

The Leadership and Learning Center[®]

Powerful Strategies That Strengthen Mental Math

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What is number sense?

How do students develop number sense?

Number Sense Activity 1:

Listen to the problem. Write your answer and how you got your answer.

1. _____

2. _____

3. _____

4. _____

5. _____

Number Sense Activity 2:

Write the quantity of dots you see on the screen. Watch for patterns.

- | | |
|-----------|-----------|
| 1. _____ | 14. _____ |
| 2. _____ | 15. _____ |
| 3. _____ | 16. _____ |
| 4. _____ | 17. _____ |
| 5. _____ | 18. _____ |
| 6. _____ | 19. _____ |
| 7. _____ | 20. _____ |
| 8. _____ | 21. _____ |
| 9. _____ | 22. _____ |
| 10. _____ | 23. _____ |
| 11. _____ | 24. _____ |
| 12. _____ | 25. _____ |
| 13. _____ | |

How are you currently having students practice math mentally?

What is typical math problem you ask students to solve in their heads?

Mental Math

- *Gives students mental practice with:*
 - *Basic number facts*
 - *Combining operations*
- *Reinforces number sense:*
 - *Properties of number system*
 - *Measurement concepts*
 - *Reasonableness of answer*
 - *Math vocabulary*

Mental Math Themes

- *Mental Math themes are patterns that exist within the number system that will support development of student's computational skills*
- *Typical themes include:*
 - *Number facts*
 - *Powers of 10*
 - *Fractional parts of numbers*
 - *Measurement conversions*
 - *Skip-counting (counting by 3s, 5s, 9s, and so on)*
 - *Inverse operations*
 - *Percent*
 - *Double, Triple, Half*

Mental Math Procedure

- *Teacher dictates a string of numbers and operations based on one or more specific themes, pausing after each operational step for students to mentally compute*
- *Students write down answers*
- *Teacher repeats string once more to allow students to verify their solution or to have another chance to find a solution*
- *Students answer aloud; answer confirmed*
- *Students share strategies with the class*
- *Do one or two more problems, time permitting*