Teacher Name Grade Topic Date

Marzano's Instructional Methods	Student/Teacher Reflection (questions on reverse)		21st Century Skills	Characteristics of a CGI Classroom	Observed
Identifying Similarities and Differences Generating and Testing Hypothesis Homework and Practice	Thinking Mathematically	More than one method	Problem Solving	There is more than one way to solve a problem.	
		Connections	Analytical Thinking & Communicating	Integration of reading, math, and communication Homework is limited and connected to the day's learning.	
		How?	Problem Solving	Focus is on conceptual understanding rather than on procedural drill.	
		Justify why	Finding and Evaluating Information	Students are confident in their thinking.	
		Conjecture and generalizations	Analytical Thinking	There is more than one way to solve a problem.	
		Disequilibrium	Problem Solving	Students can admit something is hard. The teacher allows students to struggle.	
		New learning – "Aha!"	Finding and Evaluating Information	Math is rigorous for the individual student.	
		I wonder... What if...?	Analytical Thinking	There is more than one way to solve a problem.	
		Mistakes start new learning	Problem Solving & Finding and Evaluating Information	Mistakes are valued.	
		Multiple representations	Problem Solving & Communicating	There is more than one way to solve a problem.	
Nonlinguistic Representations Cues, Questions, and Advance Organizers Summarizing and Note Taking	Presenting Mathematical Thinking	Clear and complete	Communicating	Students use markers or pens to record their mathematical thinking.	
		Math that fits	Problem Solving	Children are using whatever tools they need to solve the problem.	
		Valid reasoning, language, and/or symbols	Finding and Evaluating Information	Questioning by the teacher moves students forward or probes their thinking. Problems are accessible through flexible numbers and wording.	
		Math ideas we learn in class	Finding and Evaluating Information	Teachers know where students are and where they want them to go. Kids are working from their level of understanding.	
		Accurate	Problem Solving	Solutions are expected to be mathematically correct.	
		Organized	Analytical Thinking	Thinking is recorded. Math journals are a common tool.	
Cooperative Learning Setting Objectives and Providing Feedback	Seeking Mathematical Understanding	Listen to understand	Communicating & Collaborating	All students are actively involved. There's a place for large group discussion.	
		Volunteer ideas	Communicating & Collaborating	Students discuss in small groups.	
		Ask genuine questions	Communicating & Collaborating	The teacher confers individually with students. All students are actively involved.	
		Share my challenges	Collaborating & Communicating	Students discuss their thinking.	
		Think about my thinking	Analytical Thinking		
		Honor private think time	Analytical Thinking	There are routines and procedures that allow the work to happen. Students are expected to work independently at times. Teacher keeps quiet except to press for understanding.	
		Respect my own and others' right to solve problems	Collaborating	Patience, understanding, and respect are evident. Every child's thinking is honored.	

Cognitively Guided Instruction is a research-based method of teaching mathematics that embraces/encompasses the following components:

- *Problem solving in meaningful contexts with flexible solution strategies. These strategies must make sense to the students!*
- *Building mathematical understanding through questioning based on individual student prior knowledge,*
- *Integration of mathematical concepts, and*
- *Communicating learning to others.*

GREEN FLAGS ☺	COMMENTS
Thinking Mathematically • Students using **more than one method** to solve problems • Students making **connections** between math ideas, to other people's ideas, to other subjects, and/or to everyday life. • Students showing/explaining **how** they think and reason. • Students justifying **why** ideas do or don't work. • Students making and testing mathematical **conjectures** and **generalizations.** • Student celebrating their **AHA!**'s and recognizing their **disequilibrium.** • Students extending problems by investigating **What if....** and **I wonder....** ideas. • Students using **mistakes to start new learning.** • Students using **multiple representations**—models, diagrams, graphs, numbers, words, math symbols, and situations from everyday life—to make sense of math ideas and problems.	
Presenting Mathematical Thinking • Students' mathematical ideas and reasoning are **clear and complete.** • Students using **math that fits** the problem or situation. • Students using **valid mathematical reasoning, language, and/or symbols.** • Students **using math ideas they learn in class.** • Students working **accurately.** • Students **organizing** their thoughts and work.	
Seeking Mathematical Understanding • Students **listening to understand** others' thinking. • Students **volunteering their ideas** in group discussions. • Students **asking *genuine* questions** (of their classmates, their teacher, and themselves) about how and why ideas work and whether they work sometimes, always, or never. • Students sharing ideas that **challenge** their thinking and understanding. • Students **thinking about their thinking** and ways their understanding is developing. • Students honoring their own and others' right to **private think time** before discussing ideas. • Students **respecting** their own and others' right to solve problems.	

RED FLAGS ☹	
• Teacher doing all/most of the talking. • Lots of problems on a worksheet. • Students encouraged/required to use a specific algorithm. • No tools available for student use. • Only one "right" method accepted.	