

Title: The Doorbell Rang by Pat Hutchins
Citation: Hutchins, P. *The Doorbell Rang*. Greenwillow Books. New York: 1986.
ISBN: 0-688-09234-9

Part 1- Summary of Book

The title page shows ma with her cookie sheet of freshly baked one dozen cookies. It should be plenty for her two children. The children figure out that sharing the plate of cookies would give them 6 cookies each. When Ma gave Sam and Victoria a dozen cookies to share, they were delighted. Both comment on how good the cookies look and smell “just like the cookies that grandma bakes.” Ma is attending to her floors and comments, “No one makes cookies like grandma.” The doorbell rings, so Ma answers the door and invites Tom and Hannah into the house to share the cookies. Then the doorbell rang, and rang, and rang. As more children arrived, other division and mathematical operations are required for sharing the cookies, resulting in one cookie per child. The door bell rings as the kids look at their one cookie and not concerned with how they will share their only cookie, Sam answers the door to their surprise it was Grandma. She was holding an enormous tray of cookies for the boys and girls to share.

Part 2 – Grade Level and Curricular Math Strand

The Doorbell Rang is a children's text most appropriate for a Grade 3 Mathematics class because it can be tied into the strand of Number sense and numeration of the mathematics curriculum.

Part 3 – Two Specific Curricular Expectations

Number Sense and Numeration – Operational Sense

- relate multiplication of one-digit numbers and division by one-digit divisors to real-life situations, using a variety of tools and strategies (e.g., place objects in equal groups, use arrays, write repeated addition or subtraction sentences) (Sample problem: Give a real-life example of when you might need to know that 3 groups of 2 is 3×2 .); 3m27

Mathematical Process Expectations – Problem Solving

- apply developing problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding; 3m1

Part 4 – Discussion Questions

Before

-What does a dozen cookies mean? How do we know how much a dozen is? If a dozen is a standard number of cookies that fit on a baking sheet, should we assume Ma made a dozen cookies? What sort of mathematical concept can we use to figure out how many cookies were available? Does the book tell us? How can we figure out the original number of cookies?

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-Ask the students to explain how they would solve sharing a plate a cookies with their classmates. What sort of mathematical process would you use to figure out how to share the cookies with the entire class?

During

-How would you figure out how many cookies is plenty? On the cookie sheet there are three rows with four cookies across each row? How many cookies would this be and what mathematical application did you use?

- Each time the doorbell rings and children enter, how many children are there and how many cookies will each child receive?

Have students work together in small groups to come up with an answer. Have each group explain the mathematical process used for arriving at their answer and explain which manipulatives they used to help solve the question. Display each students answers for the entire class to see and if need, group similar solutions or mathematical processes together to show sets of thinking styles.

After

-If Grandma, made a lot of cookies and the baking sheet shows six rows of cookies with eleven cookies across each row, how many cookies does she have for all the children to share? How many cookies would each child receive?

Have students work together in small groups using chart paper to work out their answers. Have them show their work by using some sort of visual representation of the cookies. Some groups may manipulate the number of rows and cookies per row, so it is important to prompt them to draw a cookie sheet with the proper number of rows at the beginning. For the second part of the question where students will need to perform division for solving the number of cookies per child, have them again use graphic organizers to show their understanding of how the cookies would be divided equally. This question would be given at the end of the book which ties into the first question given at the beginning of the story. The students would be able to apply their prior knowledge of how to problem solve and use division.

Part 5– Activity or Task

Students will return to their desks to work in mixed-ability groups on division problem solving questions so they can apply the strategies just learned from the modeled chart activity completed as a class. The following question will be written on the blackboard:

There are 19 students in our class. We have 3 full baking sheets of cookies, and another baking sheet with 2 extra cookies on it. Each full baking sheet has 3 rows of cookies and 4 cookies in each row.

- a) How many cookies are there altogether?
- b) If we divide the cookies evenly between everyone in our class, how many cookies will each student get?

Students will be supplied with chart paper, markers, and manipulatives for solving the problem They will be encouraged to use graphic organizers, pictures, and manipulatives to get the answer.

For strong math students, or groups that are finished early, provide them with the following challenge question based on the book:
In The Doorbell Rang, the grandma baked a lot of cookies for everyone. Her baking sheet had 8 rows of 6 cookies, 2 rows of 5 cookies, and 3 rows of 4 cookies.

- a) How many cookies are there altogether?
- b) If these cookies are shared equally by the 12 children, how many cookies will each person get?
- c) If you add the 12 cookies the mother baked to the grandmother's cookies, how many cookies will each child get now?

Part 6– Critique

Accuracy 5 /6

This piece of children's literature is quiet accurate for integrity of addition and division mathematical concepts that were presented throughout the story. Although, the quantity of cookies was not specific in the story and only referred to as "Plenty", it could be rather difficult to see and count the appropriate number of cookies on the cookie sheet that Ma was holding. Allow students to have a prior understanding of the number twelve and the relationship it has to the term a dozen is a good discuss to have with students before beginning to reading this story. Each time the doorbell rings, more children appear and are invited into to share the cookies with Sam and Victoria, promoting deeper thinking not only about the number of people altogether but also the number of cookies to be divided amongst the group, and how many cookies that each child will receive. (12 cookies / 2 children= 6 cookies each; 12 cookies / 4 children= 3 cookies each; 12 cookies / 6 children= 2 cookies each; 12 cookies / 12 children= 1 cookie each). The number of cookies remains the same but the number of children is always different and the amount of cookies per child changes too.

Visual and Verbal Appeal 4.75/6

The cover of this story is a bit of a mystery at first glance which luring and intriguing for any reader. The title of the story does not give much detail as to what the story is going to be about. The pictures are colorful and realistic, although the artwork is dating itself; the characters throughout the book have wonderful facial expressions and life-like actions. The pictures enhance the text where parts of the text begin to become predictable and/or repetitive. In agreement with what the article, stating that the illustrations lack of a rich appeal, this book does however illustrate character diversity which has become meaningful learning in today's classrooms, especially in the southern Ontario regions of the province where diversity is more common.

The story is quite cute, enticing the reader to finish reading the entire book. The ending turns into a celebration for the reader as the situation builds into a dilemma for the children sharing to share all the cookies to the Grandma arriving with more cookies for everyone to have more than one cookie. The content is clear and engaging with some expression. The key line in

this story to become an interactive read for students is “No one makes cookies like Grandma.” The story will gain the interest of most students.

Connections 5/6

The connection students can make from this story would be authentic for learning mathematical concepts, and for developing relationships that apply to real life occurrences. Students would be most interested in the topic of cookies and easily relate to the mathematic concepts of some, share and plenty as applied to addition and division. Another realistic idea is having friends stop by and visit. They may decide to have a snack or beverage where sharing and compromise will be involved. These are two very important values to be learned in life. The most common experience for sharing happens at birthday parties when many children will have to figure out and share items like pizza or the birthday cake.

Connecting this story to Language or literacy learning is another key feature of this book. The teacher would find this story useful when instructing students about the concepts of expression, predictions, dialogue, narration, problem-solving and quotation marks. The content is simple enough for student readers, yet effective when applied to language and mathematical instruction.

Audience 6/6

The Doorbell Rang is an appealing story for an audience of all ages. As adults, reading this text for the first time the story is pleasing and has a charming ending. This book is very engaging for students of all ages. As mentioned, the title of the story does not give away the underlying theme of the story and as the story builds students are more engaged. Students can make basic relationships from the beginning and throughout the story which builds their interest. This allows room for re-reads of the book as students may not obtain all the mathematical information presented during the first read through. It has a subtle way of possessing mathematical problem-solving concepts. Students may ponder the ideas of sharing the cookies but as the story progresses and more children are introduced the use of math problem-solving techniques become important for how the story will play out in the end.

It is appealing to all audiences of various cultures and genders. Not all the children are the same in this story and the pictures illustrate the diversity and allow students to be open-minded of the different cultural backgrounds.

Because the story contains a message of sharing this story would allow for discussion regarding appropriate behavior which would meet audiences on various levels.

“Wow” Factor 5.5/6

The Doorbell Rang is a fresh and appealing read bringing out ideas and starting the thinking/ problem-solving process. It sparks the interest of the reader with the theme of cookies, sharing and celebrating the goodness of memories that comes with the experience and through the connection it has towards student's lives. The Doorbell Rang is an enjoyable story that

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engages students. Its use of mathematical concepts has a stimulating effect on all students, encouraging them to develop, apply and share investigation strategies for solving problems.

Part 7– Self-Assessment 20 /20

Choosing a children's literature and mathematics text unique and separate from the book titles on the extensive book list took some work in finding. Upon cross referencing the book list which "The Doorbell Rang" was not included allowed us to follow through with ordering this book from the local book store. As a team, we took very kindly to this book considering all the opportunities it offered when teaching at the primary and possibly junior grade levels. For this assignment we feel that we have taken the time to thoroughly complete all of the required components including a well-structured lesson plan and evaluated "The Doorbell Rang" accordingly. Each of the five categories for completing the book critique received critical thought based on the article "Making Inform *Selecting Children's Trade Books for Mathematics Instruction.*" All questions for both the written assignment and those in our lesson plan are interesting for learners and relative to the mathematical concept of addition, division and estimation to foster conceptual understanding for all students.

Modeling Chart and Problem Solving using Mathematical Concepts



Guiding questions as the story progresses

The same questions provided for the before, during and after would apply to this component on the lesson. See the chart provided below that shows how this would be modeled for the students.

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Modelling a Chart- recording all presented information from the “The Doorbell Rang”

Events in the story	Number of Children	Number of Cookies	Mathematical Strategy	Operation	Answer for how many cookies per child
Point A	2	3 rows of 4 cookies each = 12 cookie	Grouping, addition, multiplication	$12 / 2 =$	6 each
Point B	4	12	Division	$12 / 4 =$	3 each
Point C	6	12	Division	$12 / 6 =$	2 each
Point D	6	12	Division	$12 / 12 =$	1 each
Point E	12 children, 2 adults	Plenty ???	Subtraction, division, fraction	?	?

Challenge question

In The Doorbell Rang, the grandma baked a lot of cookies for everyone. Her baking sheet had 8 rows of 6 cookies, 2 rows of 5 cookies, and 3 rows of 4 cookies.

- How many cookies are there altogether?
- If these cookies are shared equally by the 12 children, how many cookies will each person get?
- If you add the 12 cookies the mother baked to the grandmother's cookies, how many cookies will each child get now?



References

Hutchins, P. (1986). *The Doorbell Rang*. Greenwillow Books. New York.

Hellwig, S., Jacob, J. and Monroe, E. (2000). *Making Inform Selecting Children's Trade Books for Mathematics Instruction*. Article. The National Council of Teacher of Mathematics.

1. Lesson Plan Information	
Subject/Course: Mathematics	Name: Tammy Bitonti and Jacqueline Floyd
Grade Level: 3	Date: January 29, 2009
Topic: Division	Time and Length of Period: 10:00 – 10:40 (40 minutes)

2. Expectation(s) and Learning Skills
<p>The students will:</p> <p>Number Sense and Numeration – Operational Sense</p> <ul style="list-style-type: none"> relate multiplication of one-digit numbers and division by one-digit divisors to real-life situations, using a variety of tools and strategies (e.g., place objects in equal groups, use arrays, write repeated addition or subtraction sentences) (Sample problem: Give a real-life example of when you might need to know that 3 groups of 2 is 3×2.); 3m27 <p>Mathematical Process Expectations – Problem Solving</p> <ul style="list-style-type: none"> apply developing problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding; 3m1 <p>Today, students will: continue to build onto their prior knowledge of division through exploring the operation in the picture book, <i>The Doorbell Rang</i>, and then practice dividing cookies evenly between people with the use of a chart.</p>

3. Pre-assessment
<p>A. (i) Students</p> <ul style="list-style-type: none"> Understand the basic mathematical processes of addition, subtraction, and multiplication Have had an introduction to division Work cooperatively in groups Know some problem solving strategies Understand how to use graphic organizers Can use manipulatives to assist in problem solving Have a basic understanding of how to communicate in math Understand the concept of sharing items equally <p>(ii) Differentiation of content, process, and/or product (may be accommodations and/or modifications)</p> <ul style="list-style-type: none"> Will use proximity to keep M and S on task
<p>B. Learning Environment</p> <ul style="list-style-type: none"> Students will be seated at the carpet area for the story Students will work in groups at their desks for the application

<ul style="list-style-type: none"> • Students will come up to the front of the class to explain their mathematical solution 	
<p>C. Resources/Materials</p> <ul style="list-style-type: none"> • The Doorbell Rang by Pat Hutchins • Chart paper for the chart, markers • Blackboard and chalk • 38 cookies • Cookie baking sheet manipulatives • Other manipulatives: counters and ones blocks 	
<p>4. Content (The What) Teaching/Learning Strategies (The How)</p>	
<p>A. Introduction (motivational steps/hook/activation of students' prior knowledge) (2 minutes)</p> <ul style="list-style-type: none"> • Ask students to give a thumbs up if they like cookies • Ask students to give a thumbs up if they have ever shared cookies, or another type of snack with a somebody else such as a brother, sister, or friend • Have students explain how they would share a plate of cookies equally with their family • Ask, "What information would you need to know in order to share the cookies equally?" • Ask, "What sort of mathematical process would you use to figure out how to share the cookies with your family so that everyone gets the same amount?" 	
<p>B. Content for New Learning</p> <ul style="list-style-type: none"> • Problem solving in The Doorbell Rang involves both addition and division • The book examines how to share the same number of cookies equally between different amounts of children • Both the words and the pictures need to be studied to figure out what numbers to work with • Multiplication must be used to find out how many cookies there are on the baking sheet • The greater the number of children, the smaller the 	<p>Teaching/Learning Strategies for New Learning (15 minutes)</p> <ul style="list-style-type: none"> • Remind students of the story The Doorbell Rang, written by Pat Hutchins, which has been previously studied in language arts • Explain to students that the children in the book have to problem solve to figure out how to divide their cookies • Create a chart to fill in with the students, recording how many cookies there are, how many children there are altogether on each page, and later, how many cookies each child will receive • Read the book to students, pausing to point out important points and ask key questions, such as: <ul style="list-style-type: none"> ○ Page 1 – The book does not tell us how many cookies there are in words. We see in the picture that there are three rows of cookies on the baking sheet, with four cookies in each row. How many cookies are there altogether? How did you get to your answer? What operation did you use? ○ Each time the doorbell rings and children enter, pause in order to count the number of children, and record it on the chart • After the story, direct student attention to the chart,

<p>amount of cookies each child gets</p> <ul style="list-style-type: none"> Manipulatives such as counters or ones blocks can be extremely useful to help students understand division 	<p>and show them how to figure out how many cookies each student will get by modelling with manipulatives, as well as writing the correct division statement</p>
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5. Consolidation/Recapitulation Questions (Check for understanding/scaffolded practice)

(4 minutes)

- Ask, “How does a chart help us when we are trying to solve problems in mathematics?”
- “When might we need to use division in a real life situation?”
- Tell students that division and multiplication are very closely related, and ask, “How can we check the division answers on the chart by using multiplication?”
- Have students check each answer from the chart by multiplying the number of children by the number of cookies each child gets to ensure the answer is 12 each time

6. Application (Moving from guided, scaffolded practice to increasingly independent practice and understanding / gradual release of responsibility)

(14 minutes)

- Have students return to their desks to work in mixed-ability groups on division problem solving questions so they can apply the strategies just learned
- Write the following question on the blackboard:

There are 19 students in our class. We have 3 full baking sheets of cookies, and another baking sheet with 2 extra cookies on it. Each full baking sheet has 3 rows of cookies and 4 cookies in each row.

 - How many cookies are there altogether?
 - If we divide the cookies evenly between everyone in our class, how many cookies will each student get?
- Supply groups with chart paper, markers, and manipulatives for solving the problem
- Students will be encouraged to use graphic organizers, pictures, and manipulatives to get the answer
- For strong math students, or groups that are finished early, provide them with the following challenge question based on the book:

In The Doorbell Rang, the grandma baked a lot of cookies for everyone. Her baking sheet had 8 rows of 6 cookies, 2 rows of 5 cookies, and 3 rows of 4 cookies.

 - How many cookies are there altogether?
 - If these cookies are shared equally by the 12 children, how many cookies will each person get?
 - If you add the 12 cookies the mother baked to the grandmother’s cookies, how many cookies will each child get now?

7. Lesson Conclusion

(5 minutes)

- Once all groups are done the first question, have each group go up to the front of the class and explain the mathematical process they used to arrive at their answer, as well as describe which manipulatives they used to help solve the question. Display each answer for the entire class to see and group similar solutions together to show sets of thinking styles. Praise all students for working hard and trying their best.
- In addition, take up the challenge question, which uses the same concepts and operations, but with bigger numbers
- Reward students by bringing out 38 cookies (the same number as the problem that was just solved) and allowing them to share amongst themselves since they determined how many cookies each child should get in the problem

8. Assessment (collection of data) / Evaluation (interpretation of data)

- Students will be evaluated with a checklist/ rubric based on whether their group used the materials given to solve the problem, used an effective problem solving strategy (such as graphic organizers), solved the problem using appropriate mathematical operations, and included proper terminology for division in either their solution or the explanation

9. Teacher Candidate's Reflections on the Lesson

A. (i) Evidence of Student Learning Related to the Lesson Expectation(s)

(ii) Next Steps for Student Learning Related to Lesson Expectation(s)

B. (i) Evidence of the Effectiveness of the Teacher Candidate

(ii) Next Steps Related to the Effectiveness of the Teacher Candidate

Modeling Chart and Problem Solving using Mathematical Concepts



Guiding questions as the story progresses.

Before

-What does a dozen cookies mean? How do we know how much a dozen is? If a dozen is a standard number of cookies that fit on a baking sheet, should we assume Ma made a dozen cookies? What sort of mathematical concept can we use to figure out how many cookies were available? Does the book tell us? How can we figure out the original number of cookies?

-Ask the students to explain how they would solve sharing a plate a cookies with their classmates. What sort of mathematical process would you use to figure out how to share the cookies with the entire class?

During

-How would you figure out how many cookies is plenty? On the cookie sheet there are three rows with four cookies across each row? How many cookies would this be and what mathematical application did you use?

- Each time the doorbell rings and children enter, how many children are there and how many cookies will each child receive?

After

-If Grandma, made a lot of cookies and the baking sheet shows six rows of cookies with eleven cookies across each row, how many cookies does she have for all the children to share? How many cookies would each child receive?

Modeling during a re-read aloud and use a graphic organizer to show their understanding of how the cookies would be divided equally. This question would be given at the end of the book which ties into the first question given at the beginning of the story. The students would be able to apply their prior knowledge of how to problem solve and use division. See the chart provided below that shows how this would be modeled for the students.

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