these questions all at once! One or two well-placed questions go a long way toward encouraging thinking and creating understanding.