Practical Problems – Interpreting Remainders

STRAND: Computation and Estimation

STRAND CONCEPT: Practical Applications-Rational Numbers and Proportional Reasoning

SOL: 5.4

Remediation Plan Summary

Students will explore and discuss the importance of remainders in a division problem using whole numbers.

Common Misconceptions

Students may ignore the remainder in a word problem instead of realizing what the remainder means in a story problem.

Materials

- "What Do I Do with This?" worksheet
- "Remainders" worksheet
- Exit Ticket

Introductory Activity.

- Ask the students, "*What is a remainder? Is it important?*" Discuss the problem: There are 18 people going to a football game. Each car holds 5 people. Draw a picture (or have a student) showing the scenario. Sometimes drawing a picture or acting out this problem can help students see the remainder more clearly.
  How many cars are needed to go to the football game?
  After solving the problem visually, write the division sentence on the board,
  18 ÷ 5 (have a student tell you what the solution is).
  What is the remainder? What does this tell you how many cars are needed to get the students to the football game?

Plan for Instruction

1. As a class, work through the first problem on the "Remainders" worksheet, allowing them as much time as they need to complete the problem set. Encourage them to draw pictures or use representations if needed to interpret the remainder. Then, if you feel students are ready, have them finish the problems. If they need more guided practice, work through the second problem together. Instruct them not to write the summary sentence yet.
2. While students work, this gives you an opportunity to informally assess students by walking around and helping individuals. Review students' responses, and discuss and correct any errors.
3. Go over the answers to problems 2 and 3 together. Give students a few minutes to write their summary statements.
4. Encourage the students to discuss their summary statements. Highlight any similarities and/or differences among the statements.

5. Next have students work with a partner on the "What Do I Do with This?" worksheet. Go over students responses as a group and clarify any misconceptions.

Pulling It All Together (Reflection)

Have students complete the "Exit Ticket".
The exit ticket may take a few minutes so leave time at the end of the lesson for students to complete it or do part as an exit ticket and the other part as an opener the next day.

Note: The following pages are intended for classroom use for students as a visual aid to learning.

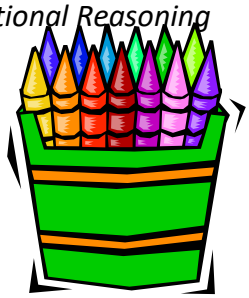
Virginia Department of Education 2018

Name:

What Do I Do with This?

Problem	Do the math	Is the remainder important? (Y/N)	Explain why, or why not.
There are 26 seventh-grade students going to the big game against County Middle School. If 4 students can ride in one car, how many cars do they need?			
The Foreign Language Club is selling raffle tickets. Each ticket costs $3. The Club wants to make $110. How many tickets will the club need to sell?			
The volleyball coach wants to buy new warm-up suits for her team. The suits cost $20. The coach has $210. How many warm-up suits can she buy?			
County Middle School is buying pizza for all of its students. Each pizza has 8 slices. Each student will receive 1 slice. There are 700 students at County Middle School. How many pizzas will the school need to buy?			
The homecoming game is next week, and the students want to hang banners around the school. The students want to put up 110 banners. The banners come in packs of 40. How many packs will the students need to buy?			

Name:



Remainders

1. A full box of crayons contains 8 crayons. If each of the 26 students in a class needs to use 1 crayon at the same time in a class activity, how many full boxes of crayons will be used?

   How many more crayons will be needed in addition to the ones in these full boxes?

2. Juice boxes are sold in packs of 6. If 35 students eat lunch at one time, how many packs of juice boxes will the cafeteria need to open in order to serve them?

3. The school is buying extra juice boxes for their annual Field Day. Each pack of juice boxes costs $3. How many packs of juice boxes can the school purchase with $212?

Summary Statement

Are remainders important? Explain why, or why not.

Name:

Exit Ticket

1. How are these word problems different?

Problem 1	**Problem 2**
A box can hold 6 baseballs. There are 50 baseballs. How many boxes can be filled?	A team needs 12 bats. There are 5 bats in a pack. How many packs will the team need?

Explain:

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_____

_____

2. Write two word problems involving division — one in which the remainder matters and one in which it does not.

Problem 1	**Problem 2**

Explain:

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_____

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