Tricky Triangles

Summary

Students will practice their rounding skills by playing the Trick Triangle game.

Main Core Tie

Mathematics Grade 3

Strand: NUMBER AND OPERATIONS IN BASE TEN (3.NBT) Standard 3.NBT.1

Additional Core Ties

Mathematics Grade 3

Strand: NUMBER AND OPERATIONS IN BASE TEN (3.NBT) Standard 3.NBT.2

Materials

Rounding Mountains

- Rounding Mountains handout (pdf)

Tricky Triangle Game

- Tricky Triangle Game Board (pdf)
  Markers to cover triangles
  One wooden cube labeled with 10's, 100's, and 1,000's each written on two of the sides
- 20 number cards to round. (pdf)

Student Prior Knowledge

Students must be able to know how to write a number from hearing it, write the number, and round the number. Additionally, it is important to explain that 78 is closer to 80 than 70, thereby gaining number sense concepts as well as rounding principles.

Intended Learning Outcomes

4. Make mathematical connections.

Instructional Procedures

Invitation to Learn

Today we are going to play a game of *Tricky Triangles*. Let's review rounding by "going over the mountain."

Ask the students if they like to go mountain climbing. Well, today we are going to go hiking up the mountain to see what is on the other side. Are you ready to start climbing?

One, two, three, four, five! Oh my we made it to the top of the mountain! We get the treasure! If 78 is our number then the ones place drops to zero, the tens place grabs the treasure, and gets one digit larger.

Instructional Procedures

Review "going over the mountain" concept for rounding for the number 54. If rounding to the tens place, touch the tens place and walk next door and sing: (The students can ask or sing to the song, *The Bear Went Over the Mountain*.) "Did the number four go over the mountain?" If it didn't, then the number drops to zero and there is no treasure. (If it did go over the mountain, then we slide down to the bottom of the mountain and grab the treasure.) The largest placeholder gets one digit larger.

Rounding Mountains

Students will take turns rounding numbers.

Each of the dashes on the line is one number.
Give the number 67.
Students will start with the number 30 at the bottom of the zigzag line, 40 at the bottom of the next zigzag, until the number 80 is written.
Go to the number 60, count by ones until getting to the number 67. Did the number seven go over the mountain?
Yes, so it drops down to the next number--70.
Round the number 376 to the nearest hundred.
Round the number 4,523 to the nearest 10, 100, 1000.
Using the skills of rounding, now play the Tricky Triangle game.

Tricky Triangle Game

Play this first as a whole class and read the cards. The students should write what they hear. Then read the number and round it accordingly. This is great for students to be able to hear and write numbers. Then turn them loose to do it as a class.
Pass out *Tricky Triangle Game Boards*, cards, wooden cube, and one to six markers. Place students in groups of two to four players. Place number cards face down. In turn, each player draws a card, rolls the cube, and rounds the number to the place indicated on the cube and covers the rounded number on the game board. If the rounded number is already covered, the player forfeits the turn. The card is returned to the bottom of the card pile at the end of the player's turn. The first player to cover four Tricky Triangles in a row is the winner.

Extensions

Give students reasons for using rounding (e.g., going to the store to buy several items). Rounding is a better “estimation” than front end estimation especially when rounded numbers are added to estimate a sum. However, sums of rounded numbers ARE NOT NECESSARILY THE EXACT SUMS OF THE ORIGINAL NUMBERS. They are only a reasonable “guesstimation.”
Students can use dice to roll numbers and then round them.
White dice—ones place
Red dice—tens place
Green dice—hundreds place

Assessment Plan

Use three dice (red for hundreds, green for tens, and white for ones). Have the students roll the three dice and write the number. Round to the nearest 10s or the nearest 100s.

Authors

Utah LessonPlans