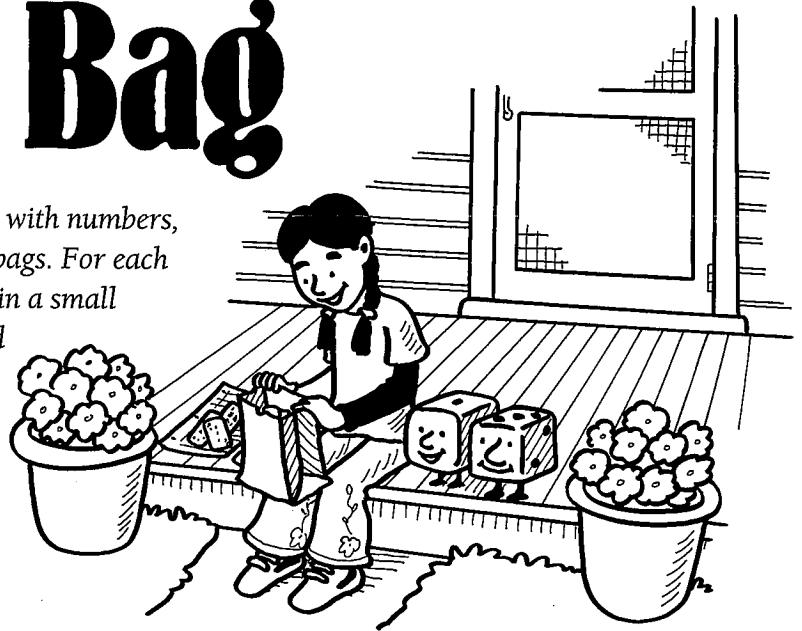


# Math in a Bag

“What’s in the bag?” Your child will enjoy playing with numbers, shapes, and more with these easy-to-assemble math bags. For each one, gather the household materials listed and place in a small zipper or brown paper bag. Your youngster will build skills as she plays with math at home or away!

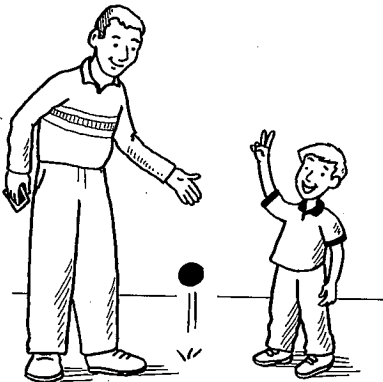


## Counting

### 1-2-3

**Materials:** playing cards (remove face cards), small bouncing ball

This game will encourage your child to practice counting and recognizing numbers. One player draws a card and bounces a ball the number of times shown. (Note: ace = 1 bounce.) The other player listens carefully and tells the number of bounces. For instance, if he draws a 9, he’d bounce the ball 9 times.



If he’s right, it’s his turn to draw a card and bounce the ball. If not, the bouncer gets another turn. Keep going until all the cards have been drawn.

### Ones and tens

**Materials:** 2 dice, masking tape, pencil, paper

Your youngster can learn to write two-digit numbers and understand their values with this activity. Put a square of masking tape on each face of the dice. On the first die, write the numbers 1–6,

one number per face. On the faces of the second die, write 10, 20, 30, 40, 50, and 60. Have your child roll both dice and use them to write a two-digit number on a sheet of paper. The first die tells her how many ones should be in her number, and the other tells how many 10s. For example, if she rolls a 6 and a 30, she would write 36. (The tens digit, 30, tells how many groups of 10 are in the number—3 groups of 10 = 30. The second number, 6, tells how many 1s.) After she writes each number, have her tell you the 10s and 1s (“36 has three 10s and six 1s”).

## Addition

### Domino dots

**Materials:** dominoes, index cards numbered 1–12, pencil

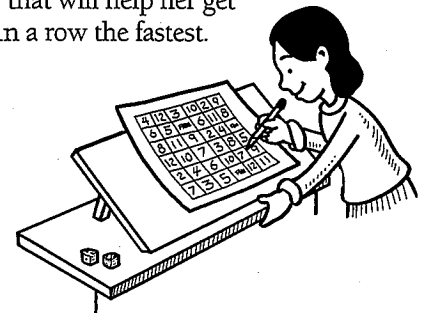
Dominoes are an ideal tool for practicing addition facts. For this version of dominoes, one player starts by drawing an index card and saying the number shown. Then, he pulls dominoes out of the bag until he finds one whose two halves add up to that number. For instance, if he drew a 7, he’d need a domino with 3 dots on one half and 4 on the other, 2 on one half and 5 on the other, or 1 on one half and 6 on the other. He keeps picking dominoes until

he gets the correct combination. He should lay the domino on top of the matching card and return the extra dominoes to the bag. Then, it’s the next player’s turn.

### Six in a row

**Materials:** paper, pencil, 2 dice, crayons

Here’s an addition activity that will also build your youngster’s logical-thinking skills. Draw a grid with six rows and six columns. Randomly write the numbers 2–12 in the boxes three times, one number per box. Include three “free spaces” so every square is full. To play, your child rolls two dice and adds the numbers (example: 2 + 3). Then, she colors in one box that contains the answer (5). The goal is to color six squares in a row, either vertically, horizontally, or diagonally. Encourage her to think carefully—since the grid contains three of each number, she should color in the box that will help her get six in a row the fastest.



continued

## Subtraction

### Button toss

**Materials:** paper cup, 10 buttons, paper, pencil

Here's a fun way for your youngster to practice subtraction facts. Have her sit on one side of a table and place the cup on the other side. Tell her to try to toss 10 buttons into the cup. Once she has attempted all 10, she looks at the result and writes a subtraction sentence to figure out how many shots she made. For instance, if there are three buttons outside the cup, she would write " $10 - 3 = 7$ ." She can count the buttons inside the cup to check her answer.



### Heads or tails?

**Materials:** 12 coins

This activity teaches your child to use subtraction to answer the question, "How many more?" Let him toss a dozen coins in the air, one at a time. Have him count the number of heads and the number of tails that land facing up (example: 7 heads, 5 tails). He can ask himself, "Are there more heads or tails?" (heads) Then, he can ask, "How many more are there?" To answer that question, he'll need to subtract the smaller amount from the larger one ( $7 - 5 = 2$ ).

## Measurement

### Guess the length

**Materials:** index cards, crayons, ball of string, safety scissors

Improve your youngster's measurement and estimation skills with this idea. On separate index cards, ask him to draw things he'd like to measure (couch, magazine, board game) and put



the cards in the bag. Then, he takes out a card, finds the item, and cuts a piece of string that he thinks is about the same length. Let him use the string to test his guess. If it's too long, he can cut it again. If it's too short, have him cut a second piece of string and try again. Suggest that he keep the string pieces in his bag to pull out later—he can estimate which objects might match those lengths.

### Balancing act

**Materials:** 12-inch ruler, 2 plastic zipper sandwich bags, tape, marbles, a variety of small objects (crayon, toy car, notepad)

Your youngster can explore weight with this activity. Let her make a balancing scale by taping the center of an open sandwich bag to each end of the ruler. Have her balance the center of the ruler on the arm of a chair. To weigh objects, help her hold down the middle of the ruler with her finger and put a household item in one bag. Then, she can add one marble at a time to the other bag until the ruler balances and she can let go. Ask her to tell you how many marbles the item weighs ("A crayon weighs two marbles").

(marker), and rectangular prism (building block). To play, he can walk around and look for solid shapes that match the ones in his bag. In a waiting room, for instance, he might find a fish tank that's a rectangular prism. When he finds a solid, he can draw and label it on an index card and keep the picture in his bag. Also, ask him to tell you how many faces (flat sides) and how many vertices (points) his item has. For example, the tank has six faces and eight vertices.

### Mix and match

**Materials:** drinking straws (cut into 1-inch, 2-inch, and 3-inch pieces)

Your youngster can practice making squares, triangles, and rectangles with pieces of drinking straws. She'll see that she can mix and match different lengths of straw pieces to create equal sides. For instance, she can make an equal-sided triangle out of three 3-inch straws. Or she can make a triangle that does not have equal sides by using two 3-inch pieces and one 1-inch piece. After she makes each shape, have her name the shape and count its corners and its sides. For example, "A square has four sides and four corners."

## Geometry

### Shape hunt

**Materials:** small household objects, index cards, crayons

Help your child fill a bag with solid shapes from around the house. Be sure he includes at least one cube (die), sphere (marble), cone (funnel), cylinder

