

Number Talks

Lesson Format

1. Teacher presents the problem.

Problems are presented in many different ways depending on the level of the students: as dot cards, ten frames, sticks of cubes, or a written problem such as $5 - 2$ or $223 + 129$ or 18×65 or $786 \div 3$.

2. Students figure out the answer.

Students are given time to figure out the answer. To make sure students have the time they need, the teacher asks them to give a “thumbs-up” close to their chest when they have determined their answer. The thumbs up signal is unobtrusive- a message to the teacher, not the other students. When students have the answer, they continue to think of more strategies they could use to solve the problem.

3. Students share their answers.

Students share their answers and the teacher records them on the board. When all students agree with one of the answers on the board, teacher moves to the next step.

4. Students share their thinking.

Students volunteer to share how they got their answers. (Occasionally, students are asked to share with the person(s) sitting next to them.) The teacher records the student's thinking. Many strategies may be presented.

5. The class agrees on the "real" answer for the problem.

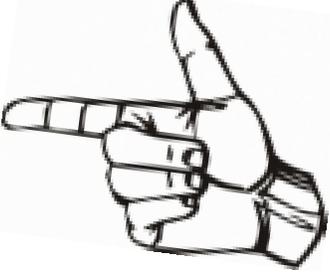
The answer a student comes up with initially is considered a conjecture. Models and/or the logic of the explanation may help a student see where their thinking went wrong, may help them identify a step they left out, or clarify a point of confusion. There should be a sense of confirmation or clarity rather than a feeling that each problem is a test to see who is right and who is wrong. A student who is still unconvinced of an answer should be encouraged to keep thinking and to keep trying to understand. For some students, it may take one more experience for them to understand what is happening with the numbers and for others it may be out of reach for some time. The mantra should be, "If you are not sure or it doesn't make sense yet, keep thinking."

6. The steps are repeated for additional problems.

Conversation/Question Starters

- I agree with peer's name because _____.
- I disagree with peer's name because _____.
- I do not understand. Can you explain?
- How did you decide to _____?
- Who would like to share their thinking?
- Who did it another way?
- How many people solved it the same way as Billy?
- Does anyone have any questions for Billy?
- Billy, can you tell us where you got that 5?
- How did you figure that out?
- What was the first thing your eyes saw, or your brain did?

Number Talks Hand Signals

Signal- The students hold their hand by their chest to show the signal so it doesn't distract from others.	Meaning
 A line drawing of a right hand with the thumb pointing upwards and the other fingers curled inwards.	Thumb up "I've got the answer."
 A line drawing of a right hand with the thumb pointing to the right and the other fingers curled inwards.	Thumb sideways "No answer yet, but I've got a strategy."
 A line drawing of a right hand with the thumb pointing up and the index finger pointing to the left.	Forefinger and thumb "I have two strategies." If a student finds more than two strategies, then more fingers are up.
 A line drawing of a right hand with the thumb pointing up and the pinky finger pointing to the right. students shake hand back and forth	Thumb and pinky finger "I agree."