Tic-Tac-Toe

Summary

Math activities help students learn about the concepts of more and less.

Main Core Tie

Mathematics Grade 1

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

Group Size

Small Groups

Materials

Invitation to Learn
- *Tic-Tac-Toe*

In the Can
- Film canisters
- Small objects
- *In the Can*

Cover that Number
- *Cover that Number*
- *Number Cards A*
- *Number Cards B*
- *Number Cards C*

War
- *Ten Frame Cards*

Find It on the Number Line
- *Step-by-Step Number Line*
- *Find It on the Number Line*

Bear Squeeze
- Math journal
- Pencil
- Teddy bear counters
- Number line 1-100

More or Less
- Dominoes
- *More/Less Spinner*
- Pencil
- Paperclip

Make Sets
- *Make Sets More/Less/ Same Cards*
- *Make Sets Activity Cards*
- Counters/beads/Cheerios

Race to the Top
- *Race to the Top*
- *Number Cards A*

- *Number Cards B*
- *Number Cards C*

Baggie

Place markers

Line Up Five

- *Line Up Five*
- *Number Cards A*

Additional Resources

Books

Number Lines: How Far to the Car?, by John Burstein; ISBN 0-8368-3815-7

100 Days of Cool, by Stuart J. Murphy; ISBN 978-0-06-000123-0

Background for Teachers

The following activities have been designed to be utilized as center activities. The activities could be used as whole group or small group activities, but the number of materials will need to be adjusted. These center activities have also been designed to meet the needs of the diverse learning populations found in today's classroom. By differentiating the process of how the content is learned and considering the various learning profiles of students using these center activities, student knowledge and understanding will be increased. Before beginning activities, you may want to pre-teach some of the activities and exposure to vocabulary like greater than, less than, and equal to, as well as an understanding that greater than and more than are equivalent terms.

Intended Learning Outcomes

5. Understand and use basic concepts and skills.

Instructional Procedures

Invitation to Learn

Ask the students if they have ever played "Tic-Tac-Toe"? Show students the *Tic-Tac-Toe* sheet and talk about how you get a "Tic- Tac-Toe". Explain that today they are going be completing a "Tic- Tac-Toe" as they do their math centers and use the *Tic-Tac-Toe* sheet to help show which center is which.

Instructional Procedures

In the Can

To play In the Can, the student selects two film canisters. Inside the film canisters, there will be small sets of items with five items or more inside. Buttons, counters, pennies, and beans are just a few examples of what could be inside.

The student opens one canister at a time and counts the number of objects inside.

On the *In the Can* sheet, the student draws the number of objects inside the first canister and puts the objects back in.

The student then opens the second canister and counts the number of objects inside and records it on the handout.

Then in the boxes below the cans, the student labels which canister had the greater/lesser amount.

Repeat one more time with two different canisters.

Cover that Number

Each pair of students needs two *Cover that Number* game boards and a set of *Number Cards*.

The students take turns pulling a *Number Card*. They then read the number and place it on the game board accordingly. If they are unable to place the card, the card gets returned back to the bottom of the pile and they lose their turn.

The first student to cover the board first is the winner.

War

To play War, each pair of students needs a set of *Ten Frame Cards*.
They then divide the cards evenly between both players.
At the same time, they say "1, 2, 3, flip" and flip over their top card. The player with the card that has more dots, wins the cards.
Students keep playing until all the cards are gone.
When finished, they count their cards and the player with the most cards wins.
Students can play again, but this time the card with less would win.

Find It on the Number Line

To play Find It on the Number Line students need to work in pairs. Then as pairs, students decide who is going to be the reader and who will be the doer. The doer will be using the *Step-by-Step Number Line* to find the answer.
The reader grabs a set of *Find It on the Number Line* activity cards.
The reader reads one activity card at a time to the doer.
The doer steps on a number on the *Step-by-Step Number Line* that answers the activity card.
Once the reader has gone through the activity cards once, then the doer and the reader switch roles.

Bear Squeeze

Working in partners, Student A writes down a mystery number in their math journal.
Student B makes a guess at what number their partner has written in their math journal.
Student A moves the teddy bear counter on the number line to show if the number is more or less than what Student B said. (e.g. If a student A's mystery number is 35 and student B guesses, "is it more 23," then student A would move the bear to 23 and say, "no, it is greater than 23.")
Student B keeps asking questions until they have found the mystery number and Student A keeps track of how many questions were asked by their partner by using tally marks in their journal.
Once Student B has found the mystery number, they switch roles and play again.

More or Less

To play More or Less, students need to be in pairs.
As a pair, they lay out 16 dominoes in a 4 x 4 arrangement.
Before each turn, one player must spin the spinner to decide if the domino that is more/less will be the winner.
Then each player takes a domino.
Whichever player has the domino that is more/less depending on what the spinner selected, wins the pair of dominoes.
Repeat until all dominoes are gone.
The player with the most dominoes wins or the more/less spinner could be used to decide the winner.

Make Sets

Student chooses one of the eight *Make Sets Activity Cards*.
Then he/she makes a set of objects to show a set that has more, less, or the same as the set of objects on the activity card chosen.
The student then use the *Make Sets More/Less/Same* labels to designate which set is which.
Repeat with 3 more of the activity cards.

Race to the Top

Working in pairs, each player takes a game board, place marker, and baggie of *Number Cards*.
Each player takes a Number Card.

Then the two players compare their numbers and whoever has the larger number gets to move up one space on the Race to the Top game board.
Place *Number Cards* in a discard pile and grab two new cards.
Continue playing until one player makes it to the flag at the top of the mountain.

Line Up Five

In partners, each pair needs two *Line Up Five* game boards and a set of *Number Cards A*.
The first player takes a *Number Card* and places it on their game board sequentially according to the number they pulled.
Then it is the second player's turn to do the same thing on their game board.
The numbers need to be in order and cannot be moved once placed.
As the game continues, if they are unable to place the card then they return the card to the pile and lose their turn.
The game ends when one player fills one line of five across.

Extensions

Curriculum Extensions/Adaptations/ Integration

For the game *In the Can*, you could have them write the number word for the canister they choose rather than the can number.
To differentiate for higher ability students, number cards from 1-200 could be used in the activities Race to the Top and Line Up Five.
To make *Line Up Five* more difficult, you could use *Number Cards B & C* and use the blank grid to do numbers from 37-72 and 73-100.
There is a list of other activities that can be done with the ten frame cards that can be found on the Granite School District website, listed below.
For struggling learners, these activities could be practiced in teacher-led small group lessons before being exposed to them at centers.

Family Connections

Send home *Line Up Five* and *Number Cards A* with students to do with family members at home.
Send home *Race to the Top* game boards and *Number Cards A, B, & C* and have them play with someone at home.

Assessment Plan

Collect the *In the Can* handout to check for understanding of vocabulary such as greater than, less than, and equal to.
Monitor the *Make Sets* to see if students are able to make sets that are more, less, and the same as the Activity Cards.
Have students write their own activity card for the *Step-by-Step Number Line* activity.

Bibliography

Research Basis

Rillero, P. & Allison, J. (1997). Creative childhood experiences in mathematics and science: projects, activity series and centers for early childhood. ERIC Source (ED 411 145). Retrieved December 27, 2007, from www.eric.ed.gov
This article discusses the use of activity centers in early childhood classrooms. It defines activity centers as areas for children to investigate in a self-directed manner, with greater autonomy, which promotes learning. It also encourages the use of mathematical manipulatives as a foundation for more abstract thinking in the activity centers.
Ediger, M. (1999). Organizing for instruction in mathematics. Journal of Instructional Psychology. 26(2)85-91.

Setting up a mathematics classroom that incorporates whole group instruction, concrete to abstract activities, learning centers, and differentiation can be a tremendous challenge. This article provides ideas of how to help do this successfully; as well as, how to increase student achievement through this type of organization.

Authors

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