

Double those Ducks!

Summary

Activities help students begin the transition to addition.

Main Core Tie

Mathematics Kindergarten

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(K.OA\) Standard K.OA.1](#)

Additional Core Ties

Mathematics Kindergarten

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(K.OA\) Standard K.OA.2](#)

Mathematics Kindergarten

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(K.OA\) Standard K.OA.4](#)

Mathematics Kindergarten

[Strand: OPERATIONS AND ALGEBRAIC THINKING \(K.OA\) Standard K.OA.5](#)

Group Size

Large Groups

Materials

Double the Ducks

- [*Double the Ducks Cutouts*](#)
- *Double the Ducks*

Duck Story Boards

- [*Duck storyboards*](#)
- Duck manipulatives
- Paper strips
- 1 set of duck story boards per student
- Pencil

Double Duck Match

- Duck match cards
- [*Doubled Duck Match Recording*](#)
- Pencil

Double Up

- Manipulatives
- Response boards
- Markers/chalk

Geoboard Doubles

- Geoboards
- Elastics
- [*Geoboard Doubles Recording*](#)
- Pencil

Double Draw

- [*Number cards*](#)
- Manipulatives
- Paper

Container
Pencil
Double Duck Ditty
- [Double Duck Ditty](#)
20 ducks

Double Duck Journal
- [Journal](#)
- one journal idea per page

Double Dot Addition
Dot painter
Art paper
Pencil

Additional Resources

Books

Double the Ducks, by Stuart J. Murphy; ISBN 0-06-028922-8
One of Each, by Mary Ann Hoberman; ISBN 0-590-51437-7
Domino Addition, by Lynette Long, Ph.D.; ISBN 0-88106-877-2
Jack the Builder, by Stuart J. Murphy; ISBN 0-06-055775-3
Quack and Count, by Keith Baker; ISBN 0-15-205025-6
Ten Little Rabbits, by Virginia Grossman and Sylvia Long; ISBN 0-440-83653-0
Developing Number Concepts Addition and Subtraction, by Kathy Richardson; ISBN 0-7690-0059-2

Articles

7 Musts for Using Manipulatives, by Kathy Richardson; Instructor Magazine, April 1996
Tips on using Manipulatives, by Norman Labush; Didax Educational Resources, <http://www.didax.com>

"Concrete" Manipulatives, Concrete Ideas, by Douglas H. Clements; Didax Educational Resources, <http://www.didax.com> from previously published article in *Contemporary Issues in Early Childhood*, 1(1), 45-60

Early Childhood Mathematics: Promoting Good Beginnings, by the National Association for the Education of Young Children (NAEYC) and the National Council for Teachers of Mathematics (NCTM), 2002

Number Talks: Thinking with Numbers, by Kathy Richardson; Didax Educational Resources, <http://www.didax.com>

Organizations

National Council for 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 Street N.W., Washington D.C. 20036 (202) 232-8777 or (800) 424-2460, www.naeyc.org

Background for Teachers

Addition, or joining of sets, is a basic concept most children know instinctively. Yet, as they make the transition from completely concrete to symbolic, some students become confused. Other students may be able to do symbolic addition without understanding that numerals represent real numbers and objects. To help them begin this transition, the use of manipulatives, later coupled with numerals, is an essential step to complete understanding. The ability to create their own math stories also helps them connect addition with the real world.

Kindergarten teachers need to provide repeated, varied activities for practice in joining sets. As students continue to practice, incorporating their own stories for each problem, as well as using numbers to describe the stories, they will make the connection between the real world and the

symbolic.

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

Invitation to Learn

Gather the children and ask, "Do any of you have pets?" "How do you take care of your pets?" "What things do you need to take care of your pets?" Tell the students that you will be reading a story about a boy who had four ducks for pets, how he took care of their needs, and what happened when the ducks made some new friends.

Instructional Procedures

Double the Ducks

Read Double the Ducks to the class. As you read, discuss the problems the boy faces.

Using the Double the Ducks cutouts on the board, have the students retell the story.

After retelling, regroup the cutouts into individual math problems and write corresponding numbers on the board.

NOTE: All of the following activities can be done on three levels.

Concrete: where the activity is done with manipulatives only.

Pictorially: where students draw to record what they have done with the manipulatives.

Symbolic: where they add numbers to their concrete or pictorial representations.

Duck Story Boards

Give each student a set of Duck Storyboards and 10 manipulatives.

Demonstrate and tell an addition story on your storyboard.

The students will tell addition stories on their storyboards using manipulatives.

On subsequent days, the students will tell addition stories on their boards, then write the corresponding number sentence on the paper strips (2" x 8").

Doubled Duck Match

Students place all cards face down.

On each turn, a student will turn over two cards. If they have the same number of ducks, they keep the card. If they do not, they turn them back over. This continues until all of the duck cards have been matched.

The students take each match, add the two cards together, and record on the Doubled Duck Match Recording.

Double Up

Make a stack or line with 1 to 5 manipulatives. Make another stack or line of the same size next to it.

Add the two stacks or lines and record on the white board or chalkboard.

Geoboard Doubles

Demonstrate making one square on your geoboard. Instruct the students to also make one square. Then double the square to two squares. Continue doubling squares on the board with the students.

Demonstrate filling in the Geoboard Doubles Recording as you double the squares.

Students will now create their own doubles on the geoboard.

Record what they did on the Geoboard Doubles Recording, filling in the numbers to make an equation.

Continue the process for additional doubles.

Double Draw

Students draw a Number Card from the container.

They count out that number of manipulatives and write it on the paper.

They double the number of manipulatives they drew out and write it, then add the two numbers.

Continue the process until all the numbers have been drawn.

Double Duck Ditty

Sing each verse of the song, adding the correct amount of ducks on the board as you sing.

Double Duck Journal

Give the students one journal page per day.

Students illustrate the journal entry.

Double Dot Addition

Students dot on the first section of the paper 1-5 dots and write the number below.

Students fold the paper over, duplicating (doubling) the dots, and write the number below.

On the third section, write the total.

Extensions

Curriculum Extensions/Adaptations/ Integration

Advanced Learners: All these activities are designed for numbers 10 and below. Working with higher numbers will increase the challenge.

Advanced Learners: Create their own journal ideas, solve, and illustrate.

Special Needs Learners: Start with smaller numbers.

Special Needs Learners: Work one on one with teacher on journal entries.

Science Integration: Incorporate with study of birds, ducks, farm and domestic animals.

Language Arts: Act out the story. Write stories about ducks and the story boards.

Family Connections

With an adult's help, students can help prepare a simple recipe and double it for their family.

Students can share their doubling stories with their families.

Assessment Plan

Journal pages are excellent assessments.

Make observations of students during small group and individual activities.

Recording sheets from individual and small group activities can be collected for assessment.

As students work on the individual and small group activities, ask them to explain what they are doing and how they are deriving the answers.

Bibliography

Research Basis

Moyer, P. S. (2001). Are We Having Fun Yet? How Teachers Use Manipulatives to Teach Mathematics. *Educational Studies in Mathematics*. 47 (2) 175-197.

Manipulatives may serve as tools for teachers to translate abstractions into a form that enables learners to relate new knowledge to existing knowledge. This requires teachers to guide students to translate between representation in the form of mathematical objects, actions, and abstract concepts so that students can see the relationship between their knowledge and new knowledge.

Murray, A. (2001). Ideas on Manipulative Math for Young Children. *Young Children*. 56 (4) 28-29.

"Math is tangible. Children learn better when they're using their senses; therefore, they should complete math tasks using three- dimensional objects to represent the numbers under examination." The use of manipulatives involves multiple senses and increases the probability that each learner will make the necessary connections between the abstract and concrete in joining of sets.

Authors

[Utah LessonPlans](#)