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Section PJ 2
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Children's Literature and Mathematics:
The Icky Bug Counting Book

The Icky Bug Counting Book:
Written by Jerry Pallotta, Illustrated by Ralph Masiello
Published by Charlesbridge (1992)
(ISBN 0-88106-497-1)

This book presents numbers 0-26 in words but also by the number of icky bugs on the page. Along with numbers, this book includes scientific information on the type of bug being represented and some pages provide thought provoking questions to get the reader more involved along the way. For example, "9 nine, Nine colourful Red Milkweed Beetles are walking on these leaves. These bugs lay their eggs on milkweed plants. Thousands and thousands of different kinds of beetles live all over the world." The final page of the book includes riddles regarding the bugs and the book itself which would be quite intriguing to students who are more interested in the scientific aspect of the book. This book would be appropriate for grade one and fits into the grade one curriculum in the Number Sense and Numeration strand. It best suits the expectation for counting; count forward by 1's, 2's, 5's and 10's to 100 using a variety of tools and strategies.



Direct Instruction Planning Format
2008-2009

1. Lesson Plan Information	
Subject/Course: Mathematics	Name: Sarah Game + Theresa Heppler
Grade Level: 1	Date: Jan. 23/08
Topic: Number Sense and Numeration	Time and Length of Period: 10:00-11:00am (60 minutes)

2. Expectation(s) and Learning Skills
The students will:
<ul style="list-style-type: none">- Represent, compare, and order whole numbers to 20 using a variety of tools and contexts.- Count forward by 1's to 26 using a variety of tools and strategies.

Today, students will:

- Read and write numerals and number words
- Create a number line from 0-20
- Count objects in a book from 0 to 26
- Represent a number from 0-20 in a picture format

3. Pre-assessment

A. (i) Students

- Can investigate the idea that quantity is greater when counting forwards and less when counting backwards.
- Can demonstrate an understanding of number relationships for numbers from 0 to 20, through investigation.
- Can read and write numbers and number words to twenty
- Understand that numbers can be represented using different objects (e.g bugs)
- Students have been introduced to number lines

(ii) Differentiation of content, process, and/or product (may be accommodations and/or modifications)

- S will be given a picture to represent his number to colour in instead of drawing his own
- A few students may require reminders and assistance with the application portion of the lesson

B. Learning Environment

- On the carpet area during the reading of the book
- Students will work at their own desks during application
- I will circulate during application and help students who require extra attention

C. Resources/Materials

- Book "Icky Bug Counting Book"
- Pencil crayons and crayons
- 5' by 5' paper
- Example of number zero number line sheet
- number cards from 0 to 20
- Tape

4. Content (The What)	Teaching/Learning Strategies (The How)
<p>A. Introduction (motivational steps/hook/activation of students' prior knowledge) (5 minutes)</p> <ul style="list-style-type: none"> - Welcome the class to the carpet - Introduce the book Icky Bug Counting Book - Ask: If we look at the title page picture, what might this book be about? - Ask: What is the title of the book? - Ask: How does the title 'Icky Bug Counting Book' give you hints about what the book may be about? - Tell students that we are going to practice counting to 20 starting at zero, count as a class slowly 	
<p>B. Content for New Learning</p> <ul style="list-style-type: none"> - Read Icky Bug Counting Book - Check for understanding of Number Lines and Counting 	<p>B. Teaching/Learning Strategies for New Learning (20 minutes)</p> <ul style="list-style-type: none"> - As I read each page of the book I will ask the class to count the bugs on each page as I point to each bug - I will assist students with counting where required - Where appropriate I will ask students questions about the current page/bug - Ask: We just counted 6,9,15, 21 bugs, how many bugs will be on the next page? - I will then explain that as a class we are going to make a number line from 0 to 20 to put up in the classroom - Ask: What does a number line show us? - Answer any questions students have about number lines - Provide an example number line on the board that runs from 0 to 20 - Provide examples of what a number line can help us do (count forwards and backwards) - Ensure students understand that the example number line goes from 0 to 20, but number lines can count to 50, 100, or larger numbers - Ask: Are the highest numbers in a number line on the left or right side?

	<ul style="list-style-type: none"> - Ask: If we are at the number 10 and we move to the left will the numbers get smaller or larger? - Cover up a number on the number line and ask students what number is covered. Ask: how do you know what number I covered?
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5. Consolidation/Recapitulation Questions (Check for understanding/scaffolded practice)

(2 minutes)

- Ask: Do the lowest/highest numbers on the number line go on the left or right side?
- Ask: What is the lowest number on this number line? What is the highest number on our number line?
- Ask if students have any questions about number lines or counting

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

(25 minutes)

1. Explain to students that we are going to create our own number line from 0 to 20
2. Each student will be given a piece of paper where they must put their number in numeric and written word form as well as a visual representation of their number (ie. 10 apples, 15 soccer balls)
3. Each student will be assigned their own number from 1-20 for the number line
4. Provide students with two examples zero, and twenty
5. Explain that students can draw any item they want to represent their number, but cannot use bugs
6. Remind students that they can look at the word wall to help them spell their number
7. Inform students that they can use pencil crayons, crayons, and markers to complete their part of the number line
8. Ensure students understand that I want to see their best work, the number line is going to be put up in the classroom and we have to be able to read it
9. Tell students to stay seated until I hand them their number card and piece of paper
10. Once the students have their materials they are to work on the card at their seat

7. Lesson Conclusion

(8 minutes)

-Upon completion of each Student's number for the number line, welcome students to place the numbers in order

- Ask students if the lowest number goes on the left or right side
- Assist students if necessary in placing their number in the correct position
- Tape the number line to the wall for students to see and use in future math lessons

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

Check List/ Notes on students being Above/Below/Meeting Expectations:

- Are students able to count to up to 26 while reading the book?
- Do students understand the order of numbers and placing numbers in a sequential order?
- Can students read and understand how the number line is set up from lowest number to highest?
- Do students' number for the number line include their number in numeric form, written form, and have a image to represent their number?

Expectations:

- Represent, compare, and order whole numbers to 20 using a variety of tools and contexts.
- Count forward by 1's to 26 using a variety of tools and strategies.

Below Expectations
Meeting Expectations
Above Expectations

The Icky Bug Counting Book **Book Critique**

Accuracy: 6/6

This book is very accurate in how it presents numbers from 0-26. All the numbers are listed in the correct order and the book begins with the number zero instead of beginning at one, even going so far as to state “zero is a number” and includes illustrations where no bugs are shown. It provides correct definitions for example, “The word Millipede means ‘one thousand legs’.” At certain intervals the text lists numbers up until the number presented on the page and those numbers are correctly listed in order. All the illustrations correspond with the text. For each number, the equivalent number of bugs are found on the page so that students can count all of the bugs. The mathematical concept explored in this book is counting which is made clear throughout the book, especially in the title *The Icky Bug Counting Book*.

Visual and Verbal Appeal: 5/6

This book is visually appealing because it is colourful and the icky bugs are drawn true to life making the illustrations interesting and intriguing. On each page, a type of icky bug is depicted and clearly illustrates what is being discussed in the text. The idea of the book is to read the number being considered on the page and to count the bugs shown, but to make this task more difficult the illustrator has cleverly hidden some of the bugs making it more of a challenge for the reader. It is also crafty in the sense that the bugs being depicted have camouflage capabilities which the illustrator utilizes in his art.

Connections:5/6

The Icky Bug Counting Book can be utilized as a “hook” for both math and science. With regards to math, it deals with the simple subject of counting and does not include many math problems (except for the short riddle at the end of the book) but can be used as a great way to introduce manipulatives for students to practice their one to one correspondence (each student could use plastic bugs as counters). It also connect math with nature as it relates tangible objects which students are familiar with, with a mathematical concept. This book relates to the science curriculum as students learn about the life cycle and it allows for opportunities to create cross-curricular activities between the two subjects.

Audience:4/6

This book is ideal for primary students as the illustrations are engaging and the book is interactive as students count out the icky bugs on each page. I feel that it also taps into children’s sense of wonder as they are curious about bugs and it is a topic which interests them. For older students, this book can be beneficial because it does provide fun facts about bugs and those interested in science would particularly enjoy it. On the last page of the book there is a riddle and discusses the scientific names of bugs in Latin, which would be lost on primary grades but older grades might find this intriguing and it could spark a discussion in the classroom. There is limited foreshadowing in this book as the counting concept is straight forward and there is no real story line, just

descriptions of different types of bugs. This book can be enjoyed by students of different backgrounds and genders because its content is familiar to all students.

Wow factor: 2/6

For myself, I feel that this book is missing a wow factor, but I can see how exploring different kinds of bugs may give it a wow factor for a younger child. If a child is interested in bugs, the icky bugs represented may not be familiar to them and it may spark their interest and encourage them to look into these types of bugs more deeply.