

# Up, Down, Move Around **Math** and **Literacy**

Active Learning for Preschoolers



Deborah Kayton Michals

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**Active Learning for Preschoolers**

**by Deborah Kayton Michals**

## Dedication

This book is dedicated to the inspirational examples and memories of my mother, Marjorie Kayton—a creative and passionately committed preschool music teacher; and my grandmother, Lillian Klempner—a dedicated teacher of literacy and math.

## Acknowledgements

I express my grateful appreciation in particular to Megan Bascom for her essential work in the research, organization, and writing of these books; to Angessa Hughmanick and Kimberly Lantz for their contributions; to Phyllis Lyons, director of Selma Maisel Preschool, for her support and viewpoint; and to Florence Phillips, Don Adams, Amy Bilden, Leslie Dobryn, Debbi Korn, and Dale Walkonen, who contributed to literacy or art materials. Thanks very much to my editor, Stephanie Roselli, and to Clarissa Willis and the Gryphon House team for their work, and to Kathy Charner and Melinda Scrivner for their encouragement. Thanks to Alan Lopatin, lobbyist on behalf of young children and others who can't advocate for themselves, whose work brought these books into existence. And thanks to my husband, Jonathan Michals, and my children, Ali, Ben, and Katie, whose contributions inspire me daily.

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# Foreword

**by Rae Pica**

I have dedicated my life's work to the belief that movement is one of the most important vehicles through which young children learn. Deborah Kayton Michals's *Up, Down, Move Around—Math and Literacy: Active Learning for Preschoolers* makes a significant contribution to helping educators understand this essential philosophy of teaching and learning and to helping teachers make movement a central part of the learning process.

Research demonstrates that movement is the young child's preferred mode of learning and that children learn best through active involvement. The more senses that a child uses in the learning process, the more information that child retains.

*Up, Down, Move Around—Math and Literacy: Active Learning for Preschoolers* offers early childhood professionals the opportunity to tap into that connection between movement and learning. With its dozens and dozens of activities, all with comprehensive, easy-to-follow instructions and detailed examples, users of this book will be able to make literacy and math come alive for children.

As they demonstrate actions from the beginning, middle, and end of a favorite story, children begin to understand story structure. When they clap on the rhythm of a rhyme, they are not only learning to recognize rhymes but also are being well prepared to internalize the rhythm that is essential to reading and writing. When children create action puzzles, they learn about pattern sequencing. When they take on geometric shapes with their bodies, they imprint the information, on the body and in the mind. All of these activities allow children to hear, see, and feel the lessons, ensuring they will make the intended impression—an impression that lasts!





Deborah's experience working with preschoolers in movement education and training teachers to use physical activity for learning makes her uniquely qualified to bring these lessons and activities to early childhood professionals.

Like me, she is puzzled by the concept of children simply sitting and listening to a book being read, and by the idea that children would not have the opportunity to experience concepts in the way that is most effective for them. Her intention with *Up, Down, Move Around—Math and Literacy: Active Learning for Preschoolers* is to remove the excuses that prevent children from learning through physical participation. I believe she's succeeded. Deborah's goal is to have every teacher declare, "Yes, I can do this in my classroom!" I say, "Brava, and amen to that!"



# Introduction

*Up, Down, Move Around–Math and Literacy: Active Learning for Preschoolers* provides the tools to help you connect children’s physical and cognitive development. Active play provides the most effective learning for preschoolers, giving you wonderful opportunities to influence children’s learning in both hemispheres of the brain. Active learning sharpens auditory discrimination and multiple-intelligence learning as children listen to and process information, translating that information into physical activity. A child’s attention becomes more focused during physical activity, and a great learning opportunity exists at this peak of focus.

Preschool children need to move. Physical activity is a pathway to cognitive learning for this age group. Research supports this connection between movement and physical, cognitive, social, and emotional development. In her book *Smart Moves*, Carla Hannaford states that movement integrates and anchors new information and that moving while learning increases learning. In “From Cartwheels to Caterpillars: Children’s Need to Move Indoors and Out,” Anita Olds says that connecting literacy concepts with physical experience imbeds the concepts and hardwires the associated synaptic relationships.

Use the activities in *Up, Down, Move Around–Math and Literacy: Active Learning for Preschoolers* to support and enhance the learning that you are already providing for the children in your classroom:

## How to Use the Activities

The activities are flexible and easy to incorporate into your classroom routine:

- Everything you need is already in your classroom! No special materials, props, or extra space are required.
- Exercises can be done as 5- to 10-minute enrichment activities with your regular curriculum lesson
- Activities can be extended from 10 to 20 minutes to use as self-contained lessons

Letter recognitions	Number sense
Letter sounds	Number recognition
Syllables	Counting
Words	Patterns
Poetry	Sequence
Rhyming	Grouping and sets
Rhythm	Computation
Story structure	Geometric shapes
Prediction	
One-to-one correspondence	

- Exercises can be stacked, in groups of two to five, for up to an hour's worth of physical activity
- Use these exercises toward the 60 minutes of structured physical activity recommended for preschoolers in national guidelines and complement standard physical fitness games and exercises.\*
- Use the activities with large and small groups, in circle time, and as transitions. Small-group time allows for more particularized attention to the individual child, while whole-group exercises benefit from the high energy level and multiple shapes and suggestions of a larger group.

There are many ways to do an activity correctly, and creative thinking and problem solving become the tools to be celebrated.

The activities physicalize the structures of reading and math, making them real, accessible, and understandable to young children. Reading exercises address letter recognition, words and vocabulary building, syllables, story structure, poetry, and rhymes. Math exercises teach specific learning concepts in number sense, one-to-one correspondence, counting, constructing sets, operations, geometric shapes, patterns and seriation, prediction, and spatial relationships.

Maximize your classroom time by integrating physical activity into multiple learning contexts. Active exercises gather the power of what children already know well—the strength, knowledge, and point of view of the world they understand through their bodies—and turn it toward classroom learning. To preschoolers, the most real and concrete concepts are physical; if learning is connected directly to the physical actions they already know, the learning will be more complete and lasting.

*Up, Down, Move Around—Math and Literacy: Active Learning for Preschoolers* provides the tools to help you develop gross and fine motor skills through fun, noncompetitive activities.

- Encourage children to explore their physical strengths and abilities.
- Create an atmosphere in which all ability levels are respected and accepted.
- Reach children who do not respond well to more sedentary activities or quiet learning.
- If there are children in your class who have special needs, use the activities to highlight positive aspects of the way they learn.
- Reach English language learners by helping them associate concepts with words before they actually know the vocabulary.



The creativity and open-ended responses invited through the exercises allow for and encourage this flexibility in your teaching.

I started out as a young teacher and dancer, teaching movement education in motor-skill development, creative thinking, self-confidence, and problem solving. As I taught, directed programs, and trained others over the course of more than 25 years, I saw that it was possible to use these methods to teach essential materials from the rest of the preschool day—pairing literacy and math skills with action for a powerful teaching tool. My experience integrating these aspects of action and learning inspired me to incorporate fitness, body awareness, and obesity prevention into a total-child approach. Then, First Lady Michelle Obama’s 2009 “Let’s Move” public-awareness campaign motivated this user-friendly guide to incorporate children’s movements in developing their cognitive abilities.

The responsibility of the child for his or her body, if introduced early in ways children understand, can begin to be established with healthy patterns. The body is a child’s first playground, and by connecting it clearly to the learning process, it can remain so in a world in which technology competes for their attention. By building action learning into the educational day, physicality and health become intertwined with and not separate from activities children want to do.

*Up, Down, Move Around—Math and Literacy: Active Learning for Preschoolers* presents solutions to the problem of fitting enough physical activity into your school day. Enjoy participating with the children in the activities in this book, moving the children and yourself with productive action throughout the day!

\*National Association for Sports and Physical Education. 2009. *Active Start: A Statement of Physical Activity Guidelines for Children from Birth to Age 5*, 2nd edition. Reston, VA: NASPE.





Up, Down, Move Around  
Math and Literacy



# Move to Read

These literacy activities place children at the center of learning.

Through physical connection, children can develop their understanding of letters, words, and story structure, suggesting an understanding of the power of children's own imaginations, intelligence, and movement capabilities. Taken together, these elements promote a child's ownership of the learning activities.





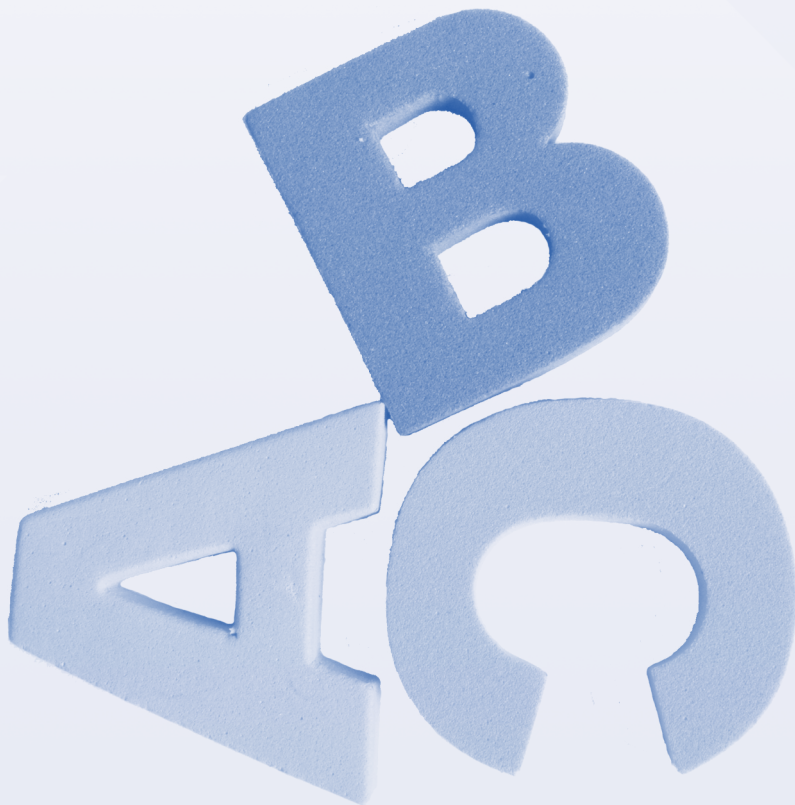
# Letter Shapes

Reinforce learning the shapes of the letters in the alphabet.

---

## How to Do It

1. Ask the children to sit in a circle or at a table. Show a picture of the letter they are learning—for example, the letter A. Ask them to draw it in the air and on the floor with their index fingers. Ask questions such as, “What does this letter A look like? I see a point at the top, like a triangle.”
2. Encourage them to stand and make the letter with their bodies. If they are not sure how to do this, offer hints: “Can you make yourself into a pointy top? Make a point with your hands over your heads. Put your feet apart on the ground, just like that A. Now I see a line through the middle. Your head can be the line. I see those letter As!”
3. Repeat this a couple of times. If the children have learned other letters, ask them to make those shapes with their bodies. For example, B can be made with the arms as two little circles pointing in and touching the belly.



# My Name Is

Help children recognize the first letters of their names by associating an action that starts with the same letter.

## How to Do It

1. Ask the children to stand in a circle. Let each child take a turn standing in the middle of the circle.
2. Say the name of that child and the first letter of her name—for example, “Danita! Danita starts with *D*.”
3. Attach an action word that starts with the same letter as the child’s name. You can pick out the action or help the child pick it out—for example, “Danita likes to dance.”
4. Then chant, using the letter and each child’s name in turn. Encourage the children to chant the rap with you:

*Danita, it’s your turn.*

*Danita likes to dance.*

*D, D, D, D, D, D, D (Danita gets up and dances)*

*My name is Danita*

*And I like to play.*

*I like to dance (Danita dances)*

*And I like to say, “Hey!” (Danita waves hello and the children wave back to her)*

*I like to dance and dance all day (Danita dances)*

*I like to dance, and this is the way!*

*Dance with Danita; dance and say, “Hey!” (Children get ready)*

*D, D, D, D, D, D, D (Children all join in)*

*Now everyone dance with Danita*

*D, D, D, D, D, D, D,*

*Dance and say, “Hooray!”*

## An Alphabet of Actions

**A**—act

**B**—bounce

**C**—catch or crawl

**Cl**—climb or clap

**Ch**—chase or cheer

**D**—dance

**E**—exercise

**F**—fall or frog jump

**G**—go

**H**—hop

**I**—imitate

**J**—jump

**K**—kick

**L**—laugh

**M**—move

**N**—noodle

**O**—go over

**P**—prance

**Q**—go quickly

**R**—run

**S**—skip or slide

**Sh**—shake or shimmy

**T**—twirl or twist or turn

**U**—go under

**V**—visit

**W**—wiggle

**X**—make Xs (jumping jack)

**Y**—yoyo

**Z**—zigzag

LETTERS



# A Is for Animal!

**This is a fun call-and-response activity to reinforce learning the alphabet. Feel free to substitute any animal names that fit with your students' interests.**

---

## How to Do It

Ask the children to sit in a circle. Bounce and tap knees to the rhythm as you do the following alphabet chant:

*A, B, C, and D, okay.*

*A is for alligator.*

*B is for bear.*

*C is for cat,  
and*

*D is for dog.*

*E, F, G, and H, okay.*

*E is for elephant.*

*F is for fish.*

*G is for gorilla,  
and H is for hen.*

*I, J, K, and L, okay.*

*I is for iguana.*

*J is for jaguar.*

*K is for kangaroo,  
and L is for lion.*

*M, N, O, and P, okay.*

*M is for monkey.*

*N is for nest.*

*O is for ostrich,  
and P is for penguin.*

*Q, R, S, and T, okay.*

*Q is for quail.*

*R is for rooster.*

*S is for snake,  
and T is for tiger.*

*U, V, W, and X, okay.*

*U is for unicorn.\**

*V is for viper.*

*W is for whale,  
and X is for x-ray fish.*

*Y and Z, okay!*

*Y is for yak, and*

*Z is for zebra!*

*\*Of course, a unicorn is not a real animal, but if you put it in, children will have fun telling you!*

# ABC Rap

This is an upbeat twist on that old standby, “The Alphabet Song.”

---

## How to Do It

1. Ask the children stand up, and begin a side-to-side stepping and clapping action.
2. Chant the following:  
*A-B-C-D-E-F-G* (step, clap, step, clap, step, clap, step, clap)  
*H-I-J-K-L-M-N* (step, clap, step, clap, step, clap, step, clap)  
*O-P-Q* (step, clap, step, clap)  
*R-S-T* (step, clap, step, clap)  
*U-V-W-X-Y-Z!* (step, clap, step, clap, step, clap)
3. Slow down the rhythm a bit, and add a little wiggle in between the steps and claps.



# Alphabet Books

Pairing movements with specific letters of the alphabet can help children remember their letters.

---

## How to Do It

1. Choose a book to read to the children that has the alphabet as its theme, such as *My Shimmery Alphabet Book* by Salina Yoon.
2. As you read, stop at each letter to make an action sequence that acts out the picture in the book for that letter. For example, in *My Shimmery Alphabet*, the picture for the letter A is an ape. Encourage the children to write the letter A in the air, to make an A with their bodies, and to move around like an ape moves.
3. This activity is easily broken into parts. If your class is learning a specific letter or group of letters, you can choose to do only the actions for those letters. Then, just enjoy reading the rest of the book to the children.
4. Following is a list of more great children's books with the alphabet as the theme:  
*Chicka Chicka Boom Boom* by Bill Martin Jr., and John Archambault  
*Dr. Seuss's ABC: An Amazing Alphabet Book* by Dr. Seuss  
*Rainbow Fish A, B, C* by Marcus Pfister







# Up, Down, Move Around **Math and** **Literacy**

Active Learning for Preschoolers

***Movement-inspiring activities  
reinforce key literacy and  
math concepts!***

Young children learn best when they connect physical activity with learning! ***Up, Down, Move Around*** is packed with fun, simple math and literacy activities that will have children jumping, shaking, rolling, dancing, and clapping as they learn!

From the Syllable Freeze Dance to the Math Orchestra, children ages 3 to 6 will actively explore letters and numbers as they develop number sense, practice counting and rhyming, and learn about letter shapes and story structure.

Everything you need is already in your classroom! No special materials, extra space, or props are required. The exercises can be done as 5- to 10-minute enrichment activities with large and small groups, in circle time, or as transitions, to fulfill the 60 minutes of structured physical activity recommended in national guidelines for preschoolers.



#### About the Author

**Deborah Kayton Michals** has designed and directed programs that combine physical activity with literacy, math, nutrition, motor-skill development, and arts curricula for more than 25 years. She has developed programs for The Education Alliance, the Legal Aid Society, the NYC Board of Education, the 92nd Street Y, and Yale University. An accomplished professional dancer, Deborah earned her bachelor's degree in history at Yale University and her master of fine arts degree in dance from New York University as a Goddard Fellow. Deborah lives in Riverside, Connecticut, with her husband, Jonathan, and their three children.



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