

Number Sequences

Summary

These activities provide students opportunities to focus on the role of numbers and language in the world around us. Students will discuss, describe, read, and write about numbers they find in familiar situations.

Main Core Tie

Mathematics Grade 1

[Strand: NUMBER AND OPERATIONS IN BASE TEN \(1.NBT\) Standard 1.NBT.2](#)

Materials

Three dice per pair

Unifix® cubes

- [More-less Spinner- one per pair](#)

Numbered Squares

- [Numbered Squares](#)

Pencil

Crayons

By The Number

100 fish

Five re-sealable plastic bags

- [Five More-Less spinners](#)
- [By the Number \(Key\)](#)

Zoom

- *Zoom*
by Istvan Banyai
Unifix® cubes
Journals

Clip-itz Activities

Clip-itz Numbers

Additional Resources

Books

- *The Cheerios Counting Book*
, by Barbara Barbieri McGrath; ISBN 0-590-68357-8
- *Just Enough Carrots*
, by Stuart Murphy; ISBN 0-06-446711-2
- *Every Buddy Counts*
, by Stuart J. Murphy; ISBN 0-064-46708-2
- *Looking For Numbers*
, by Margie Burton, Cathy French, and Tammy Jones; ISBN 1-58344-208-1
- *Six Sleepy Sheep*
, by Jeffie Ross Gordon; ISBN 0140548483
- *Ten Little Mice*
, by Joyce Dunbar; ISBN 0152007709
- *Count and See*
, by Tana Hoban; ISBN 0027448002

- *Mouse Count*

, by Ellen Stoll Walsh; ISBN 0152002235

Background for Teachers

In the following lessons students participate in activities that focus on the role of numbers and language in the world around us. Students are asked to discuss, describe, read, and write about numbers they find in familiar situations. The emphasis on using components of language helps students build a broader vocabulary of numbers than the traditional symbolic representation of numbers. The activities also help develop good number sense. These lessons can be taught at any point in the year as long as students can write and count in sequence.

Intended Learning Outcomes

5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Instructional Procedures

Invitation to Learn

I like to roll dice. Numbers interest me. I like to put them in order. I am going to give you dice to roll with a partner. The first person will role the dice and put them in sequential order while the second person models with Unifix® cubes the numbers represented on each dice. The players will rotate turns.

Instructional Procedures

Numbered Squares

Students will write numbers on the [worksheet](#) beginning each matrix with one. For example, if a student is practicing the numerals up to five, the series, 1, 2, 3, 4, 5, is repeated in each matrix as many times as possible.

When each matrix is complete, the children color in all the ones and look for patterns. As time allows students can color the two's in another color and so on.

This activity can also be used with names, vocabulary words, or spelling words using the same procedure as before.

By the Number

Use the [pattern](#) to make 20 fish in five different colors for a total of 100 fish.

On one color of fish write the numbers 0--19. On another color write the numbers 20-39. On the third color write the numbers 40--59. The fourth color will have the numbers 60--79. The last color will have the numbers 80-99.

Laminate the fish and answer key and cut them out.

Store each color of fish with the appropriate answer key in a separate resealable plastic bag.

Place each bag at a center or with a small group of students.

Students sequence the fish in each color and use the answer key to check their work.

Zoom

Put the class into small groups. Give each group a number of Unifix® cubes.

Have each group build a city. Each city has to have six skyscrapers. No skyscraper can be the same height. Skyscrapers are made by stacking Unifix® cubes into towers.

Allow students time to build their cities.

Once the cities are built, have each group show their buildings and tell how they came up with the different heights.

Have each group put their skyscrapers in order from the shortest building to the tallest.

Have each student write in their journal the number of Unifix® cubes they used for each skyscraper and draw a corresponding picture.

Look through the book *Zoom* with the class and talk about each page.

Ask the students for details on each page. Have them predict what is going to happen on the next page.

Once you have gone through the book, write on the back of each page the number and cover it with a sticky note. Take the book apart and randomly distribute pages from the book to students and have them work to put the book back together in sequential order. You may want to break the book into sections of six. The book can start and stop at any point.

For an interactive writing assignment, post a page on the board. Come up with ideas of what is happening on the page, what items are in the picture, or have students do a creative writing from the picture on their own.

Clip-itz Activities

123 Order

In small groups, have students make an accordion display to show number order. Ask students to find all the cards with numerals.

Clip the numbers in order from zero to ten. Count out loud to check the order. Repeat the activity with numbers up to 20.

Challenge students to repeat the activity using the counting dots, animal, and object cards.

Three of a Kind

Students will work in pairs. Sort the cards into three piles: a pile of number words (zero to ten), a pile of numerals, and a pile of pictures.

Students will take turns picking a card from each pile and clipping them together to make a three dimensional triangle matching a word, picture, and number.

If a match can't be made, the card is placed at the bottom of the pile. Once all the cards are taken, the student with the most three dimensional triangles displayed wins.

What's Missing?

Put five number cards in a pile, such as 1, 2, 3, 4, and 5. Show the numbers to students. Take one card away, and shuffle the cards.

Ask students to clip the numbers together to find which number is missing.

Students will then find the missing number and clip it into the appropriate place in the sequence. Play again with another sequence of five numbers.

Extensions

Curriculum Extensions/Adaptations/ Integration

Make your own practice pages for the Numbered Squares activity using *A+ Math* website below.

Make a matching game with the fish from the activity "By the Number." Copy the numbers on one set of fish and then put pictures of objects on another set of fish. Students can match the number of objects on one fish with the number on another fish.

Make different sets of fish in different colors, for example, blue fish are numbers one through 20, red fish are numbers one through 30, yellow fish are numbers one through 40 and so on.

Students will practice with sequential order.

Make a set of number cards with pictures below the numbers to help ESL learners understand ordering by sequence.

Allow children with disabilities to use manipulatives while completing any of the above lessons.

Ideas for students with special needs could be to pair them with other students for assistance with the activity. For children with vision problems, enlarge the print on the activities.

Family Connections

Send home a concentration game that the family can make and play together to practice identifying numbers. They can make the rules of the game so they have to identify the number that is one more or one less than the number you pick up. Another game could be to pick up the

cards in sequential order after remembering where they are placed face down.

Encourage students to share with their parents about the pattern they uncovered in the matrix chart.

Have them come up with another pattern using a different set of numbers in a matrix. Find the pattern and explain it.

Have students take turns bringing the book *Zoom* by Istvan Banyai home. The students can work with family members to take the book apart and put it back together in the correct order. The students can teach their family members about numbers in sequential order.

Assessment Plan

Use student work pages, utilize journaling, and observe students working with manipulatives to assess understanding.

Meet with student's one on one or in small groups. Give them numbers in random order and have them put the numbers in sequential order.

Bibliography

Research Basis

Andrews, Angela Giglio. Number and operations- developing spatial sense--A moving experience. *Teaching Children Mathematics* 2 (January 1996): 290-93.

This research emphasizes that representing numbers with various physical materials should be a major part of mathematics instruction in the elementary grades. One of the findings suggests that using manipulatives and symbolic representations for math concepts enhances students understanding of the content.

Bransford, J.D., Brown, A.L., & Cocking, R.R. (Eds.). (1999). *How people learn; Brain, mind, experience, and school*.

Instructional practice should promote explorations supported by easy access to a wide variety of tools that are designed to accomplish a task. The tools students use influence the kind of understandings they develop.

Authors

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