Unit Using Percents (Bits and Pieces 2) Investigation 1.1 (2 Days)

Students will know and be able to (Essential Question):

1. How do you calculate the tax on an item, given the cost of the item?
2. How do you calculate the cost of an item, given the sales tax on the item?

Materials:

1. Hundredths grids for the teacher’s overhead.
2. At least one page with 6 hundredths grids for each student.

Launch: Read “Taxing Tapes” page 5, 1.1, of Bits and Pieces 2.

1. “What is the sales tax here in Monroe County, New York?
2. “How would you compare the sales tax here in Monroe County, New York and the sales tax in Problem 1.1?”
3. “Would you rather to pay the sales tax in Monroe County or that in Problem 1.1?”
4. “If the cost of an item is one dollar and the sales tax on the item is 8%, what is the total cost you would pay for the item?” (Wait for the answers from the students).
5. “If the cost of an item is two dollar and the sales tax on the item is 8%, what is the total cost you would pay for the item?” (Wait for the answers from the students).

Explore: Group Size 2 Time: 15 mins

1. “In groups of twos, solve problem 1.1.”
2. “Make certain that you find more than one way to solve the problem.”
3. “Be prepared to explain the different methods you find to the class.”
4. “While explaining your methods, remember your explanation must include why your methods make sense.”

Vocabulary: New: Percents Review: Fractions

Summarize: Key Points:

1. “The sales tax is an add on to the price of an item.”
2. “If the cost of an item was divided into 100 pieces, the sales tax would be the sum of the number of pieces that represents the sales tax.”
3. “What is the total cost when you include the sales tax?” (Wait for the answers from the students).
4. “How did you arrive at your answer?” (Wait for the answers from the students).
5. “I would like one from each group to share your idea on how to calculate the price paid for the tape.”
6. “Any comments or questions?” (Wait for the answers from the students).
7. “Did any group get a different answer or solved the problem a different way?” (Wait for the answers from the students).
8. The teacher will continue the discussion until the students had presented all the methods they had used.

**Questions:**

1. “Did any group notice the patterns that arise when the percent was held constant in question 1?” (Wait for the answers from the students).
2. “Did any group notice the patterns that arise when the quantity was held constant?” (Wait for the answers from the students).
3. “How can these patterns help us to think about finding the percent of any number?” (Wait for the answers from the students).

**Recorded:**

- Newsprint (all groups)
- Newsprint (class)
- Student notes (notebook)
- No notes

- Discussion only
- * Overhead (class)
- Typed notes
- Other

**Homework:** Purpose Practice calculating taxes

Follow-up 1.1 ACE 1, 2, 4, 5

Question Bank Additional practice

Think About This Summary – Lesson

Conjecture (data based) Do you a pattern in the calculation of taxes

Extension Question

Other

**Homework follow-up:** Time allotted

Feedback method Revision of the homework in class as a group

Check All Key Problems

Collect Accuracy Completeness