Batchelder Bubble Gum Factory
"PLACE VALUE" UNIT

LESSON #1 :   ***INTRODUCTION TO REGROUPING***

Date(s): July 31, 2008

Time: 45 minutes

Content Objective:

Students will learn ways to group/trade numbers in quantities up to three digits

Introduce Base 10 blocks

Language Objectives:

Students will discuss and describe why they chose to group their "pieces of gum" in one way or another

trading: moving "extra" numbers to a larger set
place value: how much a number is worth is determined by its place
digit   a number can have a single digit, double digits, and so on

Materials:

Base ten place value cubes, dry erase markers, white board, place value grid sheet, class chart, worksheets

Procedure:

(Review groupwork expectations)

1. Pass out piles of 'gum' to teams. (random amount of single unit cubes some should be below 100, some within 100, others above 200)

2. Tell students that each group is the part of the Batchelder Bubble Gum Company as a factory. Tell students to count out total number of 'gum' in their pile. (group work)
   Discover 3 different methods of counting (either by 2s, 5s, 10s, etc...)

3. Students should then brainstorm how to efficiently "count" their pile. (group work)
   (*Teacher watches for strategies being used while 'checking in' w/groups*)

  Sample H.O.T. questions to ask: *Why did you choose this grouping strategy?*
                                               How you could you have done it differently?
                                               How did the grouping help you count your cubes?
                                               (Can you tell me more? Junior, re-voice that, please)

4. Call group together, using classroom norms of "If you can hear me, clap once. Show me active listening." Teacher guides students, through questioning , to share grouping strategies.   Introduce vocabulary "regrouping" and discuss as a class.

Sample H.O.T. questions to ask: *Why would it be easier to move our cubes using the 10 rods?*
What else might come in groups of ten?

5. Create a classroom data chart of how many ones that each team has. (on board)
    Through HOT questioning, lead class into "trading" skill.

6. Teacher introduces trading to the tens column.

7. Hand out place value chart to groups so they can trade in their groups.
    Then, enter findings onto classroom data chart.

8. Now, make "crates" under the hundreds column.

9. Complete classroom data chart with student info. Review vocabulary of "place value" and "digit".

    Sample H.O.T. questions to ask: *Why are there zeros on the chart?*

10. Hand out "Reflection" Worksheet.

11. Closure (Ask HOT questions)

Extension Activities:

1. Negotiate "left over gums" between groups (which can be called factories)… "You can't get rid of the extra gum pieces by throwing them out, trade them with other groups to make tens out of them."

2. Draw an advertisement for selling your gum.
    Name your gum
    Design the packs and packages
    Describe why someone should buy it
    Include where you can buy and how much it is

3. Math Challenge
    Determine a reasonable price for each: (Keep in mind, if someone buys the larger packs it should be cheaper than the price per gum).

    Cost per gum
    Cost per pack (remember there are 10 gums per pack)
    Cost per crate (remember 10 packs per crate)

    If the store orders from your company, how much will it cost to buy your gum?
    Store Order:
        500 single gums-
        100 packs-
        50 packages-

Group Members: _____

BATCHELDER BUBBLEGUM FACTORY

PLACE VALUE CHART

HUNDREDS	TENS	ONES

Challenge questions (if you have time…)

1. What are the next 3 place value names?

_____, _____, _____

2. How do we show place value in really large numbers, like a million?

_____

SAMPLE "THINK" AND "HINT" CARDS

THINK CARD

If your group had 463 cubes, would
your grouping strategy change?
Explain WHY or WHY NOT.

THINK CARD

Hint: What is the most (maximum)
cubes you should have in each pile to help
you count?

THINK CARD

Name the place values that you found,
starting with the ones place.

ones _____

_____

Can you name the next 3 place
values?

_____

_____

_____

THINK CARD

Numbers can be written using words or numerals.

For example, the numeral 225 is written like:

Two hundred twenty-five

What would this number look like written in words?

345:

_____

_____

THINK CARD

Tell how much each digit is worth in this number: 7,563

7= _____

5= _____

6= _____

3= _____

THINK CARD

Write a sentence explaining how a digit's value is changed based on where it is in that number:

_____

_____

_____

_____

THINK CARD

How does the value of 675 change if the 6 is changed to a 4?

_____

How does the value change if the 6 is changed to an 8?

_____

THINK CARD

HINT: Would counting by two, fives, or tens help you organize your cubes?

THINK CARD

HINT: Does each of your cube piles have the same amount?

Name: _____   **Date: _____**

WHAT DID I LEARN?

*Pretend you are teaching this place value lesson to a younger brother, sister, or cousin. Explain how you could count large numbers by putting them into groups. Use your sequence words (**First**, **Last**, **Next**, etc.) to help you explain. Remember to put the word "**trading**" into your sentences.*

_____

_____

_____

_____

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