

By Marilyn Bitsis and Margaret Schafer

KidBuilders is comprehensive, year-long motor skills program written by Marilyn Bitsis and Margaret Schafer. It is designed to meet the needs of the motor skills teacher of young children. **KidBuilders** can be customized to meet the needs of its audience—from sampler settings to 12-hour continuing education workshops. Connecting Movement to Math is just a small sampling of some of our sequential skills, activities, suggested music and equipment. Today's session is prepared especially for participants in the Early Childhood Methodist Conference. For more information you may call Marilyn Bitsis at 713 306-9875 or go online to [www.houstonkidbuilders.com](http://www.houstonkidbuilders.com).

### Connecting Movement to Math

*Cylinders & Corks:* Cover an industrial sized toilet paper holder with construction paper and then put on it a single dot and the number 1. Continue until you have done all ten numbers. Hardware stores have the numbers and the dots are available at any office supply place. Cover the outside with heavy Scotch clear packing tape. Place a basket with small (non-choking hazard) items in it; for example wine corks, or other large manipulatives. Show the students how to take the manipulatives from the basket and put the corresponding number in the cylinder. At first this may take a great deal of hands on but they will eventually understand the concept of the number 1 with one dot one wine cork goes in. Take time for learning by initially offering only the first three numbers. Add the higher numbers as the children grasp the concept.

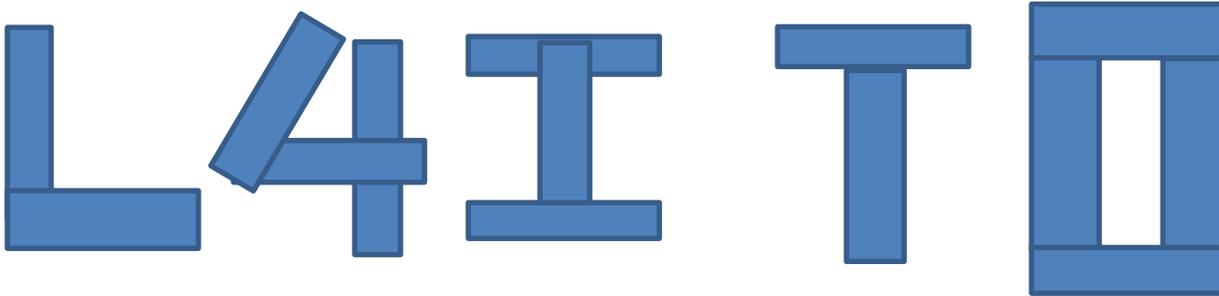


What a great way to learn your numbers but to move at the same time! The child is not only able to see the number but also the corresponding number of dots as they place the correct number of items in the cylinder. Try it with buckets and sock balls, too.

*Buckets & Sock Balls:* When the children have the concept above make it BIG by using plastic buckets instead of cylinders and sock balls instead of corks. Place the buckets throughout the room and challenge the children to imitate a different animal as they go from bucket to bucket. *(These games help develop one-to-one correspondence, visual acuity, and number recognition)*

## Mini - Boards

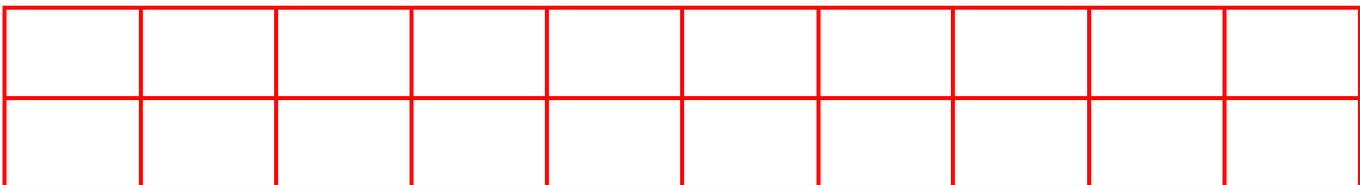
Mini-boards can be used in a variety of ways to teach math. One way is to give a group of children 7 or 8 mini-boards. Ask them to create different shapes - triangles, squares, rectangles or even numbers and letters that don't require a curve. After the children have made the design or letter, ask them walk on it. This is an example of cross-modal learning; the children recall and visualize a shape, work with a group to create that shape from memory, and then experience dynamic balance as they walk on the outline of the shape to reinforce it through kinesthetic learning. You can then ask open-ended questions, such as: "What will happen if I take away the top piece of this letter "O", or "What other letters can we make using just 2 mini boards?" What are other challenges you might present?



## Grid Patterning

Cut piece of very heavy clear plastic. I use carpet runners that are 2' wide and can be cut in any length you want, making sure it is at least 8' in length. Use colored electrical tape or plastic PVC tape to outline the 10 or 12 inch squares, two side-by-side lanes forming a long grid. The grid can be used for jumping skills, cross-lateral activities and patterning.

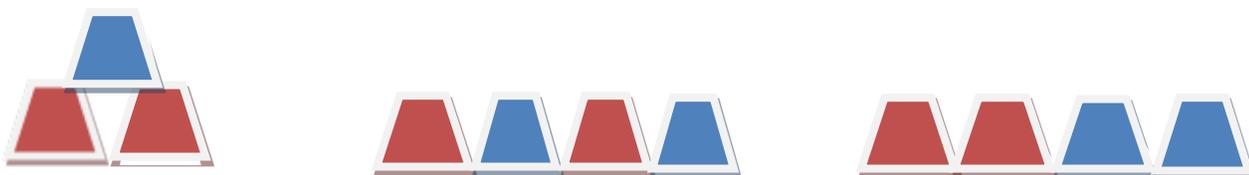
Under the grid place the numbers 1-10 in order but in different squares. When they become proficient in numbers you can increase to 20. Have them jump from one number to another in sequence. You can also use large dice with numbers on them and have them roll the dice and whatever number they roll the student is to move forward on the grid in accordance to the number they rolled.



## Building and Patterning with Stack It Cups

Patterning is crucial to pre-reading as well as math. When creating a pattern use either one shape but different colors or two shapes the same color. This helps the child understand patterns and doesn't confuse them as to what they should be doing.

*Stacking cups:* Take stacking cups and create a simple design alternating the cups by color. Then disassemble the design and have the child repeat it. As the child becomes proficient with this concept you may introduce another color. Be sure to have the children create their own patterns, perhaps in small groups--a good way to see if they have mastered the concept. Other items that one could use are color squares or different shaped foam blocks. *(This game develops pattern recognition, sequence awareness, color recognition and one-to-one correspondence)*



## Number & Shape Line

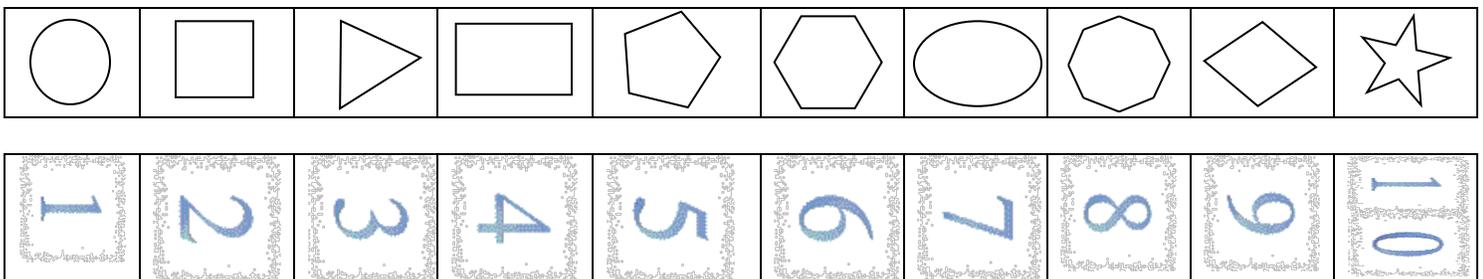
Create a number and shape line by using construction paper and clear contact paper. Write a number from 1 to 10 on each of the pieces of colored construction paper or card stock. On the back draw a corresponding shape. For instance: #1 (circle) #2 (square) #3 (triangle) #4 (rectangle) #5 (pentagon) #6 (hexagon) #7 (oval) #8 (Octagon) #9 (Diamond) #10 (star).

*Line-up time or transition time:* As you call each child's name ask them to stand on a certain number or shape on the number line. When the line is full, ask the children to identify and solve the problem—there are more children than there are numbers or shapes on the line. Allow time for as many children to speak as possible. Workable answers might include: Some people will have a partner; the ones lined up already will step off to the side while the others line up; the ones lined up already will sit to the side of their number/shape while the remaining children line up, etc. *(This game teaches number and shape recognition, cooperation, and problem-solving)*

*Jump to the Numbers:* With large dice (made of construction paper covering a square box with numbers on each face) each child can roll the dice then read the first one, jump, landing on each number until they reach the correct one, then continue on with the number on the second die. If the roll doesn't take them off the line (meaning it doesn't add up to a number greater than 10) the child gets another turn. If the number tossed does take the child off the line, it is the turn of the next person. The object is to roll numbers that add up to more than 10. There is no real winner or loser, the children just take turns rolling the dice and jumping. Encourage the children to recognize that they are adding as they jump forward. To make interesting the dice can have a number of a different color indicating a jump *backwards*. Ask the children to come up with their own game, creating rules and objectives of play, and then watch them experiment with it. *(These games teach and reinforce one-to-one correspondence, number recognition, cooperation, creative thinking, and beginning addition and subtraction)*

*How Many Sides?:* Using the shapes side of the line and one die, a child will roll the die and read the number that lands up. They will then look at the shapes and determine which shape has the same number of sides as the number indicated on the die. For example, if Susie rolls a 3 she will need to determine that the corresponding shape is a triangle. She will then jump to the triangle. There are some tricky ones, such as the circle and oval (no sides and made of one continuous line, so either would work for the number 1) and the square, diamond and rectangle (all have 4 sides so either would work for the number 4). Allow the children to make up their own game with shapes. *(These reinforce shapes and one-to-one correspondence of the number of sides each shape has)*

*Modified Hopscotch:* Using either side of the number/shape line, give the children a beanbag to drop on the first number/shape. Instruct them to jump *over the* one with the beanbag, turn around at the end, jump back and pick up the beanbag before continuing to jump to the end. This can be done hopping on one foot as well. *(This reinforces one-to-one correspondence and works eye-hand coordination and balance)*



## ANIMALS BY THE CARDS—INSTRUCTIONS

*Adapted from Deck of Cards Exercises by Jenna Wolf of NBC's Today Show*

**COMPONENTS:** Display board, Large playing cards, Animal cards, Shape (card suit) cards

The class will determine its exercises by drawing animal cards and playing cards. Each animal represents an exercise, as listed below:

**Cat:** Arch up to cat back, then down to dog back

**Mountain Goat:** Mountain Climbers (hands on the floor, feet “run” up the mountain)

**Donkey:** Donkey kicks (hands on the floor, jump feet off the floor)

**Kangaroo:** Kangaroo jumps (keeping feet together at all times)

**Eagle:** Back extensions (on floor, arms to the side, raise arms up and down simultaneously)

**Duck:** Squats (hands tucked under armpits as you squat low—a quack for each squat makes it fun!)

**Bunny:** Baby Bunny (squat with hands in front and move in a hands-feet, hands-feet pattern)

**Sand Crab:** Sand Crab kicks (hands behind on the floor, tummy up, kick one leg then another)

*Note: Introduce each animal as a separate exercise or activity before playing the game*

The **playing cards** with numbers are to be used to determine the number of reps of each animal, and the shape (suit) of the card will determine which animal will be done.

**First**, draw an animal card and place it next to a shape (suit) on the board (under the “animal” heading) until there is an animal for each of the 4 shapes. (For instance, if a cat is drawn first it will be placed next to the heart, and any heart card drawn will indicate a cat exercise).

Next, have a child draw a **playing card** and place it on the right side of the board under the “Number” heading. There is room for 2 playing cards, so have another child draw a second one and place it on the board.

Begin the exercises according to what playing card is drawn. When the first 2 exercises are done, ask more children to draw playing cards until all 4 animal exercises are used, then begin with 4 more animal cards, etc.

**SAMPLE GAME:** *Go around the circle or call children up as you choose...*

Joe draws a **cat** (cat back/dog back) and places it in line with the **Heart**

Molly draws a **duck** (squats) and places it in line with the **Club**

Ben draws a **kangaroo** (kangaroo jumps) and places it in line with the **Diamond**

Beth draws a **donkey** (donkey kicks) and places it in line with the **Spade**

Allie draws a playing card—the **10 of Diamonds**—and places it on the right side of the board under “numbers”

Charlie draws a playing card—the **7 of Hearts**—and places it on the right side of the board under “numbers”

Now, the whole class does **10 Kangaroo jumps** (diamond) and **7 cat/dog backs** (heart)

Remove playing cards, then have 2 more students draw playing cards until all 4 shapes (suits) have been done. At that point take off the animals and have 4 more children draw animal cards, continue the game.

*Teacher Note: You will not need an entire deck of cards so select cards from the deck to place in the pocket. As you select cards you can choose ones with higher numbers in order to give the children a better workout.*