

9

The First 20 Days of Math Workshop: Setting the Stage for Effective Guided Math Groups

Taken from the book *Guided Math in
Action* by Dr. Nicki Newton

Learn more about guided math at
DrNickiNewton.com

Rolling out the first 20 days of math workshop in your own classroom will take time, persistence, and consistency. Here is a 20-day plan to get you started. Taking the time to establish the routines is well worth the energy and the effort. You want students to know what math workshop looks like, how to act in the workshop, and how to work independently throughout the workshop. If you spend the time in the beginning of the year to lay a strong foundation, then students can get on with learning together in productive ways.

Students will need to learn what to do during the mini-lesson, how to work with whiteboards for individual responses, how to take notes in the whole-group setting, and how to participate with each other. They will also need to learn how to work together during workstations. These lessons will focus on working independently, with partners, and in groups. Students will learn how to get workstations out, play with them, and then put them away. They will need to learn when they can talk to the teacher and when they cannot interrupt her.

During the first 20 days of math workshop, you will emphasize mathematical practices that are the “habits of mind” and “ways of being” that students will need in order to become proficient mathematicians. There are eight practices (CCSS, 2012) to lay the groundwork for during this period.

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

You will teach your students to

1. become public mathematicians and to listen, read, write, and speak together in order to learn math
2. work together around a specific set of routines and procedures during math workshop

The First 20 Days of Guided Math chart (Figure 9.9, page 128) outlines a very specific framework for laying out the work at the beginning of the year. It includes essential questions, enduring understandings, skills, assessments, and sample math anchor charts. Teachers should individualize these ideas to fit their individual teaching styles.

Every class, every year is different. Some years you will spend more time on one section than in other years. You will move the sections around to fit your own style and rhythm. Do what works best for your class. Make it work! Make it comfortable for yourself! As Fountas and Pinnell (2001) point out, "Lessons build on each other; points are repeated; charts are posted in the room and referred to again and again." Take your time. Emphasize the key routines over and over again.

The First Week

During the first week you will set the context for the work you will do all year. You will orient the students to math workshop. You will have various discussions about what good mathematicians do. You will emphasize the idea that mathematicians talk and listen to each other, they share their thinking and ask questions, and they show their thinking as well.

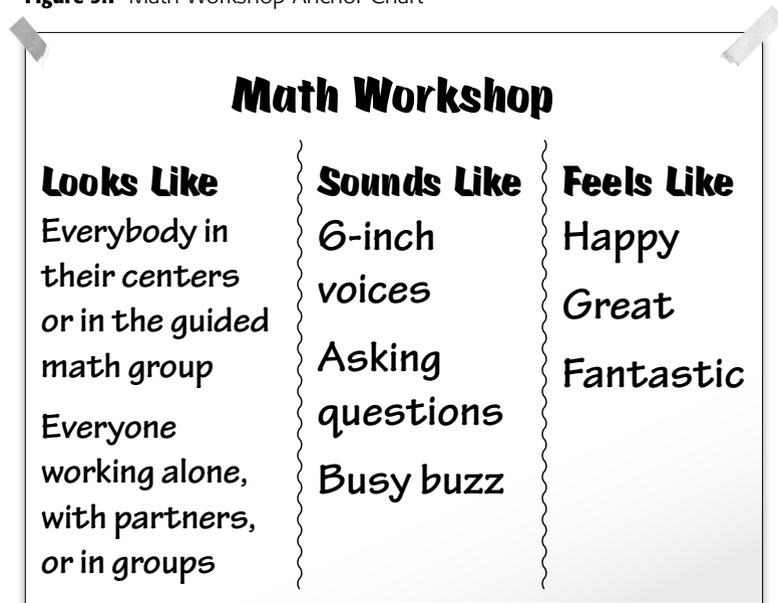
Day 1: What Is Math Workshop?

The goal of this session is to introduce the students to math workshop. You will explain the general structure and discuss the overall routines and procedures, such as calendar; number talks; the mini-lesson; student activity time, when workstations and guided math groups take place, as well as student interviews and conferences; and finally the debrief. The students should engage in a prolonged discussion of the workshop and the way they are going to think about and do math throughout the year. The teacher should create some sort of math anchor chart that highlights the discussion (see Figure 9.1).

Day 2: How Do Good Mathematicians Communicate with Each Other?

The goal of this session is to talk about talk. You want to begin the discussion about the ways public mathematicians engage with each other. Students need to learn that good mathematicians talk and listen to each

Figure 9.1 Math Workshop Anchor Chart



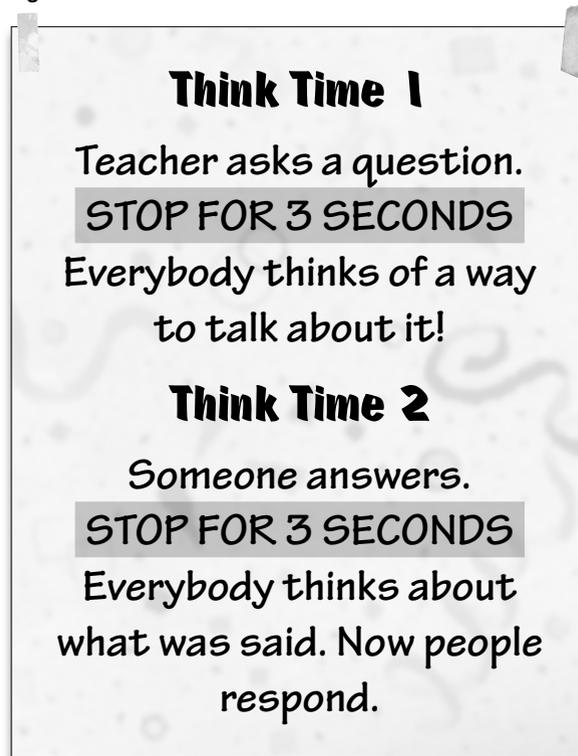
other. Students learn to make eye contact and be attentive and to respond with a thinking mind and a respectful heart. They learn about “think time” (see Figure 9.2, page 120). They learn to allow each other the time and space to speak, to stop and think about what has been said, and then to digest that and think some more before they respond. The focus of this session is to teach students to respect each other. It is also to get students to begin to talk about word problems. So you introduce a Problem of the Day and practice using think time to discuss it.

Day 3: How Do Good Mathematicians Talk About Their Ideas?

The third day is a continuation of the conversation about being a good mathematician. Students discuss the idea that math is a language and that one of the things that they will work on during math workshop is “speaking math.” A math anchor chart about how to talk with each other and respond to questions can be a part of this discussion (see Figure 9.3, page 121). The teacher should introduce the *word wall* that will help students remember the words they are learning. They also may play some vocabulary games, as an example of the types of games that they will play all year to learn new math words.

Students learn to use different prompts to share their thinking about math. You can chart some of these ideas and have the class practice using them. Students learn to speak about their mathematical thinking by actually speaking about math! Using more math word problems as the center of the discussion, students practice talking with each other.

Figure 9.2 Think Time Anchor Chart



Day 4: How Do Good Mathematicians Show Their Work?

The fourth day is about students learning that good mathematicians show their work (see Figure 9.4). You want to spend some time talking with students about asking questions. Students need to get comfortable with asking questions of themselves and others. The discussion should focus on what “showing work” looks like. Students should understand that they can show their work with objects, drawings, and pictures, and also through acting it out. In order to focus on this point, students do more work with the Problem of the Day.

Day 5: How Do Good Mathematicians Write?

The fifth day is about writing in math class. During this session, students focus on different ways to write in math class. You introduce the class journal for the first time during the debrief. Students talk about how, during this time, they will write about the math that they did. You also introduce math journals and have the students make them. The journals have different sections, such as vocabulary, do-now, and word problems. The number of sections depends on the grade level of your class.

Figure 9.3 How to Talk About Math

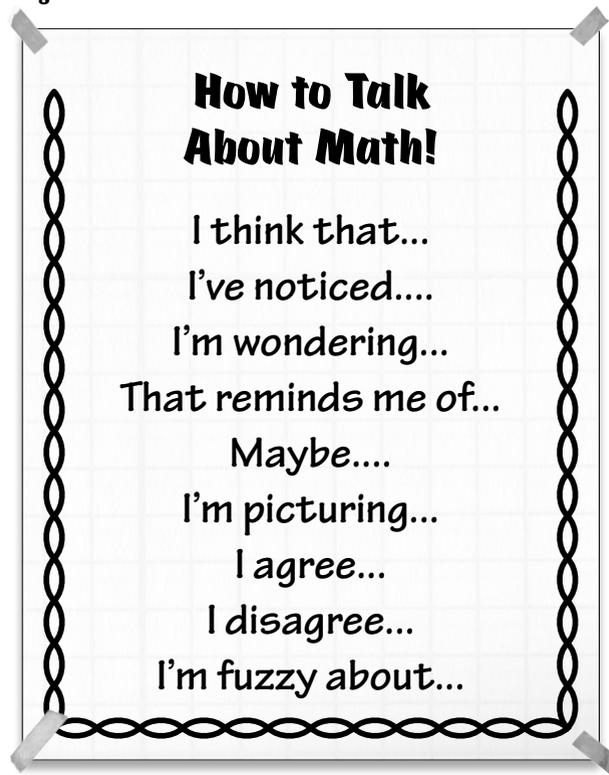
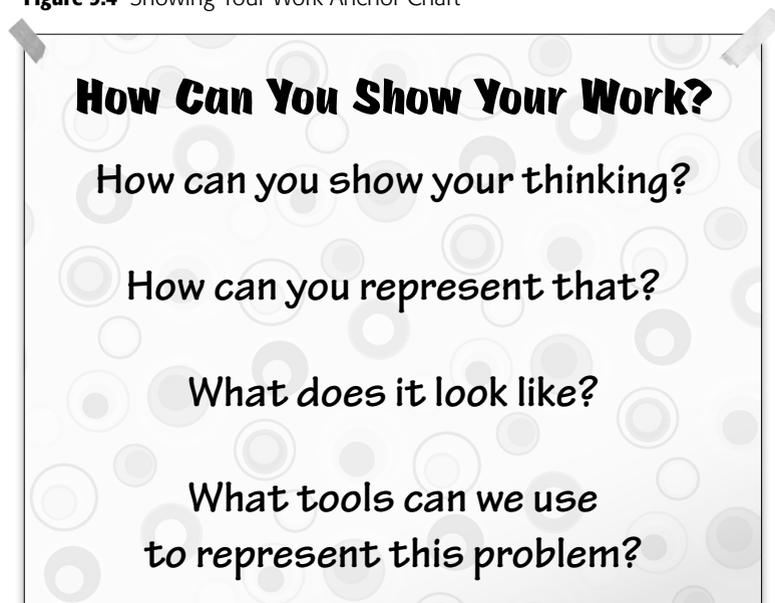


Figure 9.4 Showing Your Work Anchor Chart



The Second Week

The second week is about exploring the initial routines, rules, and procedures. Students learn how to use their individual calendars. They learn how to engage in number talks with each other. They also learn how to actively participate in mini-lessons. During this week you also introduce math centers. During these five days, students can practice the routines and become secure in exactly what to do during the work period/student activity time.

Day 6: What Are the Calendar Routines During Math Workshop and How Do They Relate to Real Life?

This session is about establishing one of the routines that students will practice during math workshop—the daily calendar routine. Students will discuss different types of calendars and examine a regular calendar as well as the “classroom” calendar posted in the calendar area. Here the individual calendar folders are also introduced. It is important for students to make the connection between real life and the calendar routines that they will do in class. For example, why should students chart the weather? In real life, do people really follow the weather and, if so, when, where, and why? Contextualizing our daily math routines is essential to students being able to make sense of math in their world.

Day 7: How Do We Participate in Number Talks?

This session is about number talks. You will introduce this activity as a routine that students will do sometimes together as a whole class and sometimes in small guided math groups. The class discusses how to talk during a number talk. They emphasize some of the things they have been discussing, such as listening to each other, discussing their thinking, and showing their work. They talk about how it is okay to be wrong and okay to be right. They talk about how important it is to get all of their thinking on record so they can see what they are saying. This is the day that the students are normed into this routine, through actual practice.

Day 8: What Happens During the Mini-Lesson?

During this session, students will discuss what happens during the mini-lesson. You can explain that the class will sometimes read a book; learn a poem, chant, or song; watch a mini-video; or learn a concept. Sometimes students will take notes in their journals and other times they will do activities on their whiteboards. You should emphasize that students have

Figure 9.5 Playing Games Anchor Chart



a really important role during the mini-lesson—to listen, talk with each other, and participate.

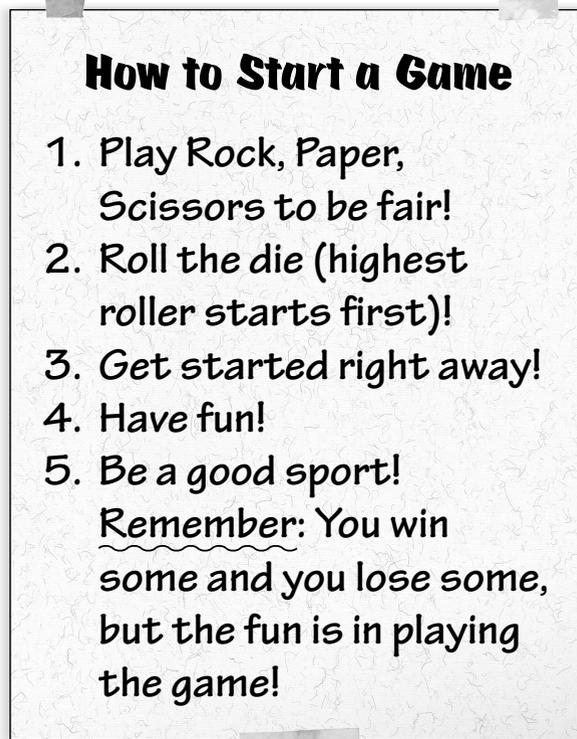
Day 9: How Do We Work at Math Centers?

This session focuses on introducing math centers to the students. You will spend a great deal of time rolling out math centers over the next few days. Students need to learn to take out the math centers and to work by themselves, with partners, and in groups. They need to set some rules for getting along, working well together, and resolving any problems that come up (see Figure 9.5). This takes time to do but is essential to running a great math workshop.

Day 10: How Do We Work and Play Together During Math Workshop? (Part 1)

During this session, the class continues to explore what it means to work together during student activity time. They discuss what types of

Figure 9.6 How to Start a Game



manipulatives they will use when playing games and doing activities. The teacher leads a discussion about playing with partners. The class models this by breaking into two teams and playing some games. Part of this discussion is about how to start a game (see Figure 9.6). We play many different math games, but there are some general procedures for starting any type of game. Although this concept seems simple, many students struggle with it in the beginning. Students do not tend to play board games these days, so they are not used to deciding who gets to start. So it is important for students to practice it during the next few days.

The Third Week

During the third week, you will continue focusing on work in math centers and, eventually, if students are ready that week, you will start pulling guided math groups. You should work on these procedures for a few days. It is important to keep reinforcing the routines about using manipulatives, playing games, and working together (see Figure 9.7). Students should practice getting out and putting back the workstations. They should also

Figure 9.7 How to Be a Great Partner



continue to practice problem solving by themselves so that when an issue comes up, they have the tools to work it out without necessarily getting the teacher involved.

Day 11: How Do We Work and Play Together During Math Workshop? (Part 2)

During this session, the students will practice playing with cards. Card games are fun and fast. They play with a variety of cards, big, little, playing cards, number cards, and flash cards. They talk about the different games that are possible with cards. They practice holding cards, shuffling cards, and dealing cards. During this session, depending on the students, students play a team game and a group game. Sometimes, the class will spend a few days on this topic, with a few days on team games and a few days on group games.

Day 12: How Do We Work and Play Together During Math Workshop? (Part 3)

During this session you introduce more manipulatives, highlighting the use of dominos for playing different games. You explain that sometimes students will use playing mats for dominos and sometimes they will not. Students then play domino games with partners and in groups. The more time that you give students to practice playing together and focusing in on

the math during this week, the better they will be able to do it when the class goes into full workshop mode.

Day 13: How Do We Use Math Tools During Math Workshop?

During this session, students spend a great deal of time talking about other tools that they can use in math workshop, besides dice, dominos, and cards. They talk about unifix cubes, bears, color tiles, calculators, and other tools available in the classroom. They spend time talking about management routines concerning the tools, playing with the tools, and specifically using the tools to do math. It is important that time is spent discussing what math tools are and how they help us do math. During this session, students might also start putting together their own toolkits.

Days 14–15: What Happens During the Student Work Period of Math Workshop?

This is a key session. Guided math groups are introduced and the teacher begins to pull the first group. The students are all very aware that they are to be on their best behavior and are to do all the things they have been practicing over the last few days. There is usually a great deal of buzz and excitement on this day when they actually experience the full workshop in action. The teacher must be sure to debrief this session in detail so students know exactly what went well and what they need to work on.

The Fourth Week

Finally, during the fourth week, you will start to work on what happens during the debrief, specifically how to participate in the class journal discussion. During this time you will also introduce the Mathematician's Chair. After all the routines have been learned, be sure to spend a few days doing the workshop and talking about what is going well and what needs to improve.

Days 16–17: What Happens During Share Time at the End of Math Workshop?

During these sessions, students will discuss what happens during the debrief. It is important for them to summarize their learnings for the day and keep a public record of them. The discussion should focus on the math they did, not just the game or activity that they did. Students make anchor charts to remind them what happens during the debrief. They talk about the importance of the Mathematician's Chair and how it is an honor to share their thoughts with others. They talk about how it feels to sit in the

Mathematician's Chair and how to treat the people who sit in it. They talk about and practice sharing their work with each other.

Days 18–20: What Are the Routines, Rules, and Procedures During Math Workshop?

During these last three sessions, the class spends time doing the math workshop and talking about it extensively. This is the time to praise the good and work out the kinks and the rough spots. This is the blueprint for your yearlong journey. These last few days are meant to make sure that the foundation for math workshop is solid. The 20-day framework is just a guideline. Every class is different. Creating a vibrant, energetic, academically rigorous math workshop takes time, energy, and much effort, but it is well worth it! Stick with the process of establishing the workshop, don't get discouraged, lean into the rough spots, and know that when it is all done, you will have created a space for learning that is student centered, standards-based, and cognitively engaging and demanding. Consistency is the key. Math workshop is a great structure. Math centers are a good place to engage in purposeful practice. Guided math will change not only your teaching life but the learning lives of those you teach! Go for it!

Figure 9.8 Good Mathematicians Anchor Chart

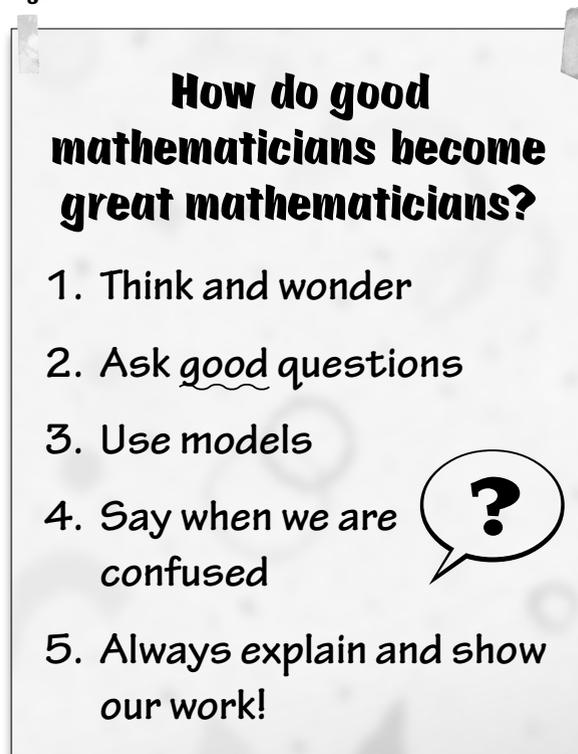


Figure 9.9 The First 20 Days of Guided Math

Getting Started: Week 1					
Day	Focus Questions	Enduring Understandings/Content	Skills	Assessments	Activities
1	What is math workshop?	You get better at math by practicing math every day. Math workshop is a time when we work on math. Math workshop has several parts: calendar, number talks, mini-lesson, math workstations, and share time.	Be able to describe math workshop.	Class discussion	Class discussion/ Chart with flow of math workshop
2	How do good mathematicians communicate with each other?	Good mathematicians talk and listen to each other. They are respectful. They ask questions of themselves and others. They give each other "think time." Focus on respect. Introduce the Problem of the Day.	Be able to discuss what listening and being respectful means.	Class discussion/ drawing	Class chart
3	How do good mathematicians talk about their ideas?	Good mathematicians talk about their thinking. They use math words. They ask questions of themselves and others. Focus on Word Wall. Continue working with the Problem of the Day.	Talk about a problem.	Class discussion	Class chart on the language of engagement

Figure 9.9 The First 20 Days of Guided Math (continued)

4	What do good mathematicians do?	Good mathematicians show their work. They ask questions of themselves and others. Focus on showing work with objects, drawings, pictures, and acting it out. Continue working with the Problem of the Day.	Show thinking about a problem.	Student work	Class chart
5	How do good mathematicians write about their math thinking?	Good mathematicians write about their thinking. Focus on Writing. Continue working with the Problem of the Day.	Write about a problem.	Student work	Student journals are introduced.
Getting Started: Week 2					
Day	Essential Questions	Big Ideas/Content	Skills	Assessments	Activities
6	What are the calendar routines during math workshop and how do they relate to real life?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on calendar.	Fill out individual calendars and graphs.	Calendar pages	Complete individual calendar

Figure 9.9 The First 20 Days of Guided Math (continued)

7	What are ways that we participate in number talks during Math Workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on number talks.	Participate in a discussion about numbers.	Teacher observation	Class discussion
8	What happens during the mini-lesson?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on whole-class mini-lesson.	Actively participate in whole-class discussion.	Teacher observation	Class discussion
9	How do we work together during math work stations?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on math workstations.	Transition to math centers. Work productively in math centers with partners.	Teacher observation/ Center work artifacts	Two games/ Chart about center work
10	How do we work and play together during math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on math workstations. Discuss using dice.	Transition to math centers. Work productively in math centers with partners.	Teacher observation/ Center work artifacts	Two games/ Add to chart about center work

Figure 9.9 The First 20 Days of Guided Math (continued)

Getting Started: Week 3					
Day	Daily Questions	Big Ideas/Content	Skills	Assessments	Activities
11	How do we work and play together during math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on math centers. Discuss using cards.	Transition to centers; engage in center work; practice working with a partner.	Center artifacts	Two games
12	How do we work and play together during math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on math centers. Discuss using dominos.	Transition to centers; engage in center work; practice working with a partner.	Center artifacts	Two games
13	How do we use math tools during math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on math workstations. Discuss math tools (counters, chips, rulers, etc.).	Transition to centers; engage in center work; practice working with a partner.	Center artifacts	Two games

Figure 9.9 The First 20 Days of Guided Math (continued)

14	What happens during the student work period during math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on guided math groups while other students work in centers.	Follow schedule; practice working with a partner.	Center artifacts	Two games
15	What happens during the student work period during math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on guided math groups while other students work in centers.	Follow schedule; practice working with a partner.	Center artifacts	Games/ Guided-math groups
Getting Started: Week 4					
Day	Essential Questions	Big Ideas/Content	Skills	Assessments	Activities
16	What happens during share time at the end of math workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on share time.	Sharing our work; reasoning out loud; modeling our thinking; listening to others	Teacher observation	Workshop schedule: Focus on class math journal; introduce Mathematician's Chair

Figure 9.9 The First 20 Days of Guided Math (continued)

	What happens during Share Time at the end of Math Workshop?	There are certain routines that we practice during math workshop. There are particular ways of doing things during math workshop. Focus on share time.	Sharing our work; reasoning out loud; modeling our thinking; listening to others	Teacher observation	Workshop schedule: Focus on class math journal; introduce Mathematician's Chair
17					
18	What are the routines, rules, and procedures during math workshop?	Spent these three days debriefing about how math workshop is going. Have the students draw pictures and write in their journals about math workshop. Talk about what is working well and what you need to change. This is the time to discuss and work out all the kinks. This is the blueprint for your yearlong journey. This period also gives you a few more days to spend on areas as you see fit. Every class is different. Consistency is the key!			
19	What are the routines, rules, and procedures during math workshop?				
20	What are the routines, rules, and procedures during math workshop?				

© Newton, 2013

Summary

Math workshop is always a work in progress. It is a good idea to evaluate your workshop at the end of each unit of study so you can reflect on what went really well and what you will do differently next time. You can think about and reassess the mini-lessons (the books, poems, and songs); the various anchor charts and how effective they were; all of the math centers for that particular unit of study (were they engaging enough? were they rigorous enough? were they differentiated enough?); and the share sessions (did you really discuss all the math that you wanted your students to learn?). It is also a good idea to try and visit your colleagues' math workshops to see how they are going. How are they similar to or different from yours? Math workshop is a great adventure, full of new and wonderful surprises every day.

Reflection Questions to Ask Yourself After Each Week

1. What went really well?
2. What would you change?
3. What do the students still need to work on?
4. Are the anchor charts effective? How do you know?
5. How are your mini-lessons going? Are they engaging?
6. How smooth are the transitions throughout the workshop?
7. Are you really discussing the "Big Ideas" of the unit of study during the share?