

Fun with Math: Quantitative Concepts

10 Activities to Help Children Understand
Measuring Ideas

Young children like to talk in terms of how *big* or *small*/something is, whose train is the *longest*, or how many *more* toys they have than someone else. Without realizing it, they're dealing with an important part of the language of mathematics: quantitative concepts.

Early childhood expert Mary Mayesky believes the following quantitative ideas should be part of the daily routines of young children – and I see no better way for children to fully comprehend them than by physically experiencing them!

- big and little
- long and short
- high and low
- wide and narrow
- late and early
- first and last
- middle
- once
- few
- tall and short
- light and heavy
- together
- same length
- highest
- lowest
- longer than
- bunch
- group
- pair
- many
- more
- most
- twice

Light vs. Heavy



Invite the children to sit and tap their fingers lightly on the floor in front of them. Next, ask them to pound their fists on the floor.

Continue alternating between the two, varying the amount of time they get to do each and pointing out the contrast between the light and heavy movements of their hands.

Later, invite the children to move as lightly as possible around the room. Encourage them to imagine they're walking on eggs and trying not to break them. Next, invite them to move heavily, making as much noise with their feet as they can. Continue to alternate between the two.

Rabbits & 'Roos



Talk to the children about rabbits and kangaroos. Ask them to tell you which of the two is bigger. Which is smaller? Which is heavier? Which is lighter? Which would move the most heavily?

Now ask them to move first like one animal and then the other. Alternate between the two, using the words *small*, *light*, *big*, and *heavy*. Also point out the low and high jumps!

High & Low



Invite the children to show you how high they can make their hands go. How low can they go? Repeat, asking them to get their nose, elbows, belly button, and whole body as low and high as possible!

Later, using your voice (humming or intoning), begin with a low note and move increasingly higher. When your voice is as high as it can go, reverse the process with descending notes. The children, meanwhile, starts in a squatting position and rise and descend along with the notes!

Light vs. Heavy II



Play soft music and invite the children to tiptoe, move like a cat sneaking up on a bird, or “float.”

Then play loud music, suggesting that the children stamp their feet, swing their arms forcefully, or move like a dinosaur or elephant.

Using the appropriate vocabulary to describe the light and heavy/strong movements you’re seeing will help reinforce the children’s understanding.

A Pair of...



Ask your child to point to or show you the pairs appearing on her body, as you call out the names of these parts. Possibilities include the following:

- eyes
- ears
- hands
- elbows
- feet
- knees
- legs
- shoulders
- arms
- pointer fingers
- nostrils
- wrists

That's About the Size of It



LONG OR SHORT ?

Invite the children to demonstrate the following with their body:

- big vs. small
- tall vs. short
- high vs. low
- long vs. short

Explain that while the shapes they're taking on may be similar, the words are slightly different. Discuss how. Repeat the activity, helping the children to make distinctions. For example, *big* could be depicted with arms out to the sides, while *tall* tends to be demonstrated with arms above the head. *Long* could be demonstrated while lying down! (But don't demonstrate!)

Wide & Narrow



Create a couple of wide and narrow strips of paper to use for demonstration purposes.

Using the strips, show the children the difference between *wide* and *narrow*. Then invite them to show you *wide* and *narrow* shapes with their arms, fingers, legs and, finally, the whole body!

What Size Is It?



Invite the children to show you a big shape – but not too big. Now challenge them to make it a little bigger and, finally, the biggest it can be.

Do the same with *little*, *littler*, *littlest* and *long*, *longer*, *longest*.

Same Length



Invite the children to move around the room or yard searching for objects that are the same length as (just as long as) their hands. How many can they find?

Later challenges include finding objects that are the same length as their arms, or the same length as the distance from the elbow to the wrist.

Finally, the children will also enjoy discovering how many objects are *longer* or *shorter* than their hands, arms, or forearms.

Once More

One More Time...?

Ask the children to perform a simple movement, such as taking a step forward or lifting an arm (the choice is theirs). Explain that they've just done it once.

Next, invite the children to show you they can do it again, meaning they've done it twice. Can they do it once more? (They will have now performed the movement three times.)

Invite the child to do two movements, such as stepping and clapping once, and then once more.

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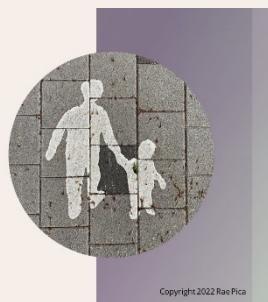
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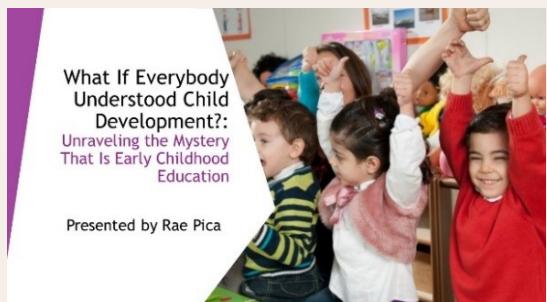
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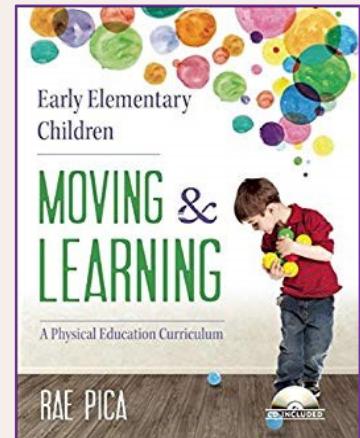
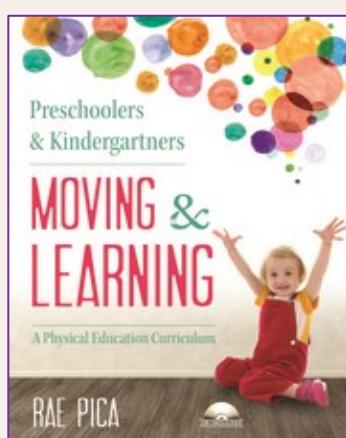
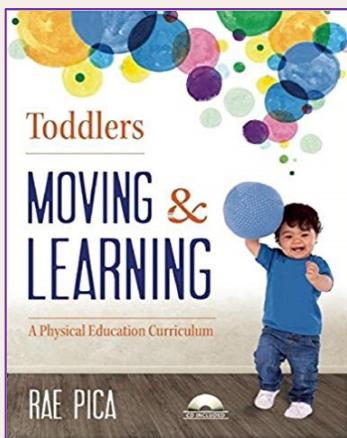
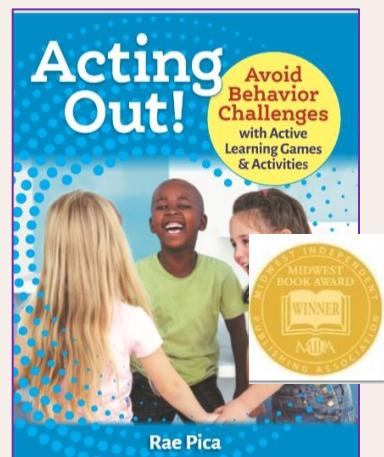
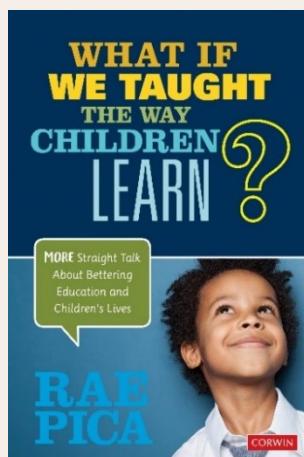
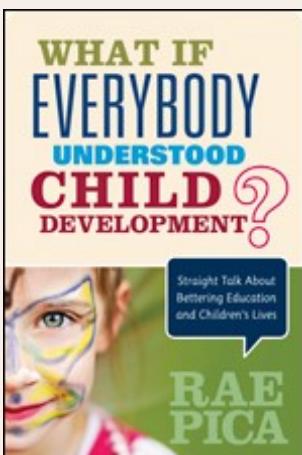
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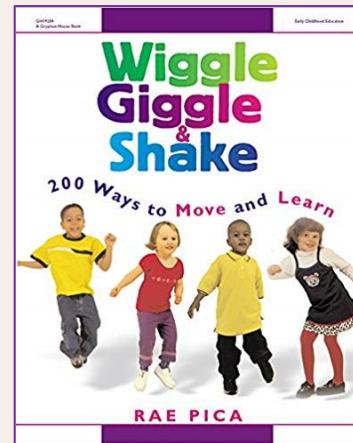
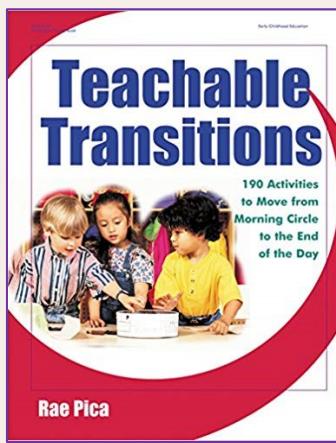
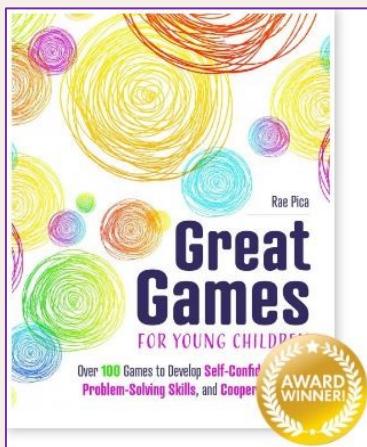
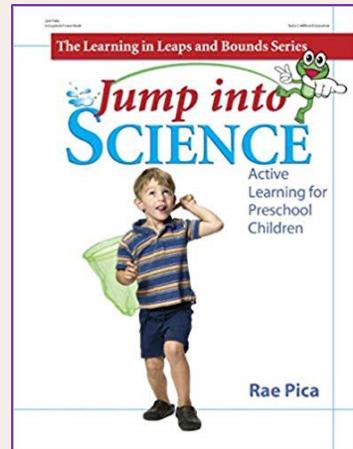
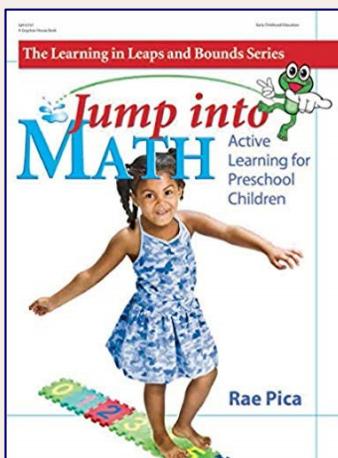
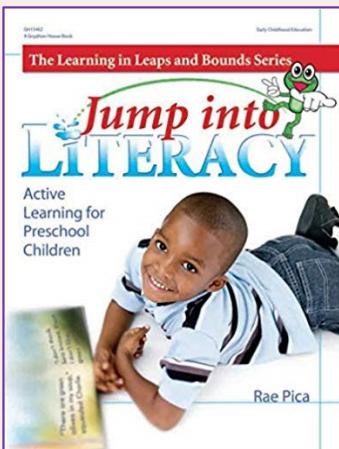
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RAE PICA



Rae has been an early childhood education consultant since 1980. Dedicated to developing and educating the whole child, she is the author of 22 books, including the text *Experiences in Movement & Music* (in its 5th edition), and two of her latest, *What If We Taught the Way Children Learn?* and *Acting Out! Avoid Behavior Challenges with Active Learning Games & Activities*.

Rae is a former adjunct instructor for the University of New Hampshire and is currently a blogger, online course creator, and popular virtual presenter. The National Association for the Education of Young Children, the National Association for Family Child Care, Eric Jensen's Learning Brain Expo, state WIC organizations, education conferences, resource and referral agencies, and schools in 46 states and Canada are among those who have invited Rae to address their groups.

As a consultant, Rae has shared her expertise with such groups as

- ✓ Sesame Street Research Department
- ✓ Head Start Bureau
- ✓ Centers for Disease Control
- ✓ Nickelodeon's *Blue's Clues*
- ✓ Gymboree
- ✓ Hasbro
- ✓ Mattel
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