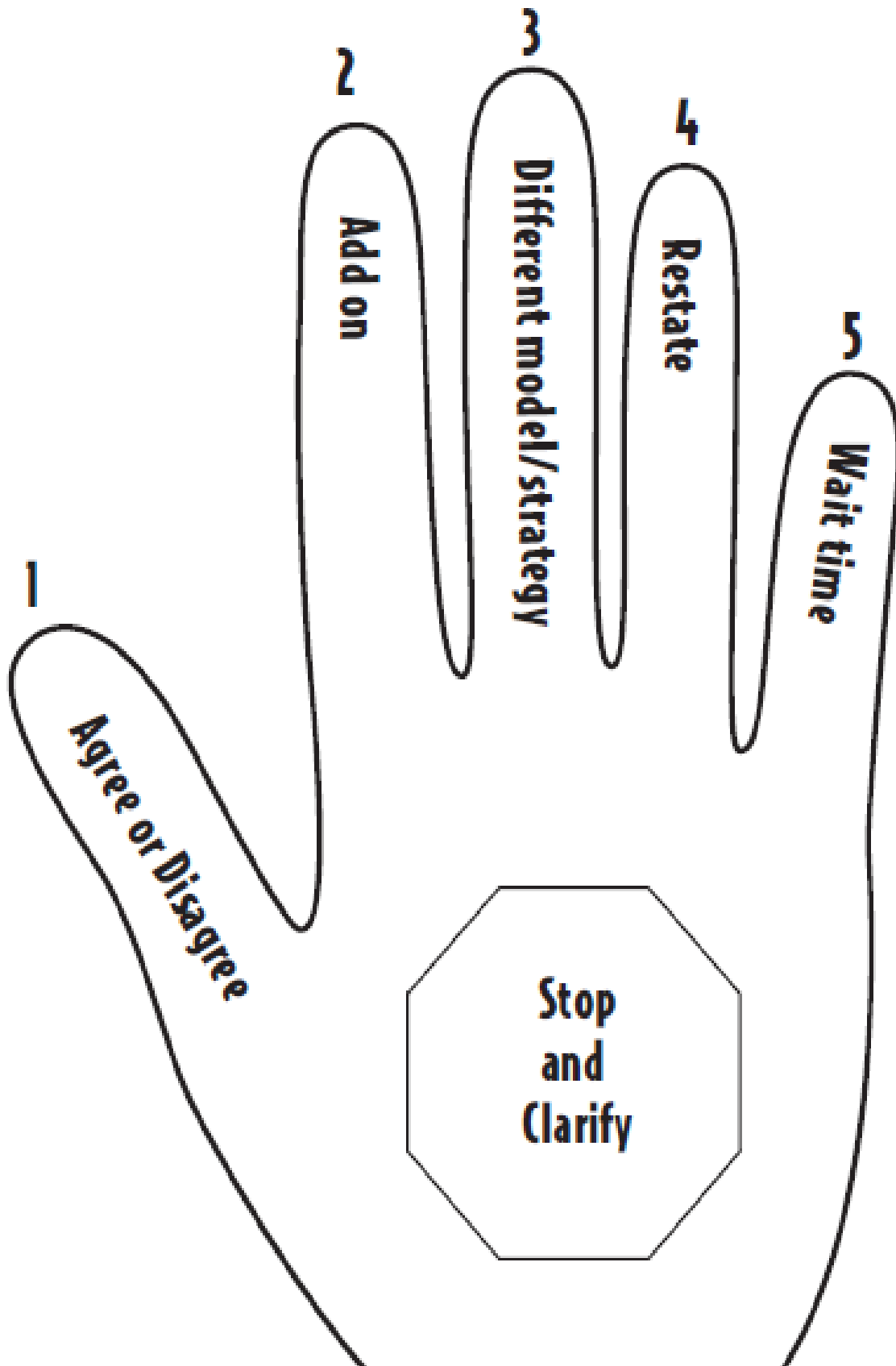


MATH TALK



GUIDE FOR MATHEMATICAL DISCUSSIONS

THREE FORMATS: Each has value and should be a part of EVERY lesson EVERYDAY.

Many heads

3 to 4 heads

2 heads

1. Whole Class Discussion:

Provides an opportunity for students to share their thinking, explain their steps and their reasoning, and build on one another's contributions. Teachers **focus on student thinking**, not providing answers.

2. Small Group Discussion:

Students are given a task to discuss among themselves in groups of three or four. Teacher circulates as groups discuss without controlling the discussion but interjecting questions to keep student ideas moving forward.

3. Partner Talk:

Teacher asks the question and gives students a minute or two at the most to put their thoughts into words with their partner. There are several benefits. Students who understand but are hesitant about voicing their thoughts will have a chance to practice in a small safe environment. Students who have not understood can bring up questions with the partner. **For many students, particularly those who are learning English as a second language, this one- or two minute aside is invaluable.**

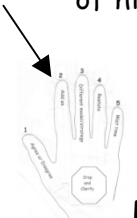
EXAMINING THE FIVE FINGERED MATH TALK STRATEGIES



1. Asking students to apply their own reasoning to someone else's reasoning:

Examples:

- Do you agree or disagree and why?
- What is your reasoning?
- Can you tell us why you agree with what _____ just said?
- Would you all discuss what _____ just said? (Wait) What do you think of his/her idea?"



2. Prompting students for further participation:

Examples:

- Would anyone like to add to the discussion?
- Would you explain what you mean?
- So _____, what do you think about what _____ is saying?
- Turn and talk to your partner about _____.
- Would you elaborate a bit more for us?"
- I agree that _____, but why is that important?



3. Promoting the sharing of different strategies and methods:

Examples:

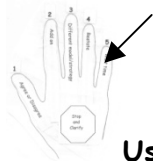
- We have two different ideas here to talk about. _____ says that _____ and _____ says that _____. What do you think? Turn and discuss with partner.
- Who thinks they can explain why _____ did _____? Talk to the person next to you for a moment about this.
- Let's try _____'s method/procedure for _____. Work with the person next to you. (Wait) Okay, now that you've had a chance to try _____'s procedure, who would like to explain to us what you did?
- Who thinks they have an explanation that will help _____ make sense of this idea?
- How is your strategy (method) different from _____'s? What is similar about _____'s and _____'s strategies?
- So _____ solved it by _____. Who solved it a different way?"



4. Restating: Asking students to restate what another student has said.

Examples:

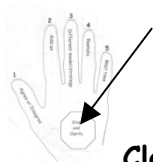
- Can you repeat what he just said in your own words?
- Can anyone repeat what _____ just said in his or her own words?
- _____ what did _____ just say?" "What else did he say?"
- That is an important question. Can anyone repeat what _____ just said?
- Can someone repeat what _____ did for his solution so far?"
- _____, can you explain in your own words where/how _____?"



5. Using wait time:

Examples:

- Take your time, we'll wait.
- Okay, let's pause for a minute.
- Okay, let's back up and go over what we've talked about so far.



6. Clarifying and checking for Understanding

Examples:

- Wait, I'm not sure I'm following that. You are going kind of fast. Could you repeat what you said a little slower?
- _____ will you clarify?
- So _____, it sounds like your strategy is similar to _____'s. You both _____ Is that right?
- _____, can you tell more about _____?"
- _____, I want your classmates to really understand your procedure because I think they will want to use it themselves. Can you talk us through it again, this time a little more slowly?
- I agree that _____, but why is that important?
- _____, could you be a little more specific?"