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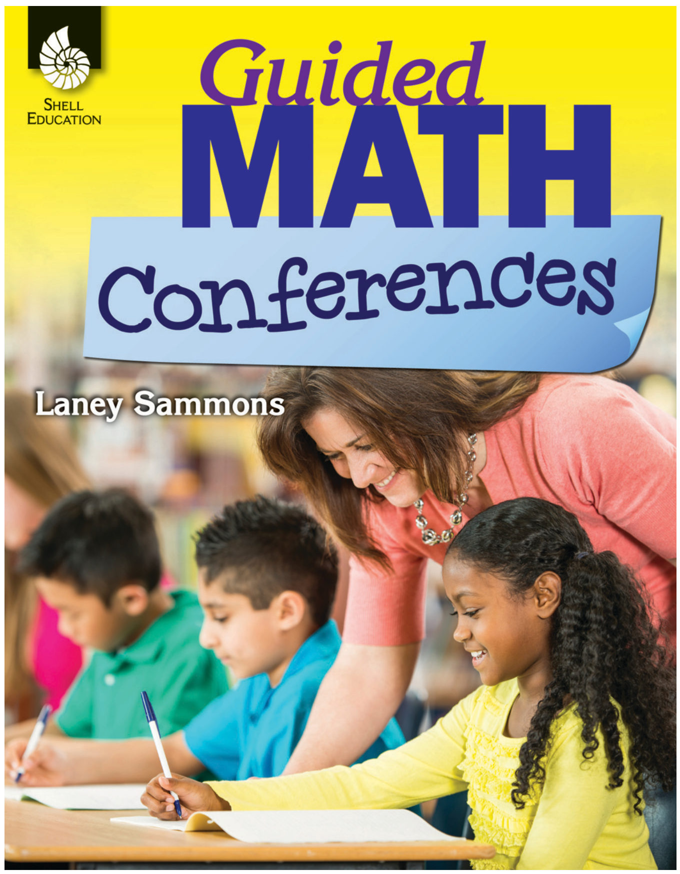
Guided Math Conferences



The following sample pages are included in this download:

- Table of Contents
- Introduction excerpt
- Sample chapter selection

SHELL EDUCATION

Guided MATH Conferences

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Table of Contents

into the thinking of their students—whether it be thinking about reading, writing, or mathematics. With these glimpses, our instruction becomes more focused and powerful.

What Are Guided Math Conferences?

The Guided Math framework (Sammons 2010) is composed of seven components: establishing a classroom environment of numeracy, math warm-ups, whole-group instruction, small-group instruction, math workshop, math conferences, and assessment. (See Appendix A for a description of each component of the framework.) Together, these instructional tools offer teachers a manageable means of identifying and then meeting the mathematical needs of their students. One-on-one math conferences are valuable for accurate assessment of student strengths and needs, and for targeting individual needs through timely feedback and brief specific instruction—thus, they are an important support for the other six components. Even in classrooms where the Guided Math framework is not being used, conferring one-on-one with students gives teachers rich insights into their students' mathematical thinking as well as opportunities to provide effective, targeted instruction and offer constructive feedback.

Math conferences are one-on-one *conversations* with students about their mathematics work, as one mathematician talking with another. Literacy educators have written much about successfully conferring with students. Murray (2004, 148) emphasizes the importance of maintaining a conversational tone during conferences. "They are not mini-lectures but the working talk of fellow writers sharing their experience with the writing process. At times, of course, they will be teacher and student, master and apprentice, if you want, but most of the time they will be remarkably close to peers…."

Like conversations, conferences between teachers and students include these characteristics (Anderson 2000):

- Conferences have a purpose.
- Conferences have a predictable structure.
- Lines of thinking are pursued with students.

- Teachers and students each have conversational roles.
- Students are shown that teachers care about them.

We show our genuine interest in the work of our students when we confer. Sitting side-by-side and shoulder-to-shoulder with our students, we dig deeper so we can meet their unique, individual needs. In doing so, we support them as they begin to apply what they are learning in both large-group and small-group lessons (Miller 2008). The thoughtful conversations we create get to the core of their thinking and then prompt them to consider what they are doing from other angles or with more depth.

Math conferences are a time for students to share their mathematical thinking with their teachers. In doing so, they learn not only to organize and express their mathematical ideas cogently, but also to continually reassess the validity of their reasoning. Moreover, these mathematical conversations support the learning of new concepts and strategies by requiring that students focus on representing their work, both verbally and with diagrams, models, or symbols so that it can be clearly understood by others. All of these are essential aspects of mathematical practice (Common Core State Standards Initiative 2010; National Council of Teachers of Mathematics 2000).

Math conferences are also a way of extending and deepening the numeracy of our students. Allington (2012) describes the ability to go beyond word calling, simple recall, and recitation when reading as *thoughtful literacy*. It requires a reader to engage with the ideas in a text, challenge them, and then reflect on them. When conferring with students, we foster that same kind of understanding of mathematics—*thoughtful numeracy*, the mathematical counterpart to thoughtful literacy. We help students develop the mathematical skills they need to cope with the practical demands of everyday life (Steen 1990). With that goal in mind, these conversations between students and teachers serve to increase the capacity of young mathematicians to effectively engage in mathematical thinking and problem solving, critically consider the mathematical data and the reasoning of others, and clearly communicate their own mathematical thinking, so that they will be able to successfully apply the knowledge, skills, and strategies they have acquired to new situations and problems they encounter throughout their lives (Saskatchewan Ministry of Education 2009).

their reasoning, prompt them to think more deeply, or encourage their mathematical communication. During these interactions, the teacher provides appropriate feedback to students based on their work and discussions.

Snapshot of a Math Conference

Josephina is a seventh-grade English language learner student who struggles with problem solving, particularly with determining which operation should be used to find a solution. With this math conference, the teacher hopes to gain some ideas about how to help her become more proficient.

Josephina is working to solve the problem shown below. The teacher notices that she has underlined the word *all*.

> **Task:**
> A dress was on sale for 50% off its original price of $40. Later, the store took another 25% off that price. How much does the dress cost now after all the discounts?

Teacher: *Josephina, what are you working on?*

Josephina: *I'm trying to find the answer to this problem. It's kind-of hard. I keep reading it—I know you are supposed to do that. That's the first thing you should do.*

Teacher: *So as you read this problem, what are you thinking?*

Josephina: *I'm really thinking about the words in the problem. They can help me know what to do. I'm trying to remember what my teacher last year told me. She said there were certain words that tell you what to do to find the answer. I found a word that I think she talked about—"all"—and underlined it. I think that means I have to add things up to find the answer.*

Teacher: *Why do you think that means you should add to find the answer?*

Josephina: *Because there are certain words that tell you what to do. I think "in all" means add. But I'm not really sure how to add this up.*

The teacher realizes that an earlier teacher of Josephina's was probably aware of her difficulties understanding English and had encouraged her to turn to "key words" rather than teaching her to work to truly understand problems she was attempting to solve.

Teacher: *Josephina, as a mathematician, you know how important it is to first read and understand the problem you are trying to solve. You are working on the first step in problem solving! Let me share something with you that I have learned. When I am faced with solving a problem, I have to do more than just look for certain words. I have to really try to see in my mind what is happening, so I can figure out a way to solve it. Just because this problem has the word "all" in it, it doesn't necessarily mean that we add to solve it.*
Let me tell you what I do sometimes when I read a problem. I try to think about and "see" in my mind what is happening. So when I read that there is a sale, I know that I can buy something for less than what it used to cost. The store takes something off the price—it costs less to buy it when it is on sale. Then, I think about what mathematical operation I should use to show that something is taken off or away from the price. What do you think?

Josephina: *I think you subtract. Don't you?*

Teacher: *That's right, Josephina. When we read carefully and really tried to think about what happened in the problem instead of looking for certain words, we were able to figure out what to do to solve the problem. Do you remember how to find a percent?*

Josephina: *Yes. I just couldn't figure out what to do with it.*

Teacher: *Josephina, can you tell me in your own words what we did to figure that out?*

Josephina: *Well, for one thing, I didn't just look for those words like from last year.*

Teacher: *Well, what did we do?*

Josephina: *I put it in my head. I mean, when I read it, I made sort of a movie to see what was happening. Then, when I thought I knew what was happening, I knew I had to subtract. That dress wasn't going to cost so much.*

Teacher: *Now you are thinking just like a mathematician! Whenever you are trying to solve a word problem, do just what we did with this one. Try to see what is happening—just like making a movie in your head.*

Through questioning and listening to Josephina's responses during this conference, the teacher discovered that Josephina was trying to use key words to determine which operation to use when problem solving. Since Josephina knew it was important to read the problem carefully before deciding on a strategy for solving the problem, the teacher was able to give her an authentic compliment letting her know what she was doing well. The teaching point of the conference was the use of visualization of the problem rather than searching for a "key word" to decide which operation was required. Josephina was able to explain the teaching point in her own words. The teacher then reminded Josephina that this was something she should always do when solving problems. The teacher will closely observe Josephina's future work to be sure that she is making use of this strategy and reinforce it, if necessary.

The Structure of a Guided Math Conference

Most conversations we have with others have predictable structures. We are comfortable following patterns of verbal give-and-take that we experience day in and day out in our formal and informal relationships with those around us. We know how they begin, the various parts, the transitions from speaker to speaker or topic to topic, and then we know how they are brought to a close (Anderson 2000). Consider the most basic of greetings: *Hi, how are you doing?* The typical response follows: *I'm doing fine, thanks. And you?* The greeter responds, *I'm fine, thanks.* Who does not know this pattern? We all know how to initiate it, to respond, and where it leads. Whenever we engage in a conversation, we draw upon an unconscious knowledge about how to talk with others that we have been absorbing since birth. The predictable structure we know so well allows us to effortlessly begin our conversations and enables conversation to flow smoothly.

As with everyday banter, when math conferences have an established structure, the predictability allays anxiety, allows for the easy exchange of ideas, and leads to more productive discussions. The traditional teacher-student pattern of discourse in the classroom is question-response-evaluation. In *Choice Words: How Our Language Affects Children's Learning,* Peter Johnston (2004, 6) warns, "There is always an implicit invitation to participate in a particular kind of activity or conversation. We cannot persistently ask questions of children without becoming one-who-asks-questions and placing children in the position of the one-who-answers-questions." In contrast, the structure of a math conference is one that is more common to interactions between individuals sharing a similar interest. The teacher is simply someone who has genuine interest in the work of the student with whom he or she is talking and who is willing to share strategies for making that work even better.

Calkins, Hartman, and White (2005) describe a consistent and predictable architecture for writing conferences that can be adapted effectively for Guided Math conferences. The specific steps for these conferences are *research*, *decide*, *teach,* and *link*. The conference framework guides teachers as they confer, so they can discover what their students are thinking mathematically and then identify what to do to help them progress in both their understanding and skill. Following a structure gives purpose to what otherwise may be chatting without focus (Sammons 2010). The structure of a Guided Math conference will be elaborated upon in Chapter Three. Figure 1.2 provides an overview of this structure.

Figure 1.2 The Structure of a Guided Math Conference

The Structure of a Guided Math Conference
Research Student Understanding and Skills • Observe the work of the student. • Listen carefully as the student responds to questions about his or her work to understand what he or she is trying to do as a mathematician. • Probe to glean more about the student's intentions, comprehension of relevant concepts, and mathematical capability. • The student does most of the talking during this part of the conference.
Decide What Is Needed • Weigh the validity of the student's current strategies and processes. Determine what should be the student's next step in learning. Decide on a specific teaching point and how you will teach it. • Name specifically what the student has done well as a mathematician with an authentic compliment, linking it directly to the language of the standards, and remind him or her to continue to do this in future work.
Teach to Student Needs • Use demonstration, guided practice, or explicit telling and showing to correct or extend a student's understanding and ability to successfully complete the task. • Have the student briefly practice what was taught and explain what she or he has learned to ensure initial understanding.
Link to the Future • Name what the student has done as a mathematician and remind him or her to do this often in the future. • Have the student share a reflection on the mathematics learned.

(Adapted from Calkins, Hartman, and White 2005)

Kinds of Guided Math Conferences

While the conference content and teaching point will be largely determined during the research phase of the math conference, teachers often enter into conferences with preconceived areas of focus based on students' prior mathematical work. Experienced teachers know that even in these situations, much is to be gained by encouraging students to share their thinking and by listening carefully before selecting a teaching point. Nevertheless, Guided Math conferences typically fall into these categories. Each of these kinds of math conferences will be discussed in Chapter Four.

- **Compliment Conferences:** Teachers use these conferences to motivate young mathematicians or to lift the spirits of discouraged learners.
- **Comprehension Conferences:** The focus of these conferences is on assessing and then extending the degree of student comprehension of mathematical concepts.
- **Skill Conferences:** The aim of these conferences is assessing and then extending the skills of students, including both process and computation skills.
- **Problem-Solving Conferences:** These conferences are used to explore the problem-solving strategies being applied by students and then to strengthen their toolbox of strategies, if needed.
- **Self-Assessment and Goal-Setting Conferences:** Together, students and teachers review progress toward meeting learning targets and establish learning goals.
- **Recheck Conferences:** Teachers use these conferences when they want to see if students are using what they learned during earlier conferences.

Chapter 4

Types of Guided Math Conferences

From the very beginning of each school year to its end, teachers of mathematics have the enormous privilege and challenge of guiding the mathematical growth of young learners. In those first days each year, students are an "unknown quantity" to a teacher; their learning potential is a mystery. Remnants of assessment data from years past offer some insight into their achievement. But a more complete knowledge of their intellectual spark and vitality is yet to come. It is the search for that knowledge that moves us as teachers to establish relationships of mutual trust and respect with students. These strong relationships allow teachers and students to freely share their love of learning, their curiosity, their thinking, and even their doubts. The blend of the seven components of the Guided Math framework fosters a classroom community in which this occurs naturally. Creating this type of risk-free environment where growth in mathematical competency is a goal shared by the class as a whole opens the door for students to excel and, in turn, provides the climate in which teachers can catch sight of that spark and vitality and briefly rejoice—before continuing to plan how best to move these learners on to even greater mathematical growth.

Undoubtedly, some would consider the sentiments in the previous paragraph to be overly rosy. Teachers find that many students struggle to master their grade level mathematics curriculum. Some learners lack the background knowledge they need to be successful. Some are apathetic. Many face daunting learning difficulties. In spite of these ongoing challenges, teachers still celebrate when they spur students to become more curious about the mathematical world around them, to grow intellectually in their understanding of the complexities of math, and to become, in general, more mathematically literate.

What does all this have to do with Guided Math conferences? The answer to this question lies in how we relate to our students when we confer about mathematics. It is only when students—particularly those who struggle—trust us enough to risk sharing their thinking that we can both lead them to see the wonder of mathematics and discover enough about their learning needs to be able to address them. The conference conversations help build the confidence of students while giving teachers the information we need to know what their next learning steps should be.

There are a number of different kinds of Guided Math conferences that teachers may choose to use with students throughout the school year. Each of them establishes the kind of learning environment just described, but each has a slightly different focus. Guided Math conferences may be compliment conferences, comprehension conferences, skill conferences, problem-solving conferences, student self-assessment and goal-setting conferences, or recheck conferences.

Compliment Conferences

Serravallo and Goldberg (2007) devote an entire chapter of their book *Conferring with Readers: Supporting Each Student's Growth and Independence* to compliment conferences. This type of conference is particularly beneficial when used at the beginning of the school year. In compliment conferences, teachers focus attention on what students are doing well to reinforce their strengths as mathematicians. It makes sense for teachers to let students know early on that their existing knowledge and skills have been noticed. As well as building relationships and increasing student confidence, recognition of background knowledge sends a message to students about how important it is that they reflect and draw upon what they already know when learning a new concept or solving problems.

But there are other occasions when teachers may want to "research with a lens of strength" when conferring (Serravallo and Goldberg 2007, 51). Teachers may hope to inspire students to continue using their newly emerging mathematical knowledge and strategies. Or if students seem unfocused, unwilling to take risks, or unmotivated, a compliment conference may buoy student spirits and increase their engagement in their mathematical work.

With the focus on student strengths, compliment conferences:

- set a positive tone so that students know their teachers recognize what they already know and can do;
- foster an environment where students feel comfortable taking risks as they work with mathematics throughout the year;
- motivate students to make mathematical connections and tap into their foundational knowledge;
- encourage students to use previously mastered strategies as well as try out those they are just learning; and
- prompt students to draw upon and apply what they already know rather than looking to the teacher for problem-solving processes.

Teachers consciously shift their mindsets when researching for compliment conferences. In most classrooms, teachers promptly notice and attend to any misbehavior by their students. When conducting research for a compliment conference, however, one's perspective shifts away from a focus on the negative. As Serravallo and Goldberg (2007, 51) describe it,

> *…when I decide to start with students' strengths, I force myself to adjust my radar, to put on new teacher lenses and begin looking for what students already are doing well.*

Observing students as they work, teachers try to determine what learners know and what strategies or procedures they may be using. To supplement these observations, the teacher may ask students to describe what they are doing and/or thinking. The teacher notes evidence of strong and effective mathematical thinking, or if not yet strong, at least fledgling efforts at that kind of thinking. Selecting the one area of strength that the teacher believes will be most beneficial to reinforce, he or she then shares a compliment with the student based on that strength.

This simply stated compliment describes specifically what the teacher noticed. In addition to delivering the compliment, the teacher explains how important this knowledge or strategy is for students who are working as mathematicians. These compliments not only boost student confidence, but may also lead students to consider how their knowledge and skills can be applied in other mathematical situations.

Compliment conferences tend to be shorter than most math conferences, focusing most heavily on the research and decision phases. The teaching point may be omitted entirely, as existing and emerging strengths are highlighted. The link phase remains an essential component, however. Along with receiving praise for their mathematical strengths, students are reminded that those are exactly the kinds of things that mathematicians know and do. As such, they are expected to continue to draw upon those strengths whenever they work with mathematics.

Compliment Conference Snapshot: Grades K–2

In this snapshot, the teacher conducts a compliment conference to encourage a student to extend his use of a strategy he recently learned but is reluctant to apply in more challenging situations.

The teacher observes Jamal as his partner pulls handfuls of counters from a bag for Jamal to count. Jamal easily counts up to five counters, but when greater numbers of counters are taken from the bag, he seems reluctant to try to count them. He often puts them back into the bag uncounted, or if he does try, he constantly looks to his partner to affirm his efforts.

Teacher:	*Jamal, how's it going with your math work?*
Jamal:	*Okay, I guess.*
Teacher:	*Can you tell me what you are doing?*
Jamal:	*Just counting these things. Li pulls some out, and I count.*
Teacher:	*Let's see. Will you tell me what you are doing as you work?*
Jamal:	*Okay. Here are the things I am going to count.* (Li, Jamal's partner, has pulled out four counters.) *So let's see. One…two…three…four. There are four.* (Jamal touched each counter as he counted them and moved them to the left, so the ones he had already counted were clearly separated from those he had not counted yet.)
Teacher:	*Why did you move the counters to the side when you counted them?*
Jamal:	*I already did them. I haven't done the others yet. I still have to count them.*

Teacher:	*Jamal, you are working just like a mathematician. You touched each counter when you counted it and moved it to the side. This lets you know easily which ones have been counted, and which have not. That is a good strategy to use when you count. Sometimes, it can be confusing when you have a lot of things to count. Which ones have you counted? Which ones still need to be counted? But when you touch them and move them to the side, you can easily tell which ones still need to be counted. That really helps when you have a lot of things to count!*
Jamal:	*That's a good strategy!*
Teacher:	*Jamal, keep using this strategy when you count objects—just like a mathematician. Why do you think that's important?*
Jamal:	*So I won't get mixed up when I have to count. I move them and then I know which are which. Some I counted, and some I didn't yet. I won't count some of them two times or forget some.*

With this short compliment conference, the teacher recognized a strategy that Jamal had recently acquired—moving objects already counted to clearly separate those that have been counted from those that have not. Because Jamal seemed unsure about counting larger numbers of objects, the teacher hopes to reinforce the strategy he is using so that he will extend his use of it to counting larger sets of objects.

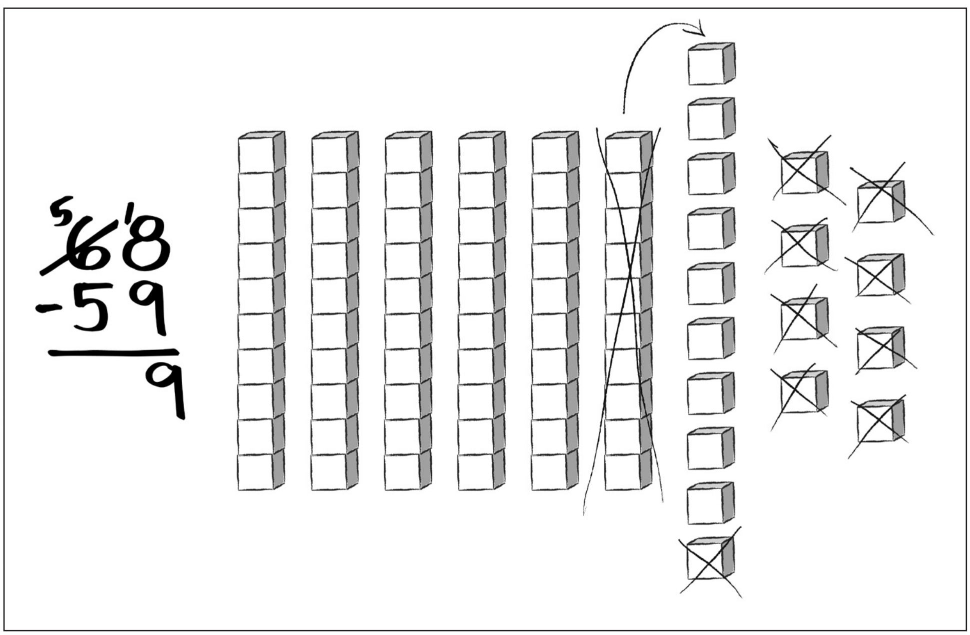
While a teaching point might have been included that would address this extension of the use of this strategy, the teacher felt that Jamal would work it out on his own as he gained confidence in his use of the strategy and so decided to conduct a compliment conference. The teacher will continue to observe Jamal to see if he begins to use what he knows for counting sets with more objects. If not, the strategy may be more explicitly taught in another conference or in a small-group lesson.

Compliment Conference Snapshot: Grades 3–5

It is early in the school year. The teacher is observing students to assess their mathematical knowledge and their use of problem-solving strategies. Students have been asked to show multiple ways to represent and solve this problem:

> **Task:**
> The average score for the Mustangs basketball team is 68 points. So far in this game, the team has scored 59 points. How many more points does the team have to score to reach its average score?

Montserrat quickly began work on the problem. Her first representation of the problem was a traditional subtraction algorithm: 68 – 59 = 9. She then drew a representation composed of base ten blocks.



As the teacher observes, Montserrat begins to model the problem on an open number line.

Teacher: *Hello, Montserrat. How's your mathematical work going?*

Montserrat: *Great! I know lots of ways to show this.*

Teacher: *Oh, will you tell me about them?*

Montserrat: *Okay. First, I just wrote the problem. I had to find out how many more they need to get to 68. So I made a subtraction problem. The difference was nine. So they had to score nine more points to get to the average score.*

Teacher: (Pointing to the 6 that has been crossed out) *What happened here?*

Montserrat: *I couldn't take nine from eight so I had to change a ten into ten ones. My teacher last year said sometimes we have to regroup. Right?*

Teacher: *Can you tell me what else you were doing?*

Montserrat: *Yeah. I thought about using those blocks—base-ten blocks, right? So I drew them and just showed how you can change a ten to ones. Sort of like the other problem.*

Teacher: *Okay. What are you working on now?*

Montserrat: *Well, I am going to use a number line to show how far I had to jump to get from 59 to 68.*

Teacher: *Montserrat, you have been thinking about lots of different strategies for solving this problem—just like mathematicians do! You knew that you were finding the difference, so you had to subtract. You wrote the subtraction problem and showed how you regrouped to find the difference. But you didn't stop there. You showed how you could draw a representation of it using base-ten blocks. Now, you are getting ready to show how you can solve it using a number line. That shows me that you know there is more than one way to solve a problem!*

This year, as we work on solving problems, keep thinking of different ways to solve them. Some of those strategies will be more efficient than others, but it really helps to have several that you can use—several different ways to think about the problem.

What do you think is most important about what we have talked about today?

Montserrat: *I think it is that mathematicians use lots of different ways to solve problems—just like me. It helps to think of lots of ways to solve them.*

This teacher uses compliment conferences to assess student mathematical capability at the beginning of the school year and to establish positive and collaborative relationships with students. In this case, Montserrat demonstrated that she is a confident problem solver who has the ability to visualize the solution to a problem in multiple ways. The teacher reminds Montserrat that it is important to continue to apply what she knows to her future problem-solving work. Asking Montserrat to reflect on what was most important in the conference conversation leads her to verbalize what the teacher hopes she will take away from the conference.

Compliment Conference Snapshot: Grades 6–8

The students in this class will be learning about applying the order of operations when evaluating expressions involving fractions. Early informal assessments showed that Sunil and three other students were having difficulty adding fractions with unlike denominators, a prerequisite skill for being able to evaluate expressions with fractions. Their teacher worked with the four in a small group, reminding them that they must find a common denominator before they add the fractions and reteaching the process of finding a common denominator. The following day, the teacher watches Sunil practice adding fractions and decides to confer with him to be sure he understands what was taught the day before and to encourage him to continue to use what he knows about finding common denominators. Because Sunil is just mastering this skill, the teacher decides not to include a teaching point in the conference, but instead to focus on reinforcing what he is doing as he finds common denominators to solve addition problems.

Teacher: *Sunil, how is your math work going?*

Sunil: *I think it is okay. I am doing what you taught us to do.*

Teacher: *And what is that?*

Sunil: *Well, now I know that I have to make the bottom numbers the same.*

Teacher: *You are going to find a common denominator.* (The teacher reinforces the use of mathematical vocabulary by rephrasing what Sunil said.)

Sunil: *Yeah. I am finding the common denominator now.*

Teacher: *How do you do that?*

Sunil: *Well, like with this problem,* $\frac{1}{3} + \frac{1}{4}$*, I have to make the bottom number—oh, I mean the denominator—the same. I find a product that I can get by multiplying either three or four—the lowest one that works for both of them.*

Teacher: *The lowest common multiple?*

Sunil: *Yeah—the lowest common multiple. Four is the bigger number, so I start with it. Two times four is eight—not a multiple of three. So I try again. Three times four is twelve. It is a multiple of three. It's a multiple of both three and four, so it must be the common denominator. Okay, now it gets harder. Oh, I remember—I multiply* $\frac{1}{3}$ *times* $\frac{4}{4}$ *and* $\frac{1}{4}$ *by* $\frac{3}{3}$*, so the denominators are alike.*

Teacher: *Why can you do that? Why can you just multiply by* $\frac{3}{3}$ *or* $\frac{4}{4}$*? Won't that change the value of each addend?*

Sunil: *No, it definitely won't. I know it won't because* $\frac{3}{3}$ *is really one, and so is* $\frac{4}{4}$*. You can multiply one times any number and get the same number.*

Teacher: *You are using the identity property of multiplication to find a common denominator, just like a mathematician! You are using what you know about multiplication to find the sum of two fractions with unlike denominators.* (The teacher delivers the compliment and models the use of mathematical vocabulary terms.) *So, what is the sum?*

Sunil: *It's* $\frac{7}{12}$*!*

Teacher: *Sunil, we will be working with expressions involving fractions. Sometimes you will be adding fractions with unlike denominators. Be sure you keep using what you know about finding common denominators. What do you think was the most important mathematical idea you thought about as we just talked?*

Sunil: *I just keep remembering that I have to get the common denominator when I add those fractions, or else I won't get the right answer—I mean, sum.*

Since Sunil's ability to find a lowest common denominator when adding fractions is an emergent skill, the teacher conducts a compliment conference. This kind of math conference allows the teacher to assess Sunil's understanding of the newly acquired skill, model the use of mathematical vocabulary terms, and make sure that Sunil consistently applies what he has just learned as he works in the future.

Comprehension Conferences

Frequently during the school year, teachers confer with their students to verify learners' understanding of math concepts that are either currently being taught or have been taught previously. Comprehension of many newly introduced math concepts is contingent on the firm understanding of other related concepts students should have mastered. Because the acquisition of mathematics knowledge and skills tends to be sequential in nature, it is important that students be able to call upon what they already know to make meaning of new concepts.

Teachers can confer with students to determine the degree of their understanding of prerequisite mathematical concepts and procedures. How complete is the students' foundational understanding? Do students have knowledge of the basic prerequisite concepts that will allow them to transfer what they know to related mathematical work? How well have students retained what they were taught? Conversing with young mathematicians about their work with an eye to assessing prior knowledge reveals any lack of understanding or misconceptions.

Comprehension conferences may also be used to assess the level of understanding students have for math concepts they are presently learning. Used in this way, these conferences serve as formative assessments to shape upcoming instruction. If students show evidence of understanding as they discuss their mathematical work on assigned tasks, instruction may be needed to provide more challenge for students—leading them to a deeper, more complex understanding. If not, teachers may opt to reinforce understanding with a math conference teaching point and/or with a small-group lesson designed to strengthen conceptual comprehension.