

Cover Sheet for Math-ese
December 9, 2006
Bonnie Miller

The lesson plans that I created for this meeting fits the objectives from the Math-ese Workshop and the Topic of the Day – “Using R & R to Teach Mathematics”.

The objectives of my lesson plans include developing a higher-level knowledge of math content for the public schools; develop strategies for teaching reading comprehension of math problems, and to incorporate literacy into my math lesson. I hope my peers will find them useful. Through these activities I have analyzed the student’s achievement data and it has increased my reflective practices.

We used several activities to develop math strategies for locating, analyzing, and using data and numbers through both of these lesson plans. Each lesson can be adapted in a number of ways to fit the level of learners in the classroom. The ‘12 Days of Christmas’ uses a chart and a table, while The Doorbell Rang uses just a chart. Both lessons use manipulatives in various places. Depending on how you read The Doorbell Rang it can be used for various grade levels also.

My students benefited from both these lesson plans. I used them to review and re-enforce their math skills since we’ve been working across the math curriculum in various ways.

Name: Bonnie Miller

Grade Level/Subject: 2nd Grade Math

Topic: 12 Days of Christmas – Prediction, Estimation, Addition, Table and Chart

Objectives (P.A.S.S.) :

Standard 1: Patterns: The student will use a variety of problem-solving approaches to extend and create patterns.

1. Describe, extend and create patterns using symbols, shapes, or designs.

Standard 3: Number Operations and Computation - The student will compute with whole numbers less than 100.

1. Develop and apply the concepts of addition and subtraction.
 - a. Demonstrate fluency with basic addition and subtraction facts.
 - b. Solve two-digit addition and subtraction problems with and without regrouping using a variety of techniques.

Standard 5: Data Analysis: The student will demonstrate an understanding of data collection, display and interpretation.

1. Collect, sort, organize, and display data in charts, bar graphs and tables.
2. Summarize and interpret data in charts, bar graphs and tables.
3. Make predictions and estimates to describe data.

Objective: Students will use different problem-solving strategies to predict, estimate, calculate addition, and complete a tally table and a chart.

Instruction:

1. Introduction: Ask students how many days of Christmas are there? Would they like to have more than one? How about 12? What would they like to give or receive as gifts?

2. Materials Needed:

1. Copies of "The Twelve Days of Christmas." [Included]
2. Tape or song from website [included]
3. Pencil
4. Markers, colored pencils or crayons
5. Paper
6. Construction paper for table/graph or use ones included
7. Manipulatives

3. Instructional Process:

Activity 1:

1. Hand out copies of "The Twelve Days of Christmas.
2. Before you read the song have students predict which day will have the most gifts by the end of the song. Which gift will be given most often? Give them the choices.
3. Read or sing through the song. If possible, play it on tape or from website [included].
4. Have students estimate how many total presents will be given.

Activity 2:

1. Using paper construct a 12-Day chart or use the one included to record with tally marks the number of gifts per day as you read through the song. If you have it on tape play one day at a time then fill in the squares. The kids like to sing along.
2. Use addition to calculate the total number for each day and then total the number of gifts at the end of the song. Did you figure out the addition pattern as you did the column totals?

Activity 3:

1. Using the data collected create a graph showing the gifts given and the gifts given on the days [included]. Using markers, colored pencils or crayons color each day a different color. Discuss what kind of graph they made. What does it show? Could it be colored differently? Each gift colored a different color?
2. The students will then use the data from the Tally Table or Chart to determine which day had the most gifts given and which gift was given most often by the end of the song.
3. After finishing the Chart compare it to the Tally Table. Are they alike or similar in anyway? They should see the diagonal lines.

Activity 4:

1. Students can use Cardinal Numbers, colored manipulatives, or symbols to create a set for each day to indicate the pattern that is created day by day.

4. Closure: We discussed if the students would want to get the gifts in the song. Why or Why not? I asked the students wanted for Christmas. Then write a letter to Santa.

Assessment:

You can assess the Tally Table and Charts for accuracy. The prediction and estimation guesses are just for the fun of it.

Modifications/Accommodations:

Lower Level Students can use manipulatives to count and create sets. They may need help filling in the Tally Table and or the Chart and may not be able to predict which day or add the total number of gifts, so you may want to pair them with another student.

The Upper Level Learners should be able to predict which day will receive the most presents. They probably won't figure out the addition pattern on the chart without your help, but if you let them total the first 5 columns and then show them the pattern – add the total of the next day gift on to the previous total [1 + 2 [Doves] = 3]; [3 + 3 [Hens] = 6]; [6 + 4 [Birds] = 10]; [10 + 5 [Rings] = 15] – then they should be able to finish it on their own.

Reflection:

Rewards - Rewards – Rewards! Ok, so it may be bribery, but I gave my students a piece of Christmas candy [chocolate] for singing along with the song and 1 for predicting the correct day and whoever got the closest to the total number of gifts got 2 pieces of their choice. I was surprised, but I had one student that just couldn't seem to get lined out on the columns. He got a little frustrated, but by the time he got to the end it finally made sense.

Variations/Options: You can use this lesson to talk about how the total number of gifts received is almost the same as getting a gift a day for a whole year.

Did you know – if you cut construction paper down to letter size it will go through a copier?

I found a paper garland at the local variety store that has the 12 Days of Christmas on it. What a find – it saved a lot of explaining – a Partridge? Turtle Doves? French Hens?

Below is the website where I found the '12 Days of Christmas' song. There are many more activities plus coloring pages [even some of the '12 Days of Christmas']. Check out the Library tab.

<http://www.12days.com/scene.htm>

This is included on the 'music sheet' but here it is again.

Site has a MIDI file [music] of the 12 Days of Christmas – 'CTRL + Click [link] to load'. Follow directions if it doesn't play immediately.

<http://www.12days.com/library/carols/12daysofxmas.htm>

12 Days of Christmas

On the first day of Christmas
my true love sent to me:
A Partridge in a Pear Tree

On the second day of Christmas
my true love sent to me:
Two Turtle Doves
and a Partridge in a Pear Tree

On the third day of Christmas
my true love sent to me:
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the fourth day of Christmas
my true love sent to me:
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the fifth day of Christmas
my true love sent to me:
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the sixth day of Christmas
my true love sent to me:
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the seventh day of Christmas
my true love sent to me:
Seven Swans a Swimming
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the eighth day of Christmas
my true love sent to me:
Eight Maids a Milking
Seven Swans a Swimming
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the ninth day of Christmas
my true love sent to me:
Nine Ladies Dancing
Eight Maids a Milking
Seven Swans a Swimming
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the tenth day of Christmas
my true love sent to me:
Ten Lords a Leaping
Nine Ladies Dancing
Eight Maids a Milking
Seven Swans a Swimming
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the eleventh day of Christmas
my true love sent to me:
Eleven Pipers Piping
Ten Lords a Leaping
Nine Ladies Dancing
Eight Maids a Milking
Seven Swans a Swimming
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

On the twelfth day of Christmas
my true love sent to me:
12 Drummers Drumming
Eleven Pipers Piping
Ten Lords a Leaping
Nine Ladies Dancing
Eight Maids a Milking
Seven Swans a Swimming
Six Geese a Laying
Five Golden Rings
Four Calling Birds
Three French Hens
Two Turtle Doves
and a Partridge in a Pear Tree

<http://www.12days.com/library/carols/12daysofxmas.htm>

Site has a MIDI file of the 12 Days of Christmas – Click to load.

12 Days of Christmas Chart

12 Drummers Drumming												
11 Pipers Piping												
10 Lords a Leaping												
9 Ladies Dancing												
8 Maids a Milking												
7 Swans a Swimming												
6 Geese a Laying												
5 Golden Rings												
4 Calling Birds												
3 French Hens												
2 Turtle Doves												
1 Partridge in a Pear Tree												
12 Days of Christmas	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12