

Let's Learn About Numbers

Summary

At the conclusion of this activity students will have created a Classroom Number book that shows each numeral and related number word for quantities 0-10.

Main Core Tie

Mathematics Grade 1

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

Additional Core Ties

Mathematics Grade 1

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

Materials

Number Fun

- [Classroom Number Book](#) (pdf)
- [My Family Number Book](#) (pdf)
- [My Family Number Book Letter](#) (pdf)
- "Teacher completed" My Family Number Book
- Counting Crocodiles
- Flat Fish Numbers Set

Match 'em Up

Flat Fish Numbers Set

Number Hunt

- Flat Fish Numbers Set
- [Number/dot/word cards](#) (pdf)
- Pocket Chart number line

Show Me

- [Random Numeral Strips](#) (pdf)
- [Number Word Cards](#) (pdf)
- Math Journals
- Ziploc Bags

Additional Resources

Books

- *Counting Crocodiles*
, by Judy Sierra; ISBN 0-15-200192-1; ISBN 0-15-216256-5 pb
- *Ten Little Fish*
, by Audrey and Bruce Wood; ISBN 0-439-84933-0

Media

- *Clifford's Fun with Numbers*
, (Scholastic) ISBN 1-55658-293-5

Background for Teachers

In order for students to understand mathematical concepts, they first need a good knowledge of numerals, including how the numerals relate to number words and sets of objects. Allowing students to play with numbers, write about numbers and have opportunities to match up the numerals, number

words, and sets of objects, gives students a way to acquire that knowledge.

Intended Learning Outcomes

1. Demonstrate a positive learning attitude.

Instructional Procedures

Invitation to Learn

Stuck in the Middle

Line the students up with an odd number in line. Take one student out as the one who gets to be "Stuck in the Middle". Help students determine where the middle of the line will be. Have students move so there is a blank space right in the middle of the line. The student who gets to be "stuck" will stand in that space. Give the first student in line a cube labeled with number words, dots, or numerals. The first student rolls the cube. The student that is "stuck" moves that many spaces toward the student that just rolled. Give the cube to the first student on the other end of the line. He/she rolls the cube, and the student that is "stuck" moves that many spaces toward him/her. Continue playing until the student that is "stuck in the middle" is moved off one end or another of the line.

Instructional Procedures

Number Fun

Discuss with students numerals and number words.

Ask the students what they know about numerals and number words. Do they recognize that both are symbols used to represent a quantity?

Lead the students to the discovery that each set of dots also represents a quantity.

Show students the Flat Fish.

Explain that each fish in the flat fish set is printed with a numeral, a number word, or a set of dots.

Hold up a single fish and have the students tell you if it is a numeral, a number word, or a set of dots.

Snap three of the fish together to show the three ways a number can be shown using the Flat Fish.

Hand out the remaining Flat Fish that will be needed in the story *Counting Crocodiles*.

Read the story *Counting Crocodiles*.

When a number word is used in the book, have a student match up the number word with the correct number of dots and the numeral by snapping the fish together.

Hand out a *My Classroom Number Book* to each student.

Instruct students to turn to the first page.

Using an overhead or other method, show students how to fill in the blanks using the numeral 0 and number word zero.

Students will then draw themselves with zero objects.

Students will be able to share their completed pages.

Complete one page each day for the next 10 days. At the conclusion of 11 days, students will have a book that shows each numeral and related number word for quantities 0-10.

After day 11, the students will be able to take home their *Classroom Number Books* to use as an example to complete the *My Family Number Book* homework assignment.

Give each student a bound *My Family Number Book* and a *My Family Number Book Letter*.

Explain to the students that they will be completing their book at home with their families and returning the completed book to share with the class.

Share your completed Family Number Book as an example.

Have the students place their *My Family Number Book* and *My Family Number Book* letter in their backpacks.

Make assignments as necessary for student presentations of the *Family Number Books*.

Match 'em Up

Decide which numerals and number words you want the students to practice.

Remove the fish that will not be used.

Hand out the fish to the students.

Invite a student to the front of the room. The student will need to describe the fish that he/she is holding. For example, the student could say, "My fish has 4 dots".

Other students that have a representation of 4 (either the number word or numeral) would then say, "My fish has the numeral 4". Or "My fish has the number word four".

Invite another student to the front of the room to repeat the process.

After participating in this activity a few times, the students should be ready to work independently to use their "math talk" to find the match.

Always check to see that students are matched up correctly.

Leave the fish in a location accessible to the students so they can practice matching up the fish by numeral, number words, and dots.

Number Hunt

Create a large number line or use a pocket chart number line.

Fill in the blanks on the number line, leaving some numbers out.

Lay the missing number fish or cards on the table or floor.

Ask the students to read the number line.

Allow discussion time for the students to verbalize that there are missing numerals.

Ask for a volunteer to put the missing numerals in the correct place on the number line.

Encourage the student to use "math talk" to describe why he/she put the numeral in that space.

Play again using number words instead of numerals.

Repeat using dots instead of numerals or number words.

Show Me

Call each student over to a workstation to create his/her own *Random Numeral Strip*. Each student will tell the teacher or grown-up helper any numeral 0-9 in any order to fill in the blanks. If the student tries to put the numerals in order, a gentle reminder to use any numeral 0-9 will help the student create an out of order strip.

Laminate the strips for durability.

Put one strip on the board and ask the students to read the strip to you.

Hand out the *Number Word Cards*.

Ask students to bring the number word cards up in the order of the numbers on the strip.

After doing this activity as a whole class, ask the students to take out their math journals.

Hand out one *Random Numeral Strip* (at this point, students may or may not have their own strips) and a set of *Number Word Cards* to each student. If you have not pre-cut the *Number Word Cards*, allow students time to cut their cards apart on the lines. Storing the *Number Word Cards* in a baggie in the students' desks keeps the cards accessible at all times.

Have the students write the student's name that is on top of the *Random Numeral Strip* in their journals. This gives them accountability as the teacher can easily check to make sure the student completed the assignment correctly.

Students will match up the number word with the numeral and then record the result in their math journal.

Complete this activity each day, having the students select a new *Random Numeral Strip*.

Extensions

During the number hunt activity, advanced learners may enjoy having the numeral, number word, and dot fish cards used together on the same line.

ESL learners should be given extra time to explore the manipulatives and use the correct vocabulary associated with these activities.

Allow students to complete the *Random Numeral Strip* activity by creating a pictorial representation of the numerals.

Students could also be asked to create *Random Numeral Strips* using number words or dots.

Family Connections

Families may be invited to attend class when their student presents his/her *Family Number Book* to the class.

Allow the students to take home enough *Random Numeral Strips* and *Number Word Cards* for the people in their families. They can complete the activities at home.

Assessment Plan

Call students over to a table one at a time to complete any of these activities independently.

Check the responses in the student journals for completion and correctness.

Pre-assess students using the Flat Fish numerals, number words, and dots.

Bibliography

Research Basis

Sarama, J., Clements, D., H., (2006). Teaching Math: A Place to Start. *Early Childhood Today*, Jan/Feb 2006, Vol. 20, Issue 4.

Readiness is less about being "old enough," and more about having opportunities to explore and think about the world mathematically. We need to "speak math" to young children. Opportunities for developing mathematical understandings exist in each learning center, throughout each portion of the day.

Marzano, R.J., Pickering, D.J., & Pollock, J.E. (2001). Classroom Instruction that Works. *Research and Theory Related to Practice*. Alexandria, VA. McRel.

Practice is important for learning. Mastering a skill requires a fair amount of focused practice.

Students should be able to adapt what they have learned through use of manipulatives and hands on activities.

Authors

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