Help me Help myself!

Professional Development to create and enhance student-run learning centers.

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★ Math Talk ★

- I agree/disagree with you because...
- What I heard you say was...
- What key words helped you solve this?
- Can you explain this to me?
- What were you thinking here?
- How did you solve it?
- What did you start with?
- Why did you choose that operation?
- What strategy did you use?
- Why did you choose that strategy?
- How did you know your answer was right?
- Prove your answer is right.
- How else can you solve it?
- How did this help you understand?
- How is this like other problems you've solved?
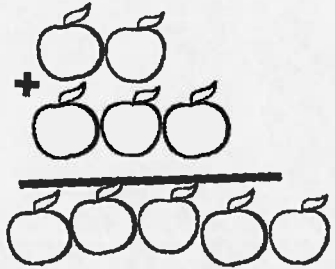
I used the
same
strategy.

I used the
same
strategy.

I used a
different
strategy.

I used a
different
strategy.

I
disagree

I
disagree

I agree

I agree

Math Strategies

draw a picture

find a pattern

2 ? 6 8

4+2=6

write a number sentence

input	output
1	3
2	4
3	5
4	6

make a chart, table, or graph
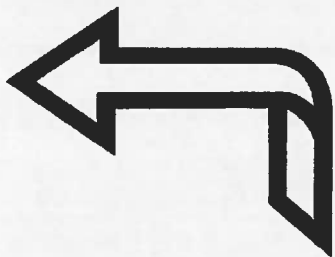
work backwards

act it out

Problem Solving Strategies

Draw a picture

Guess and check

Make a list
1. ____
2. ____
3. ____

Make a table

A	B	C
1	2	3

Act it out

Work backwards
start from the end

Write a number sentence
$10 + 4 = 14$

Use objects
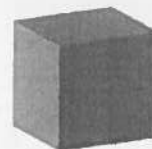
Mental Math Addition Strategies

Mental Math Strategy Reference Guide

1. **Counting On**

   Begin with the highest number in the equation and count up.

   Example: For 3+7, begin with 7 and think "8,9,10."

2. **Doubles**

   Know (with automaticity) the doubles facts: 3+3, 5+5, 9+9, etc.

3. **Doubles Plus One**

   Use a doubles fact to figure out the equation.

   Example: For 6+7, think "I know that 6+6=12, and one more is 13."

4. **Making Ten**

   Know (with automaticity) the combinations that can be added to make ten.

   Example: 6+4, 7+3, 5+5, etc.

5. **Making Multiples of Ten**

   Use knowledge of "making ten" facts to add larger numbers that equal a multiple of 10.

   Example: For 24+6, know that 4+6=10, so 24+6=30.

6. **Front End Addition**

   In a 2-digit plus 2-digit equation, add from left to right.

   Example: For 24+32, add 20+30 to make 50, then add 4+2 to make 6. Finally, add 50+6 to make 56.

Mental Math Subtraction Strategies

1. **Counting Back and Counting Up**

   For **Counting Back**, begin with the minuend (highest number) and count back.

   Example: For 8-3, begin with 8 and count back, "7,6,5."

   For **Counting Up**, begin with the subtrahend and count up.

   Example: For 9-6, begin with 6 and count up, "7,8,9."

2. **Thinking Addition**

   Know that there is an inverse relationship between addition and subtraction.

   Use a known addition equation to solve a related subtraction equation.

   Example: For 15-8, use the related addition equation 7+8=15 to find the difference of 7.

3. **Using Doubles and Building on Doubles**

   Use knowledge of doubles facts and "near doubles" facts to solve a subtraction equation.

   Example: 12-6, think "I know that 6+6=12, so 12-6=6." For 13-6, think "I know that 13 is one more than the double of 6, so the answer is one more than 6."

4. **Using Ten**

   Change a number to ten, and add the remainder to the difference.

   Example: For 14-8, first perform 10-8=2, then add the remaining 4 to make 6.

5. **Compensation**

   Change one number in the equation to make it easier to solve.

   Example: For 16-9, first change the 9 to a 10, and perform 16-10=6. Now, because you subtracted one too many, add 1 to the answer to make 7.
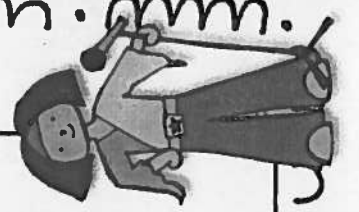
6. **Expanding the Subtrahend**

   Break the subtrahend into more manageable parts.

   Example: For 36-13, first perform 36-10=26, then subtract 3 more to make 23.

For complete units to teach these strategies, please see the link below:

Rockin' Out With Mixed Operations Student Recording Sheet

1.)	2.)
3.)	4.)
5.)	6.)
7.)	8.)

Rockin' Out With Mixed Operations
Student Recording Sheet (Page 2)

1.)	2.)
3.)	4.)
5.)	6.)
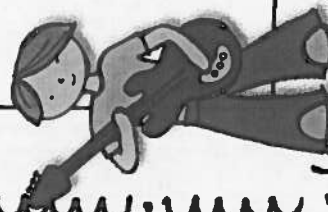
Telling Time Practice
Recording Form

Name_____

Date _____

Task Card	Time
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

Task Card	Time
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

Place Value
Tens and Ones

Name:
Date:

Card #	Answer	Card #	Answer
1		4	
2		5	
3		6	

Write a word problem using the following blocks.

_____
_____
_____
_____
_____
_____
_____
_____

Place Value
Tens and Ones

Name:
Date:

Card #	Answer	Card #	Answer
1		4	
2		5	
3		6	

Write a word problem using the following blocks.

_____
_____
_____
_____
_____
_____
_____
_____

8