

Family Math Nights

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It's "All in the Family" Math Night

Family math nights can come in many shapes and sizes. Teachers are constantly in search of the recipe for a "perfect" family math night. There are many factors to consider while planning the event: daytime vs. nighttime, grade level specific vs. entire school, spotlighting a single topic vs. presenting a variety of topics. The demographics of a school community will factor into these decisions. This article highlights what Indiana Mathematics Initiative (IMI) Select Cadre members from Vigo County have found to be successful when planning a family math night for elementary students and their families.

Vigo County Schools

Vigo County is currently in the fourth year of adoption of *Everyday Mathematics*. During this adoption cycle, Vigo County has had over 40 educators involved in IMI professional development.

Vigo County is the fifth largest school district in the state of Indiana servicing approximately 16,300 students. We have eighteen elementary schools, six middle schools, and five high schools. At the elementary level, eleven of our eighteen schools are Title I. We have 23% of our student population identified as special needs, and 47% of our students receive free or reduced-price lunches.

Why Have a Family Math Night?

IMI provided the impetus for family math nights in Vigo County. Speakers at the professional development sessions had emphasized their importance and had given examples of successful math nights. IMI-trained teachers were initially required to host one each semester in their own schools. Soon, however, a majority of our elementary schools recognized the benefit of family math nights and non-IMI teachers began to host them also.

One goal of a family math night is to promote family time at home focused on math, hence the importance of encouraging entire families to attend. Parental attendance demonstrates to children the value and importance of their math education. Family math nights provide an opportunity for children to demonstrate the math they are learning. *Everyday Mathematics* approaches concepts in a manner unfamiliar to parents. Thus, a second goal of a family night is to help parents realize the benefits of and develop a comfort zone with *Everyday Mathematics*.

Save the Date

Securing a favorable date for your family math night is critical to its success. Coordinating a date that works with the school calendar begins the process. The date should work with the teachers' calendars as well as the administrator's calendar. It will be impossible to select a date that is "conflict free," but selection of a date with the fewest conflicts helps to ensure a high level of

attendance. Within the school calendar, periods of time exist that seem to be less hectic. Late September and October seem to be an advantageous time for the fall semester. During the second semester, the months of January and February tend to be “conflict free.”

“Hear Ye! Hear Ye!”

When the date has been selected, parents need to be contacted EARLY and OFTEN. The initial flyer sent to parents should include a return reservation slip to provide a general number to work with as you prepare materials. Students could provide a second notification via a handmade invitation to the event. Original creations (from students) are certain to get the parents’ attention. Additional reminders could be placed in a newsletter sent out by the principal, PTO, or classroom teacher. Announcements made over the intercom system in a building could include information about the upcoming family night to remind students to encourage their parents to attend. A variety of methods announcing the family night will boost attendance, thereby promoting success of the event.

Where There Is a Will, There Is a Way!

Funding of the evening’s activities may present a challenge. Funds will be used for materials during the event and take-home packets to continue math activities at home. In Vigo County, we have received funding from various sources. Several of our elementary schools have a Partner in Education. These businesses provide funding and human resources to support activities that enhance education at their designated school. In addition to business partnerships, we have the Vigo County Education Foundation, which provides mini-grants for teachers to implement projects. Teachers describe their ideas in an application that is reviewed for its merits by the board of directors. Family math nights have been supported generously by the Vigo County Education Foundation. Many schools have funding available at the administrator’s discretion for innovative projects. Teachers provide funding to purchase materials to make a family math night a possibility. Where there is a will, there is a way to secure funding for a family night.

Are You An Event Planner?

During the preparation period, staffing of the family math night should be taken into consideration. Teachers, student-teachers, parent volunteers, grandparent volunteers, administrators, and math liaisons can provide additional pairs of hands. Students and parents enjoy seeing administrators in the role of teacher during a family math night. The success of the event hinges upon parents having “personal” contact to address their questions and concerns, so adequate staffing is a must.

The format of the evening should meet the needs of parents, students, and presenters. We have found a varied format to be the most successful at our family math nights in Vigo County. A varied format keeps the pace of the evening brisk, while allowing parents to experience multiple aspects of the *Everyday Mathematics* program.

Each family math night begins with the entire group meeting together for an overview of the evening’s activities. The general meeting also allows parents to ask questions that can then become a focus for the evening. Following the short general meeting, groups begin the rotation. Most family math nights last approximately 90 minutes, enough time to accommodate three 30-minute rotations, long enough to cover a topic but not impose on busy parent schedules.

The topics at rotation stations have included:

- Active play of *Everyday Mathematics* games;
- Computer lab demonstrations of *Everyday Mathematics* games online;
- Demonstrations of *Everyday Mathematics* lessons;
- A discussion of the importance of the Family Letter sent home at the beginning of each unit;
- Home Links and Study Links: Your “link” to your child’s mathematics;
- Content strand traces from kindergarten to Grade 5;
- Projects that enhance *Everyday Mathematics*;
- Focus algorithms of *Everyday Mathematics*.

A majority of our family math nights focus on three of these topics: active play of games, *Everyday Mathematics* games online, and focus algorithms. Parents have indicated an interest in these particular topics.

The active play of *Everyday Mathematics* games and the online games allow students to practice basic facts in a manner students enjoy. Games provide tasks that challenge the individual’s skill level, yet permit some control over the level of challenge faced. Games arouse curiosity by providing outcomes that are not always certain. We strive to help parents see the value of active play with their children at home. One tip we have found to be successful at the active play of games rotation is teaching the students the games to be played in advance of the family math night. Students then act as teachers during the event, explaining the rules and objective for each game to their parents. We have used this same suggestion in the computer lab. The students can work independently on their basic facts using the *Everyday Mathematics* games online. Students enjoy “performing” in front of an audience of parents, and parents take pride in watching their children instruct.

Demonstrating focus algorithms, and the benefit of each, has recently been a popular topic. The four focus algorithms of the *Everyday Mathematics* program include partial sums, trade-first, partial products, and partial quotients. Several presentations have also included a demonstration of lattice multiplication. This algorithm is a popular choice among students as they compute a product. Parents express concerns about the focus algorithms, because they are “different” than the methods they learned. Once parents have practiced the algorithms and experienced their benefits, they express an appreciation for a new strategy for solving problems. The focus algorithms of *Everyday Mathematics* build understanding of the mathematical concepts, as opposed to memorization of steps to solve a problem. Parents have commented about the benefit of building a foundation that will aid the students as concepts become more difficult.

While the above activities have addressed issues about which parents expressed the most interest, we have also found it valuable to include a rotation activity about the Family Letter sent home at the beginning of each unit of instruction. This letter, a component of the *Everyday Mathematics* materials, provides a wealth of information to support parents. Parents need to be aware of the importance of this document and should be encouraged to make effective use of it. A brief overview of the concepts as well as the vocabulary introduced in this unit provides information for parents to assist their child on Home Links/Study Links. The Family Letter also gives correct solutions for each Home Link/Study Link for the unit, so parents feel confident as they assist their child. Do Anytime Activities are simple suggestions that can be easily implemented to expand the learning of each unit of study. Parents have told us that they appreciate the “link” to their child’s education.

A successful family math night requires planning. It's obvious that teachers have to moonlight as event planners.

Prepare With Care

Once the date and format have been decided, preparing materials is next on the agenda. We frequently distribute take-home packets at our family math nights. The packet includes directions and materials (cards, dice, dominoes, game boards, etc.) for active play of games at home. Since many of the games use cards, we also include directions for converting a regular deck of playing cards into an *Everyday Mathematics* deck. There is information about *Everyday Mathematics* games online, so students can access the games from home. This information includes the website and student password. We have created a spreadsheet for each level of the games (Early Childhood, Grades 1–3, and Grades 4–6) that provides information about which skills are enhanced by play of each game.

A sign-in sheet needs to be created, so groups can be equally divided for the rotation stations. We have used sign-in sheets titled “Group A,” “Group B,” and “Group C” when the evening includes three topics. This process mixes families from different classrooms together as opposed to the same groupings during the school day. Classrooms need to be configured to meet the needs of the activity planned for that room.

Reflect to Perfect

At the conclusion of each family math night, it is important to reflect. A brief evaluation sheet is distributed surveying the favorite activity of the evening and suggestions for improvement. This information is valuable for planning future family math nights. For example, we have found that parents appreciate the “firsthand” information about *Everyday Mathematics*. The curriculum has changed from the days when the parents were students. The comfort level about the focus algorithms and the active play of games receive the greatest accolades from attendees. The date for future family math nights should be included on the evaluation sheet, if future events are planned. Parents need to be informed early, if we hope to fit into their schedules.

During the week following the event, teachers have students create thank you cards for parents, expressing appreciation for their attendance. Since parents who attended have demonstrated their support for education, it follows that students should express their appreciation to them.

It is also important for the presenters involved in the event to meet for a discussion of the feedback received on the evaluation sheets. They too must evaluate the meeting itself, looking at aspects such as what went well, what didn't live up to expectations, and what could be done differently in the future to assure the most effective outcome from family math nights. The effectiveness of the family math night is measured not only by the number of families in attendance, but also by the attitude toward *Everyday Mathematics* displayed by those who participated.

A “Perfect” Family Math Night: Fact or Fiction?

We have tried a variety of approaches for family math activities. The experience of Vigo County indicates that an early evening time tends to assure the best attendance. As mentioned earlier, the demographics of a school community are a factor in the best choice for each individual school. A

child component has been the best ingredient in Vigo County to maximize success of a family night. Utilizing students as active participants increased parental attendance.

In Vigo County, it has been our goal to promote family math time at home and to help parents as they learn about the *Everyday Mathematics* curriculum. We have found that if we can find a good date, contact parents early and often, carefully plan activities, and give consideration to the feedback we receive, we are successful with our family math nights. However, we realize that, like many families, family math nights come in many shapes and sizes, and we shall continue our search to make each of ours more successful.

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