More, Fewer, Same

Summary

Activities focus on number concepts, specifically more, fewer, and same.

Main Core Tie

Mathematics Kindergarten

Strand: COUNTING AND CARDINALITY (K.CC) Standard K.CC.6.

Additional Core Ties

Mathematics Kindergarten

Strand: COUNTING AND CARDINALITY (K.CC) Standard K.CC.7

Mathematics Kindergarten

Strand: MEASUREMENT AND DATA (K.MD) Standard K.MD.1

Mathematics Kindergarten

Strand: MEASUREMENT AND DATA (K.MD) Standard K.MD.2

Group Size

Individual

Materials

Invitation to Learn
- Deck of cards
- Alligator puppet

Group Activity
- *More or Less?*

Center 1: Alligator More/Fewer
- *Alligator More and Fewer*
- Number cubes
- Pencil

Center 2: Counter Toss
- *More/Fewer/Same*
- Pencil
- Counters
- Cup

Center 3: More/Fewer/Same Spinner Game
- *More/Fewer/Same Spinner*
- Interlocking cubes

Center 4: Hoop Fun
- Three hoops
- Manipulatives
- Index cards
- Math journal
- Pencil

Center 5: Tower Power
- Number cubes
- Interlocking cubes

More/Fewer/Same Spinner
Pencil
Center 6: More/Fewer/Same Balance
Simple balance
Manipulatives
- *More/Fewer/Same*
Pencils
Additional Resources
Books
Just Enough Carrots, by Stuart J. Murphy; ISBN 0-06-026778-X (Children's Book)
Moo-ving into Math Journals, by Margaret Allen, Ph.D.; ISBN 0-9722832-0-X (Professional Book)
More or Less?, by Judy Nayer; ISBN 1-56784-954-7 (Big Book)
More, Fewer, Less, by Tana Hoban; ISBN 0-688-15694-0 (Children's Book)
Organizations
National Council of Teachers of Mathematics, 1906 Association Drive, Reston, VA 20191- 1502 (703) 620-9840, www.nctm.org
National Association for the Education Of Young Children, 1509 16th St. N.W., Washington, DC 20036 (202) 232-8777 or (800) 424-2460, naeyc.org

Background for Teachers

Students that are successful in math have learned to link numbers to quantities. This is the first and most significant step in being a successful mathematician. Many students have an easy time counting but a difficult time when asked to put a number to that which was counted. They may also have a difficult time when the questions, "Which is fewer, 2 or 4?" or "Which is more, 2 or 4?" are asked. It is essential that students have opportunities to explore number combinations and that they are asked these important questions.
The vocabulary of more, fewer, and the same is an integral concept at the early stages of mathematical learning. At the beginning of the school year, most students understand the concept of more. Do not assume because they know which set has more that in turn they know which set has fewer. The vocabulary terms more, fewer and same have to be taught. The vocabulary of math is going to impact how students express their mathematical thinking and future math success. Quantity discrimination is extremely important because it is a key component in estimation and number representation.
Students will be entering your classroom this fall with a variety of informal or formal instruction on number concepts that they bring from home and pre-school. There is going to be a need to differentiate your instruction in number sense.

Intended Learning Outcomes

1. Demonstrate a positive learning attitude.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Instructional Procedures

Extensions

Curriculum Extensions/Adaptations/Integration
Use the different stages of activities to meet the needs of your students.
Ask mathematical questions during Language Arts and Content time.
All students can use centers. Adaptations in quantity of numbers can be adjusted to meet the

specific needs of each student.
Center activities should be taught to the whole group and then placed in a center for students to practice and become proficient in the subject matter.

Family Connections

Have the students take home a More and Fewer recording sheet. Have the students look around their houses. Tell them to draw/ write the name of something they have more of in their homes and something that they have less of in their homes (e.g., draw a picture of a chair in the more column and a picture of an oven in the less column).
The alligator puppet could be sent home with a More and Fewer recording sheet. The students and their families could look around their homes for items that they have more/fewer of and record their findings on the recording sheet.
Math Night- Parents would be invited to make the math activities for their homes.

Assessment Plan

The math journal is an excellent way for you to evaluate a student's mathematical thinking.
Observations: These can be recorded on small sticky notes or on an Observation Sheet. Make notes about students that need to be pulled into a small group for extra help.
A Math Check list is kept to keep track of students' progress.
Ask probing questions to focus students' thinking when using manipulatives.
Have students share their thinking about the activity.
Collect any recording sheets. This will give you time to make an in-depth assessment of a student's number sense.

Bibliography

Burns, M. & Silbey R. (April 2001). Math Journals Boost Real Learning. *Instructor Magazine*. p.18-20.
A math journal is one of the best ways to introduce writing into your math class. It helps students stretch their thinking and make sense of problems that can sometimes leave them confused or frustrated. When children write in journals, they examine, express, and keep track of their reasoning, which is especially useful when ideas are too complex to keep in their heads. By reading their journals, you can evaluate their progress and recognize their strengths and needs. The math journal thus becomes a great learning tool for your students- and you.
Ediger, M. (2006). Writing in the Mathematics Curriculum. *Journal of Instructional Psychology*. Vol. 33.

Criteria for Use in Mathematics Writing:

Learning needs to be meaningful. Students need to make sense out of what is being learned.
Interest is a powerful factor in learning. Mathematics teachers need to provide for the interests of the learner. A hands-on approach should also be stressed to add interest.
Students should perceive a purpose in the writing experience. Writing should not be done for the sake of doing so, but rather to achieve a definite goal.
Students should work individually as well as collectively in ongoing learning experiences.

Authors

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