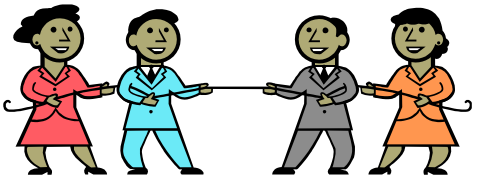
PRACTICE TASK: Tug-O-War



Approximately one day and repeated through centers

STANDARDS FOR MATHEMATICAL CONTENT

MCCK.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings[1], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

MCCK.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

Many children will use number lines (models) to solve story problems. The model is a thinking tool to help them both understand what is happening in the problem and a means of keeping track of the numbers and solving the problem. Tug-O-War is a task that helps students become familiar with adding and subtracting along number line. (Van de Walle p.72-72)

ESSENTIAL QUESTIONS

- How can using benchmark numbers help me when adding or subtracting?
- How can I use models to represent addition and subtraction?
- How can I find what is left over when I take one quantity away from another?

MATERIALS

- 1 counter
- 1 Six-sided dice
- Tug-O-War game board

GROUPING

Partners (2 players)

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

Place the counter at the number 10 on the number line.

Player 1 roles the dice and moves the counter the correspoding number of spaces towards zero on the number line. (If the chip is on ten and player 1 rolls a 3 they move the chip 3 spaces to 7) Player one must identify and say the number of where the chip is on the number line. If player 1 is unable to correctly identify the correct location of the chip, it moves back to the previous location.

While the game is being played students should use a double ten frame to model what is happening to the counter on the number line which in turn will help with strategy development. Although writing the equation is NOT a standard that is explicitly listed in Kindergarten, it is suggested that students be provided with lots of opportunities to record their thinking. Students can record the results of their turn in their journal.

Player 2 roles the dice and moves the counter that many spaces towards 20. (If the chip is on 7 and player 2 rolls a 6, they move the chip six places to 13) If player 2 is unable to identify the correct location of the chip, it moves back to the previous location.

If the chip reaches zero on the number line, player 1 wins. If the chip reaches 20 on the number line, player 2 wins.

Comment: As students are engaged in Tug-O-War, observe how students move the counter to locate the new place on the number line. Is the student counting by ones, or are they using a strategy? If so, which one? When students are locating the counter on the number line, do they need to start at 0 and count up, or are the able to use the benchmark numbers to count forward or backwards to determine the location?

FORMATIVE ASSESSMENT QUESTIONS

- Instead of counting 1 by 1, could you have located the counter a different way?
- Are you using any strategies to help you find where the counter should be placed?
- Did you use the benchmark numbers to locate the place on the number line?
- Where is the counter located on the number line right now? How do you know?
- Did you develop a shortcut to find your answers?
- Did you identify any patterns when playing the game? Explain!

DIFFERENTIATION

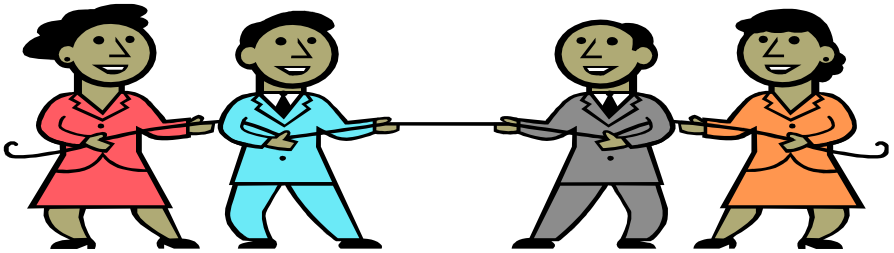
Extension

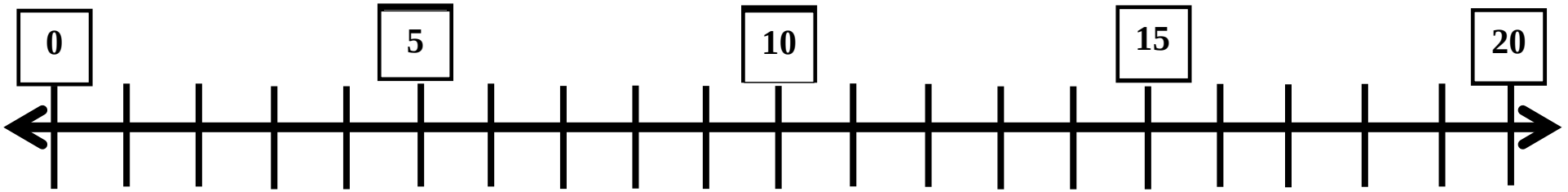
- 2 sixed-sided diced could be used to extend the game. Have players roll the dice, determine the difference and move the corresponding number of spaces

Intervention

- The numerals can be written on the *Tug-O-War* game board to help assist students that struggle with identifying the location on the number line.

Tug-O-War





Materials

1 counter and six-sided dice (1-6) or spinner numbered (1-3)

Directions

1. Place the counter at the number 10 on the number line.
2. Player 1 roles the dice and moves the counter the correspoding number of spaces towards zero on the number line. (If the chip is on ten and player 1 rolls a 3 they move the chip 3 spaces to 7) Player one must identify and say the number of where the chip is on the number line. If player 1 is unable to correctly identify the correct location of the chip, it moves back to the previous location.
3. Player 2 roles the dice and moves the counter that many spaces towards 20. (If the chip is on 7 and player 2 rolls a 6 they move the chip six places to 13) If player 2 is unable to correctly identify the correct location of the chip, it moves back to the previous location.
4. If the chip reaches zero on the number line, player 1 wins. If the chip reaches 20 on the number line, player 2 wins.