Third Grade Math Parent **Curriculum Night Using Number Lines**

Ms. Katie Coffey Ms. Andrea Collins Ms. Chelsea Roy When you solve math problems you....

- Use base ten models
- Decompose numbers
- Draw modelsUse number lines



Third Grade Common Core Standards

CCSS.MATH.CONTENT.3.NBT.A.2

Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

CCSS.MATH.CONTENT.3.NF.A.2

Understand a fraction as a number on the number line; represent fractions on a number line diagram.

CCSS.MATH.CONTENT.3.NF.A.2.A

Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.

CCSS.MATH.CONTENT.3.NF.A.3.A

Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

CCSS.MATH.CONTENT.3.MD.A.1

Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem **on a number line diagram**.

Addition & Subtraction

https://learnzillion.com/lessons/1583-solve-subtractionproblems-using-a-number-line

Addition & Subtraction:Now You Try!

Subtraction on a Number Line

Ms. Nelson invited 217 people to her wedding. 59 people said they could not attend. How many people will attend her wedding?

Step 1: Create a number line and find the two endpoints for this problem (59 to 217). Write the endpoints on the number line.

Step 2: Find the distance between 59 and 217 to figure out how many people will attend the wedding. Hint: you can count up from 59 or down from 217 and use benchmark numbers along the way.

Step 3: To find the difference, add up all of your jumps and find the total: 1 + 30 + 100 + 17 = 148 people are attending

Rounding

https://learnzillion.com/lessons/1786-roundto-the-nearest-ten-using-a-number-line

Rounding: Now You Try!

Using Number Lines

Placing numbers on number lines helps you see how/why a number is closer to a certain 10 or 100. For example, think about a number line with the endpoints of 70 and 80. Where would you put 72 on this number line? Would it be closer to 70 or 80? Why?

Use your number line to help solve the following problems. Don't forget to ROUND:)

- 1. If you add 34 and 65, is it going to be more or less than 100? Explain how you know.
- 2. If you subtract 35 from 100, will the answer be more or less than 50? Explain how you know.

Multiplication

Multiplication: Now You Try!

Using Number Lines to Understand Commutative Property

The Commutative Property of multiplication states that two factors can be multiplied in either order and still have the same product. You can use number lines to help build understanding of the concept. Understanding the commutative property helps students when learning the basic facts. They need to see that if they know 4 X 6 they also know 6 X4.

You can use a double number line to prove that $5 \times 3 = 3 \times 5$ ex. 5 jumps of 3=3 jumps of 5, both lines end at 15!

You Try: Prove that $10 \ge 6 \ge 6 \ge 10$. Discuss what you observe and how you found your answer with a partner!

Division

https://learnzillion.com/lessons/1518

Division: Now You Try!

Using Number Lines to Understand Repeated Subtraction

Repeated subtraction is one strategy that you can use to help you find the quotient of a division equation. We connect this strategy to multiplication and repeated addition.

For example, if the equation was 20÷4, you could begin at 20, and subtract 4 until you reach zero. Then, you would count how many times you subtracted 4 (you subtracted 4 five times), which would be your quotient.

You try: Solve the division equation (48÷6) using repeated subtraction. Using a double number line, solve for 48÷8. What do you notice? Discuss your observations with a partner.

That means, there are 8 sixes in 48!

Fractions

https://learnzillion.com/lessons/1728identify-a-fraction-as-a-point-on-a-numberline-by-dividing-the-number-line-into-equalparts

Fractions: Now You Try!

Using Number Lines to Represent a Fraction (a/b)

Represent $\frac{2}{3}$ on a number line.

- 1. Create a number line or use a laminated number line.
- 2. On the far left, create a tick mark and label it "0." On the far right, create a tick mark and label it "1."
- 3. Break up the number line into equal parts based on the denominator (3 equal parts).
- 4. Make the number of jumps based on the parts you are focused on. This is based on the numerator (2 equal parts).
- 5. Put a point on the mark that represents $\frac{2}{3}$.

You try: Represent ⁴/₅ on a number line. Check your work with a partner! How can we relate representing fractions on a number line to representing fractions with a whole figure? Discuss your ideas!

Elapsed Time

https://learnzillion.com/lessons/578-solvingelapsed-time-word-problems-to-the-nearestminute

Elapsed Time: Now You Try!

Using Number Lines with Elapsed Time

Students solve elapsed time problems through a real-world context. They are asked to determine the starting and/or ending time as well as the amount of time that has passed between two events. You should find "nice" numbers in solving these word problems.

You try: I left school at 3:15PM on the school bus and arrived home 47 minutes later. What time did I get home?

John went to bed at 9:40PM and got up at 7:00AM. How long did John sleep last night?

Additional Support

Where can you go to learn more about additional math strategies?

https://smart.wikispaces.hcpss.org/SMART +Pages

Thank You

Thanks for attending the Third Grade Math Parent Curriculum session!

If you have any questions and/or comments, please write them on the index cards in the center of your table with your contact information.