Getting To Know You

Summary

Students will complete a variety of activities for their assigned number.

Materials

Music --" Getting to Know You" from " The King and I", Device to play music Labeled zip lock Bags with counters precounted into them (handout with possible Numbers To Use) 11x18 Construction Paper Scissors Magazines Newspaper Ads/Circulars Markers Crayons Hundreds charts Number lines Grid paper Balance Counters - Getting To Know You - Comparing 2 Numbers, and Comparing 3 Numbers worksheets (copy back to back) - Rubric for Getting to Know You

(2 per page)

- How to Fold a Book

Additional Resources

Books

- Investigation in Number, Data, and Space Arrays and Shares

, by Economopoulos, Karen, Tierney, Cornilia, Russell, Susan Jo; ISBN 1-57232-744-8 Articles

Teaching Children Mathematics: Focus Issue Computational Fluency Volume 9, Number 6

Background for Teachers

This activity is designed to build upon students' knowledge of mathematics. They will discover why numbers are important, how they effect our lives. Reflection on place value, addition/subtraction families, and multiplication/division families will take place. Their involvement will help them become more fluent with number sense, skills, and problem solving. Through the use of visual and conceptual models mathematical concepts and ideas will be revealed. For more advanced learners more skills could be added, prime/composite numbers. Provide problems that have a variety of ways that can be solved, students share, explain and compare.

Intended Learning Outcomes

1. Communicate mathematically and Make mathematical connections.

Instructional Procedures Invitation to Learn

Sing Song "Getting to Know Math" Getting to know math, Getting to know all about it. Getting to like math. Learning just what to do Getting to know math, Putting each number in its place, Math is precisely, What I like best. Getting to know math, Getting to know all about it. Getting to like math, Learning just what to do Getting to know math, Putting each number in its place. Math is precisely, What I like best. Getting to know math, It's getting simple and painless When I work with you, Getting to know what to do Haven't you noticed Suddenly I'm smart and brilliant? Because of all the simple and new Things I'm learning about you Day by day. Getting to know math, getting to feel sure and ready. When I am working, getting to know what to do. As I keep learning, I'm growing more sure and steady, Because of all the wonderfully new Things I'm learning to do, Day .. by ... day. Original Math Lyrics by Vicki Young, added onto with permission, by Marjory Paskett

http://www.mscc.cc.tn.us/webs/vyoung/

Invitation to Learn continued

Research has shown that people remember things better when they learn them by doing. This is even true for adults. Here is an example. You want to learn how to play softball so that you can join a team. How will you learn to play?

Will you:

Buy a book and read about how to play softball.

Watch a video about softball.

Ask a friend who plays to grab a ball, bat, and glove and teach you.

Which way will help you learn the game the best? Choice 3 is the best way for most people because they actually get to try the game and learn the rules as they play. They learn in a hands-on way.

Hands-on learning is good for both children and adults. The learner is actively involved instead of just sitting and listening. This is the way we want our children to learn and we know that research backs us up. In order to learn best, children must be actively involved in hands-on activities every day. (Susan Jindrich)

Instructional Procedures

Book or Poster

Each child will be given a bag of counters (the teacher will record who has what number on the numbers to use sheet), and a <u>Getting to Know You worksheet</u>. Students are to count and record the number of items in each bag in the following ways.

Where can you find the number, how is it used?

Show other forms of your number (pictures, drawings, patterns).

Show the place value of number.

Show addition/subtraction families for the number.

Show multiplication/division families for the number.

Write a story problem using the number, include the number sentence to go along with it. Why is the number important?

How will knowing this number help in math? Help you know math better? Understand other problems?

Write a riddle for your number.

With the information they have learned they are to make a book (Instructions for Folding a Book) with explanations below pictures or diagrams, or make a poster (pictures on front, on back paragraphs answering questions), sharing the information.

Venn Diagram

Hand out - Comparing 2 Numbers and Comparing 3 Numbers worksheets

Have students pair up. Using your number, label one of the circles, your partner will label the other circle with his number. Discuss, and then fill in the diagram with the similarities and differences for the numbers.

Form new groups of three. Repeat the above process using a three circle Venn.

As a class discuss discoveries made.

Extensions

Curriculum Extensions/Adaptations/Integration

Extension for advanced learners -- Give a higher number that involves more thought processing. Give two different numbers, have them come up with ways that the two numbers are related, how they can use one of the numbers to understand or work with the other number. A

Prime/composite activity could be added.

Adaptations for learners with special needs -- give a lower number.

Integration Language Arts--write a paper or picture story book describing the number and its adventures.

Graphing -- as a class have them create a graph to record what the numbers have in common. Money -- Your number is the amount of allowance you get, what would you buy? Or if you saved your money what could you buy?

Family Connections

Learning at home -- <u>Numbers At Home</u>, where can they be found? How are they used? Why are they important?

Bibliography

Bamberger, H., Fennell, F., Rowan. T.E., Sammons, K.B., Suarex, A.R. (2000). Connect to NCTM standards -- Making the standards work, *Grade Creative Publications*, Chicago IL page iv, 3 ISBN --

0-7622-1246-2

Today, more than ever, there is a need for all students to have a strong base to mathematics. This means that students do not just memorize facts and procedures, but that they have an understanding of mathematics and mathematical thinking. The interplay between content and process is complicated, but integrating the two is crucial if our students are to receive the mathematics education they will need to function effectively in the world they will grow into. (p. iv)

For students to become mathematically powerful, it is essential that they be able to use process skills flexibly. They need to practice, experiment, communicate. Making Connections between problems within mathematics is as essential as is making mathematical connections to disciplines outside of mathematics. (p. 3)

Postlewait, Kristian B., Adams, Michelle R., Shih Jeffery C. (2003), Promoting meaningful mastery of addition and subtraction, *Teaching children mathematics*, pg 354, Volume 9, Number 6, February 2003.

The development of Number sense and computational fluency should be an integral part of the mathematics curriculum. Because other areas of the curriculum such as data and measurement are closely related to and sometimes dependent on these skills, students must have a firm foundation in number. Teachers should provide activities and experiences that develop a conceptual understanding of number and operations, instead of focusing on the memorization of rules and procedures. Meaningful mathematical learning then can occur. When left to use strategies that are natural for them, children are wonderful problem solvers and are able to make sense of numbers in the world. Wu, H. (1999). Basic skills versus conceptual understanding. *American Educator/American Federation of Teachers* Fall 1999, pg 1 January 7, 2006, from http://www.aft.org/pubs-reports/american_educator/fall99/wu.pdf.

The truth is that in mathematics, skills and understanding are completely intertwined. In most cases, the precision and fluency in the execution of the skills are the requisite vehicles to convey the conceptual understanding. There is not "conceptual understanding" and "problem-solving skill" on the one hand and "basic skills" on the other. Nor can one acquire the former without the latter. (September 27, 2000) Before it's too Late -- *A report to the Nation for the National Commission on Mathematics and Science Teaching for the 21st Century* pg 22 January 7, 2006 from http://www.ed.gov/inits/Math/glenn/report.pdf.

In high-quality teaching, the process of inquiry, not merely "giving instruction," is the very heart of what teachers do. Inquiry not only tests what students know, it presses students to put what they know to the test. It uses "hands on" approaches to learning, in which students participate in activities, exercises, and real-life situations to both learn and apply lesson content. It teaches students not only what to learn but how to learn.

Zhang, Linrong, (2005) A review of children's elementary mathematics education. *International Journal for Mathematic Teaching and Learning* pg 6 ISSN 1473--0111. retrieved January 7, 2006 from http://www.cimt.plymouth.ac.uk/journal/zhang.pdf.

Mathematics teaching is an interactive process between teachers and students, through which both parties communicate and improve together. Mathematics teaching should start from students' life experience and preexisting knowledge, create lively and interesting scenarios, and guide students to observe, experiment, conjecture, deduce and communicate. Through mathematical activities, students master basic knowledge and skills, learn to observe phenomena and analyze them, and motivate themselves to learn. Students are the masters of mathematical learning, while teachers are the organizers, guides, and collaborators.

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