

# Number Talks

more complete and useful information if they watch and interact with the children while they are doing mathematical tasks. Number Talks are one such way to interact with the children. How the children respond reveals their level of understanding.

Number Talks provide opportunities for children to work with computation in meaningful ways. During Number Talks, the teacher presents various problems to groups of children and asks them to share the processes they used to figure out "how many." Number Talks can be held either with the whole class or with small groups. When children are working with the whole class, they will have opportunities to experience a wide range of problems and many different ways to solve them. When working with a small group, the teacher can make sure all the children have the opportunity to share their processes if they wish, and can more easily tailor the problems to meet the needs of a particular group.

## Helpful Hints for Implementing Number Talks

1. Do number talks every day but for only 10 minutes. A few minutes more often is better than a lot of minutes infrequently.
2. Ask questions such as...
  - How did you think about that?
  - How did you figure it out?
  - What did you do next?
  - Why did you do that? Tell me more.
  - Who would like to share their thinking?
  - Did someone solve it a different way?
  - Who else started the problem this way?
  - Who else used this strategy to solve the problem?
  - What strategies do you see being used?
  - Which strategies seem to be efficient, quick, simple?
3. Experiment with using the overhead, the whiteboard, chart paper, etc.
4. Consider having students "circle up" in chairs or on the floor.
5. Give yourself time to learn how to...

- record student solutions
- listen to and observe students
- collect notes about student strategies and understanding

6. To help determine what numbers or problems you select use what you learn from previous number talks as well as the focus of your daily classroom instruction.

7. Do number talks with yourself and others to try new strategies and increase your own confidence.

8. Name/label the strategies that emerge from your students:

- Use doubles
- Break apart numbers
- Make it simpler
- Use landmark numbers (25, 50, 75, 200, etc.)
- Use a model to help
- Use what you already know
- Make a "10"
- Start with the 10's
- Think about multiples
- Think about money
- Traditional algorithm
- Counting on

9. Use related problems:  $3 \times 14$ ,  $3 \times 114$ ,  $3 \times 1014$  or  $7 + 8$ ,  $27 + 8$ ,  $107 + 8$  or  $3 \times 7$ ,  $6 \times 7$

10. Do number talks in small groups

11. Ask students to "Do as much of the problem as you can."

12. Give students lots of practice with the same kinds of problems.

13. Use numbers for subtraction and addition that require students to work past a ten or hundred.

Example:  $56 + 7 = 87 - 9 = 25 + 6 = 94 + 8 = 106 - 8 =$

14. Give students opportunities to add and subtract 9, then 8 etc., using 10 as a friendly number to work with.

Example:  $68 + 10 = 78$  so  $68 + 9 = 77$

15. Expect students to break apart numbers, not count on their

fingers. Show them how.

$6 + 8$  (think of 6 as  $4 + 2$ ; add the 2 to 8 to get 10 and just add the remaining 4 to get 14)

16. Show the strategy you used. Make sure they know it's not "the" way, just another strategy.

17. Give students larger numbers so they can give "estimates."

18. If you use chart paper, write down the student's name next to their solution. Keep track of who is participating and their strategies. Use the following as a "sorting" or assessment guide:

- Can figure it out (by counting on, using an involved strategy etc.)
- Beginning to use efficient strategies (can complete some of the problem efficiently)
- Just knows or is using efficient strategies

19. Create a safe environment. When children feel safe, they are comfortable sharing an answer even when it's different from everyone else's.

20. Provide concrete models (snap cube "trains", base 10 blocks, money etc.)

21. Give opportunities for children to "think first" and then check with the models.

22. Have students occasionally record their thinking and the steps they use to solve a problem.

23. Encourage self-correction; it's okay to change your mind, analyze your mistake, and try again.

24. Provide number stories.

25. Be curious; avoid making assumptions.

26. Give number talks time to become part of your classroom culture. Expect them to follow the usual learning curve stages. "Keep on keeping on" and you will get positive results!

Kathy Richardson: Math Perspectives

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