Title - The Doorbell Rang, Multiplication, Division
By - Renea Magnani
Primary Subject - Math
Secondary Subjects - Language Arts
Grade Level - 2-3
5 Step Lesson Plan- The Doorbell Rang (Introduction)

Lesson Vitals:
1. Topic of Lesson: Math/Language Arts
2. Objective: Students will demonstrate understanding of multiplication/division concepts.
3. Materials: Teacher-The Doorbell Rang by Pat Hutchins, Literature Notes for The Doorbell Rang by Frank Schaffer Publications, Inc. (must be purchased from Frank Shaffer Publications - "FS-2819 Literature Notes for The Doorbell Rang" - worksheets are included here), overhead copy of "Cookie Math" from Literature Notes, Bulletin Board Pattern, magnetic manipulative to use on white board, dry erase pens and eraser. Students - "A Dozen Cookies" worksheet from Literature Notes, The Doorbell Rang "Mini-Report" worksheet from Literature Notes, pencil, felt square.
4. Key vocabulary: Division, multiplication, fact families, and math sentence.
5. Grade Level: 2

Step 1- Anticipatory Set:
1. Focus: Show the cover of the book to students then discuss and predict what might happen. Talk about the author/illustrator.
2. Objective: While story is read to students they will work with manipulates in order to make division and multiplication discoveries. From these discoveries students will be prepared to work with a partner to complete the worksheet "Cookie Math."
3. Transfer from previous lesson: Remind students of last week's math center at which they worked with manipulatives to do multiplication/division work.

Step 2 - Instruction:
1. Model the skill: After discussing the book students will watch as teacher demonstrates the use of manipulative on the board to create a picture and a math sentence to match.
2. Check for understanding: Ask a few students for their ideas and allow time for questions from those who may have them.

Step 3 - Guided Practice
1. After above demonstration teacher will create a chart on the board as relates to "Cookie Math" so that students will later be able to complete their worksheets.

Step 4 - Closure / Review:
1. Review: Teacher discusses the concepts from the book and reviews the chart on board with the class.

Step 5 - Independent Practice-
1. Students are paired with a partner and each is provided with "Cookie Math" worksheet.

Student's work to complete the worksheet accurately while teacher assists when needed. When complete students may color their cookies with pencil if they'd like.
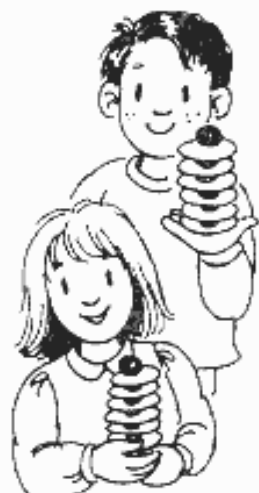
Evaluation: Teacher collects worksheets and reviews for understanding.

Cookie Math

Work with a partner. Use both sets of cookies to solve these problems.

A. There are 12 cookies.

Number of Children	How many cookies will each child get?	Math Sentence
2	6	12 ÷ 2 = 6
4		____ ÷ ____ = ____
6		____ ÷ ____ = ____
12		____ ÷ ____ = ____

B. There are 18 cookies.

Number of Children	How many cookies will each child get?	Math Sentence
3		____ ÷ ____ = ____
6		____ ÷ ____ = ____
9		____ ÷ ____ = ____

C. There are 24 cookies.

Number of Children	How many cookies will each child get?	Math Sentence
3		____ ÷ ____ = ____
4		____ ÷ ____ = ____
6		____ ÷ ____ = ____
8		____ ÷ ____ = ____

Teacher: Use the math manipulatives titled "A Dozen Cookies" with this activity. You'll need one copy of "Cookie Math" for every pair of students and one copy of "A Dozen Cookies" for each student.
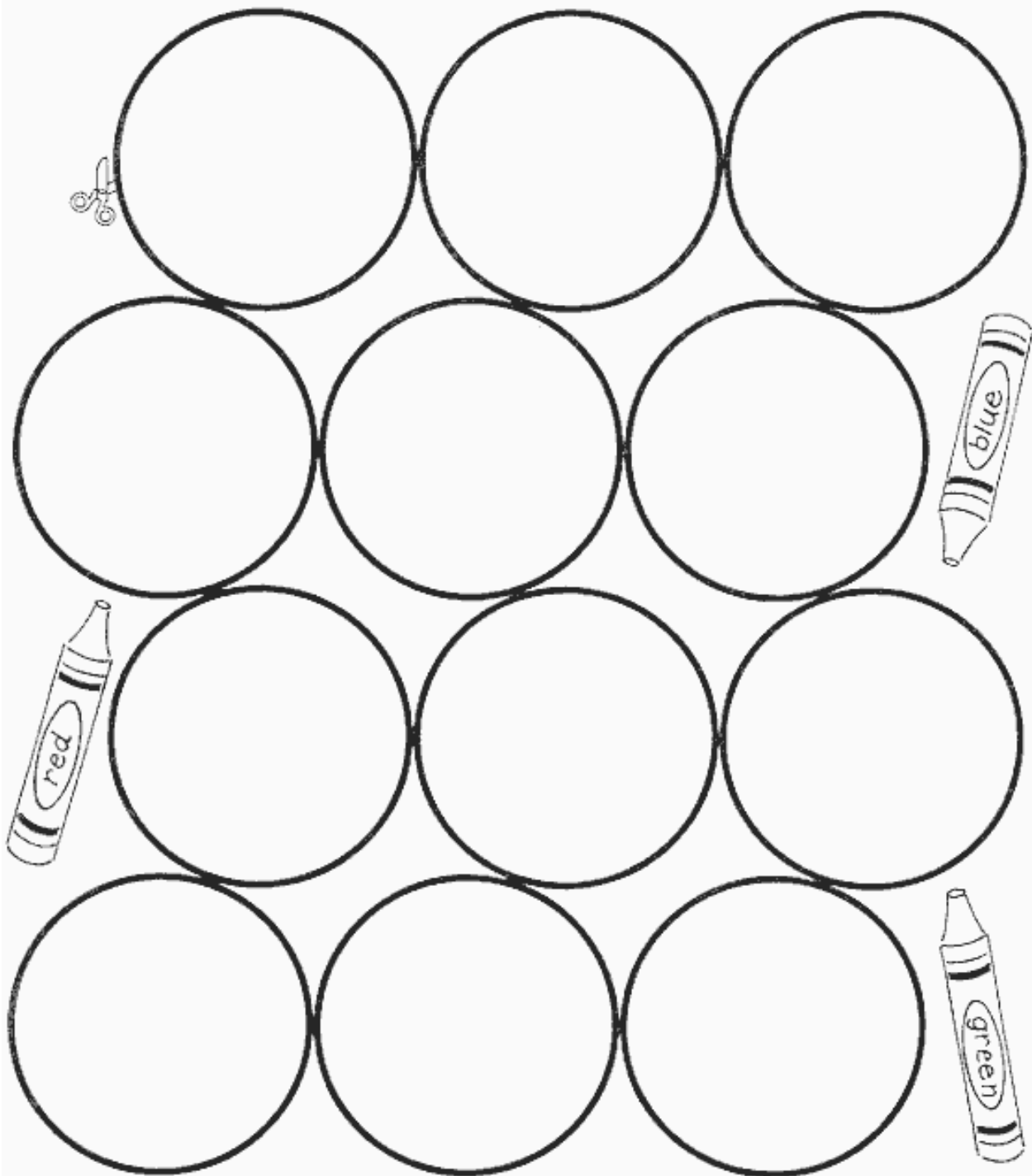
reproducible

A Dozen Cookies

Color these cookies to look like your favorite kind. Cut them out.

blue

red

green

Teacher: Reproduce this page on tagboard. Use these manipulatives with the "Cookie Math" reproducible and with the Across-the-Curriculum math activities.

reproducible

Name _____ Analysis

The Doorbell Rang
by Pat Hutchins

Mini-Report by

_____

1. Setting

This story takes place in

_____

_____

_____
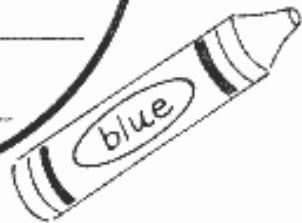
2. Characters

The three main characters

are_____

_____

_____

3. Problem

The problem they have is

_____

_____

_____

4. Solution

Their problem is solved

when_____

_____

_____

5. Review

I thought this book was

_____ because

_____

_____

Teacher: Have the students complete the sentences, cut out the cookies, and staple them in order. Then direct the students to open their mini-reports and illustrate each sentence on the back of the preceding page.

Bulletin Board Pattern
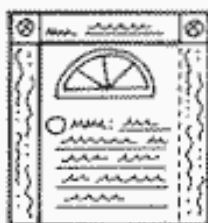
Answer: _____ ÷ _____ = _____

_____

_____

Name_____

Problem: _____

_____

_____

_____

_____

_____

Teacher: Have students follow these directions: (1) Write on the lined section of the door a division word problem that follows the theme of the book. (2) Use the answer box to write the answer as a division problem and as a complete sentence. (3) Color the door and doorframe. (4) Cut out the door/doorframe and the answer box. (5) Trace the outside of the doorframe on blank white paper and cut it out. (6) Cut the door along its left and top sides. Fold it open along the dotted line. (7) Leaving the door open, glue the blank paper behind the doorframe. (8) Draw and color people to match your math problem on the blank paper. (9) Glue the answer box to the inside of the door to finish the project.

reproducible

Cindy Heinz

Diana Adams

Topic: Dividing by making equal shares.

Grade Level: 1st through 3rd grade.

Name of Activity: The Doorbell Rang

Materials Needed: 12 cookies per group (preferably wrapped)

12 paper plates per group recording worksheet - cut the four problems apart(attached) optional: <u>The Doorbell Rang </u>by Pat Hutchins, Greenwillow, 1986.

Description of Activity: Group the children by fours. Read the book The Doorbell Rings or tell the story ("Just when Sam and Victoria had determined their equal shares of Ma's freshly baked cookies, the doorbell rings. Ma invited two friends to share the cookies. 'That's three each,' figures Sam and Victoria. Then the doorbell rings again. As the scenario continues, the children recalculate the number of cookies the guests will receive as each new guest arrives, so the cookies are always shared equally"). (1)

After reading the story pass out 12 cookies and two paper plates to each group. Give each group the upper left hand corner of the worksheet. Ask them to solve the problem: If there are two children, how would they share the cookies equally? After the groups have finished dividing the cookies on the plates, ask them to record their answer on the recording sheet and then what answers they found and to justify them.

Then pass out two more paper plates to each group and the corresponding recording sheet. Repeat the above procedure. Then repeat the above procedure after passing out two more paper plates (so each group has a total of six and then a total of 12 paper plates.)

After all four problems have been solved and discussed, ask the children to divide the cookies (if they are wrapped) equally among their group and they may eat them.

DIVISION LESSON PLAN FOR THIRD GRADE
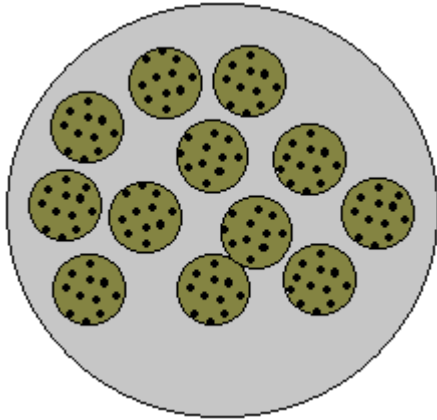
Cookies
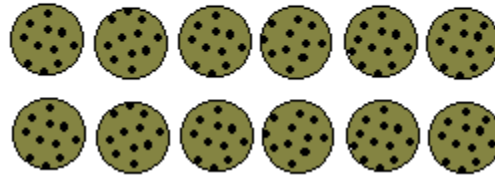
- **written by:** **Meredith Cannon,** Spring 2001
- **graphics, editing, & formatting by:** Dr. Beth McCulloch Vinson

Subject: One-digit Division

Grade: Third

I. Behavioral Objective:

After a teacher-directed math lesson, Mrs. Cannon's third-grade math class will represent division with physical materials, use division symbols, and divide using one-digit divisors. Each student will divide candy into sets, write division algorithms, and solve division problems with one-digit divisors. Each student will divide at an accuracy rate of at least 90%.

II. Instructional Method:

A. Anticipatory Set:

1. Explain to the children that today they will learn how to divide.

2. Read the book The Doorbell Rang.

3. Tell the children about the necessity of division in everyday life, such as cooking and sharing.

4. Review by using paper cookies to construct equivalent sets.

5. Supply the following definitions to ensure understanding: "division," "dividend," "divisor," and "quotient."

B. Statement of Objective:

"After our lesson you will be able to divide cookies into sets, do division problems using one-digit divisors, identify and use division symbols, and write division number sentences."

C. Instructional Input:

1. Review skip counting by twos, threes, fours, etc.

2. Review equivalent sets using paper cookies.

3. Show the children simple division problems using paper cookies.

4. Use the magnetic chalkboard to display the definitions of "division," "dividend," "divisor," and "quotient."

D. Modeling

1. Illustrate how to make sets of cookies and show the parallel between sets and division.

2. Using the whiteboard, share the following problem with the class to illustrate one-digit division. "Two girls wanted cookies for snack and there were eight cookies left. How many cookies can each girl get?" Demonstrate the problem using the paper cookies and partitive division.

3. Show the symbolic representation of the problem on the whiteboard.($8 \div 2 = 4$)

E. Checking for Understanding:

1. After sharing the problem ask the students to figure out how many cookies each girl would get if there were twelve instead of eight.

2. Ask the students for their answers and an explanation of each answer.

F. Guided Practice:

1. Put the children in groups of four and give each group 30 paper cookies.

2. Give them their own whiteboards or placemats to use as division boards.

3. Give the children the following problem and allow them to work it out as the teacher does on his/her whiteboard. "Susie and Elizabeth made cookies for their friends. There are twenty-four cookies and they want to give each of

them four. How many friends can they share their cookies with?" Tell the children to raise a quiet hand when their group has completed the problem.

G. Independent Practice:

1. Ask the students to make up three division problems of their own.

2. Be sure to tell them to write down all of the problems they attempt to answer.

3. Oversee the children as they do this activity to see if anyone needs help.

1. Strategies for Exceptional Children:

a. For enrichment, increase the number of cookies given to gifted children and, during independent practice, give them a more difficult problem to work.

b. For remediation, allow the children to use larger objects to answer simpler problems.

2. Activities which Value Cultural Diversity:

a. Allow the children who speak English as a second language, to tell the word for "cookie" and "count out the cookies", in their native language.

b. Children from other cultures will be allowed to bring several small objects from home that are related to their culture to use as an example of one-digit division.

3. Activities which Foster Active Inquiry, Critical Thinking, and Problem Solving:

a. Ask the children to bring small objects from home that they will be able to use for the following day's division activities. Examples: egg cartons, buttons, pencils, etc.

b. The class will also go to the cafeteria for a small field trip to see the real-life application of division. They can "interview" the lunchroom staff about the way that they use division. Upon returning to the classroom, they will be given one or two division problems about food. (Ex. "If we made 50 chicken fingers, have we made enough for eight students to get ten each?")

H. Closure and Summary:

1. Close the day's math lesson by allowing the children to relate their own division problems and answers to the other students.

2. Ask the children to look for related ways to use division throughout the day in the school building and when they get home, and have them report their findings the following day during math time.

III. Assessment Techniques:

The students in Mrs. Cannon's third-grade math class will do one-digit division problems by making equivalent sets at an accuracy rate of 90%.

It is necessary to determine whether or not a child can construct equivalent sets, skip count, subtract, and do simple multiplication problems, *before* the lesson is taught. The teacher can quiz the children on skip counting by having them skip count out loud together, while he/she checks for understanding. The teacher can give the children various groups of small objects to determine their ability to construct equivalent sets, subtract, and complete simple multiplication problems. The same sets can be used to work division problems.

IV. Materials

- 200 paper cookies, whiteboard, magnetic chalkboard, key word display pieces, small whiteboards or placemats (division boards), dry erase markers, paper, pencils.
- Books: Hutchins, P. (1986). *The Doorbell Rang.* New York: Scholastic. (ISBN:0-590-41109-8)

Lesson Plan ID:	13038
Title:	A Math and Language Arts lesson: Introduction to Division
Overview/Annotation:	The lesson will help students develop an initial understanding of division and clarify how the four operations of addition, subtraction, multiplication, and division relate to and are separate from each other. The lesson begins with a brainstorming discussion which builds background and fosters comprehension. A big book, *The Doorbell Rang,* by Pat Hutchins, is used along with manipulatives to provide instruction at concrete and pictorial levels. Students will demonstrate what they have learned by writing a short story incorporating simple division.
Primary Learning Objective(s):	Students will develop an initial understanding of division and state how the four operations of addition, subtraction, multiplication, and division relate to and are separate from each other.
Additional Learning Objective(s):	
Approximate Duration of the Lesson:	61 to 90 Minutes
Materials and Equipment:	Chart paper, magnetic dry erase board, dry erase markers, magnetic cookies, *The Doorbell Rang,* by Pat Hutchins (big book), scissors and handout (see attachment) for each student
Technology Resources Needed:	
Background/Preparation:	Magnetic cookies can be made by gluing magnets to the back of real cookies or computer-generated cookies. Prepare an area with large floor space with students seated in front of an easel or display for chart paper, the big book and magnetic white board. Self-stick notes must be applied to division answers throughout the big book.
Procedures/Activities:	1.)Have the students sit on the floor in front of an easel and chart paper. Conduct a brainstorming session. Tell the students that we learn new concepts by making connections to what we already know. Ask the students if they know what division is. Write the students' comments on the chart. The teacher will utilize quotation marks to highlight direct quotes. "...kind of like subtraction; the opposite of multiplication." Mathematical notations as examples should be written. Mathematics-related vocabulary should be noted and written with emphasis since this chart will be posted for reference. Also, acknowledge multi-subject references. "Math is a 'thing' (noun), yet it is something we 'do'(verb)." 2.)Following the class discussion, give each student the handout (see attached) with twelve chocolate chip cookies on it. Describe this as a cookie sheet. Discuss that it is a

natural array, meaning that people usually arrange cookies in this manner. Relate the cookie array to multiplication. As students cut the paper cookies apart, remind them that division is something they do when they share a snack with someone.

3.)*The Doorbell Rang* features a mother who has made a pan of cookies for two children. Every time the doorbell rings and more children arrive, the characters must figure out how many cookies everyone will receive. After there are twelve children, the book has a surprise ending when Grandma comes to visit bringing more cookies. As the the big book is read, have the students divide their paper cookies following the story line. After students have determined how many cookies each child will have, the teacher removes the sticky note to reveal the correct answer. He/she also divides the magnetic cookies and writes the division sentence on the whiteboard.

4.)Have the students write a short story similar to *The Doorbell Rang*. Have them incorporate at least 3 division problems in the story. After the students have completed their stories, let them choose a partner to help them act out the story. Make sure the students write the division sentences at the bottom of the story. Collect the stories for a grade.

Attachments:	Cookies
Assessment Strategies:	The teacher will observe, listen, and record student responses during the brainstorming session. Observation of manipulatives and responses during the initial reading activity will indicate comprehension.
Extension:	The Doorbell Rang, Again!! After students become proficient with the manipulatives, the lesson can be revisited to teach repeated subtraction. As an evaluation, the students will write "I know" and "I learned" statements on paper, along with a statement to explain when they might use this method.