

# Your Family Math Group



some notes from Kate Nonesuch

# Recommendations\*

The following recommendations are taken from [“Family Math Groups: An Exploration of content and Style”](#) which is a report of a project called Family Math Fun! In that project I worked with a group of parents to develop a manual of activities for parents and children to do together.

Based on the findings of this study, recommendations about content and facilitation of family math groups can be made in several areas.

## Recruitment

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Establishing a sense of comfort and safety is of paramount importance, even before the group starts. Posters, information sessions, and other publicity should establish that the sessions and the activities will not expect parents to already know math before they can work with their kids. Nearly every participant in this study expressed surprise that family math could look so different from school math; while it may be impossible ahead of time to convince potential participants of this fact, it is important to give them an idea of what to expect if they participate. If you are trying to recruit parents who themselves did not do well in school math, they may not trust you no matter what you say. The best recruitment tool may be word-of-mouth advertising, so it may help to feature parents who have previously attended a group on the posters or at information sessions.

Don't attempt to interview or test people before the sessions start. Both of these were barriers to participation in this study.

## Draw on Parents' Strengths

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Parents know the interests of their own children, and know which of the activities you offer are most likely to appeal to their families. Furthermore, the math experiences parents have from home, work, leisure activities, and community life inspire them in working with their kids, and provide a rich source of experience and example. Better the activity that comes from the parent's work than from the facilitator's text book.

## Activities

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### Fun, Fun, Fun!

It can't be repeated too often. It is important the activities be enjoyable for parents too. For example, if parents enjoy nature, or make it part of their spiritual or family life to be out of doors, then they are more likely to incorporate math thinking into hiking or camping, which they already do, than to take up some other new activity for the sake of doing math.

Given the factors in parents' life that make regular attendance the exception, not the norm, activities should fit into one session, and not carry over to the next. Parents should not have to have attended the previous session in order to enjoy the current one, and they should be able to go home at the end of every session with something to do with their children, not wait until the next session to finish things up.

## Different from School Math

Activities should not look like the kinds of school math that parents may remember. This will avoid emotional carry-overs and past memories, but also give the parents a chance to start fresh, with more confidence that they can work with their kids on these activities, even if they have given up on helping their kids with homework or worksheets.

## Use a Holistic Approach

As a first principle, activities should appeal to and develop the spiritual, emotional, physical and mental parts of our beings. The introduction to *Family Math Fun!* expands on this first principle:

**Spirit:** We want to nourish the learning spirit, so that children become aware of themselves as learners. Activities such as counting out plates for dinner help kids feel that they belong to the family and contribute to family life. They develop a sense of themselves as people who can solve problems. Looking at shapes, numbers, and patterns in nature makes them aware of the beauty and order that surrounds them.

**Heart:** When adults do these activities with children, the children feel loved. When the children are successful at the activities, they feel confident and happy to take on another challenge. When the activities contribute to family life, children feel responsible, and proud of their ability to take part.

**Body:** The activities here all involve doing something. It is not enough to think about things. When you do something in the real world, there is usually a reaction—someone or something does something back. The reaction teaches you something, and you may begin to think in a different way because of it. Sometimes we can't think of what to do, but something says, "Just try this..." and we do, and it works.

**Mind:** When we think of math, we often think of school math, but children begin to notice and think about numbers from the time they are born. The activities in this book all involve math thinking without worksheets or tests. Making a collection, taking a bath, making a box, braiding your hair, making art—if you do any of these things, you are thinking mathematically.

**Spirit, heart, body, and mind** are all connected in our lives, and they are connected in the activities in this book. Math is not "all in the head." When we keep it only in the head, we are out of balance, and cannot do it well. When we balance the spirit, heart, body, and mind, math becomes part of our whole lives, and is not a beast or a barrier (Nonesuch, *Family Math Fun!* 2008, pages 1-2).

## Make Time for Parents

It is essential that there be time for parents to do the activities together, without the kids, for three reasons: First, the parents need time to understand the activity, so they can do it easily, feel secure in their knowledge, and be comfortable showing it to their children. Second, parents need to experience for themselves the value of the activity, whether it be the enjoyment of figuring out a strategy for a game, or having the flash of insight that we usually call the “Aha!” moment. This allows them to be genuine when they invite their children to take part in the activity. It also allows them to watch their children discover the enjoyment, or experience the “Aha!” which is the pleasure teachers look for, and increases the parents’ enjoyment.

Third, while the parents are doing or learning the activity for the first time, the facilitator has the opportunity to model a generous and open approach to the activity, to comment that there are many ways to accomplish an end, or to think out loud to make the math concept transparent, a technique that parents can pick up through this modeling

For these three reasons, it is important to repeat activities such as card or dice games so that parents really know the rules and strategies well, so they enjoy playing them and can invite kids to join the fun, rather than making them do something that’s “good for them.”

## Main Messages for Parents

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### Learning through Play

Downplay the value of worksheets or rote learning, and emphasize the value of learning through play or through family activities, and the value of activities that allow the child to come to understand mathematical concepts for themselves. Two examples from the manual show the emphasis on play and on giving the child time to learn what there is to learn, without worrying about “right” ways, or getting it quickly.

Put some empty plastic tubs into your child’s bathtub...your child will use one tub to fill up another, will try to pour all the water in a big tub into a smaller one, will find out that many dips with a small tub are needed to fill a big one, and will feel the difference between pouring a small tub over his head and pouring a big one. This is math learning (Nonesuch, *Family Math Fun!* 2008, p. 20).

An older child can put away mugs and cups. What to do with the handles is an interesting problem, especially if there are lots of mugs and not very much space to put them in. How much space do things take up? How can I fit things into a tight space? Both these are problems that a kid can work on without even knowing that she is doing math (Nonesuch, *Family Math Fun!* 2008, p. 35).

### There is No Right Answer

Emphasize that there are many ways to do the activities, that there is no “right” answer, that the experience of trying things out and the satisfaction of making something or doing something that has consequences in the real world is the purpose of the activities, and that a good measure of success is to ask how much fun they are having.

An informal, non-competitive atmosphere goes a long way to helping parents enjoy each other's company and value the contributions each person brings to the group. Dispelling the myth that there is only one way to get the right answer reduces stress, and one way to dispel the myth is to focus on different strategies various participants use to do the activity

When we value and cherish different ways of tackling a problem or arriving at a solution, we value and cherish the people who follow those different ways. When parents see that there is no single "right" way, it gives them confidence to try something new.

## *Facilitation Style*

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Use a facilitation style that establishes a sense of comfort and safety in the group and a shared power arrangement with participants. Demonstrate the attitudes and the messages you want to get across to parents. Let your fascination with math show. Let your interest in the variety of ways people approach problems show, too.