Book Title: Math Curse by
Grade Level: 7

THEME: “Why do we have to study math?” whined Ms Rea’s grade 7 class.

Learning Outcomes:

A1 determine and explain why a number is divisible by 2,3,4,5,6,8,9, or 10 and why a number cannot be divided by 0
A2 demonstrate an understanding of the addition, subtraction, multiplication, and division of decimals (for more than 1 digit divisors or 2 digit multipliers, the use of technology is expected) to solve problems
A3 solve problems involving percents from 1% to 100%
A4 demonstrate an understanding of the relationship between positive repeating decimals and positive fractions, and positive terminating decimals and positive fractions
A5 demonstrate an understanding of adding and subtracting positive fractions and mixed numbers, with like and unlike denominators, concretely, pictorially, and symbolically (limited to positive sums and differences)
B3 demonstrate an understanding of preservation of equality
B5 evaluate an expression given the value of the variable

Materials:

- Math Curse book
- Cards with math problems
- Pencils, calculators, paper

Goal: To have students understand how math is used in everyday situations, and have them apply some math strategies to solve common problems.

Lesson Ideas:

At the start of the year read the book "Math Curse" and discuss with students how math is used in everyday situations.

As a class, brainstorm situations where math is used.
What type of math problems do we encounter in our daily lives?
Divide the class into groups of two. (Do this ahead of time so that you can group accordingly)
Give each group a card problem from the book and have them solve the problem.

As a year end assessment students will work with a partner or partners to complete their own illustrated book following the criteria outlined.

Extensions:

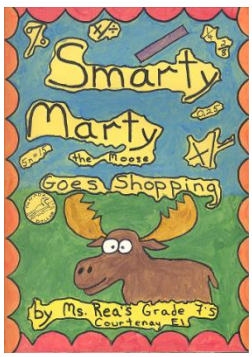
This can also be a fun project to do with the entire class.
First Step: Come up with your main character and a theme for the book. For example: we did Smarty Marty the Moose Goes Shopping.

Second Step: Divide the class into partners and have them choose a concept they would like to cover.

Third Step: Once all pairs have come up with their problem (and solution), put them in an appropriate sequence.

Fourth Step: Now comes the fun part. Each student partnership will create a problem page and include a picture of the main character. Ensure that your character has some distinctive features so that all students can incorporate them into their rendition. For example: big eyes and antlers, coloured all the same. Although each page had a slightly different looking moose given the different student artists, the main features tied it all together quite successfully.

My students had such fun doing this, and I frequently heard them say how much better it was than doing math!



I take the milk out for my cereal and wonder:

- One cup is 250 ml, so how many cups are in a litre?
- What would one half of a cup of milk be?
- How many centimetres in a metre?
- Does a centipede really have a 100 feet, or is it 100 pairs of feet?

If the sum of my nieces and nephews equals 15, and their product equals 54, and I have more nephews than nieces, how many nephews and how many nieces is this book dedicated to?

I have 1 white shirt, 3 blue shirts, 3 striped shirts, and that 1 ugly plaid shirt my Uncle Zeno sent me.

- How many shirts is that all together
- How many shirts would I have if I threw away that awful plaid shirt?
- When will Uncle Zeno quit sending me such ugly shirts?

I wake up at 7:15. It takes me 10 minutes to get dressed, 15 minutes to eat my breakfast, and 1 minute to brush my teeth.

- I my bus leaves at 8:00, will I make it on time?
- How many minutes in 1 hour?
- How many teeth in 1 mouth?

I try to get on the bus without thinking about anything, but there are 5 kids already on the bus, 5 kids get on at my stop, 5 more get on at the next stop, and 5 more get on at the last stop. How many kids are on the bus?

There are 24 kids in my class. I just know someone is going to bring in cupcakes to share. We sit in 4 rows with 6 desks in each row. What if Mrs. Fibonacci rearranges the desks to make 6 rows?

8 rows? 3 rows? 2 rows?

I count the 24 kids in our class again, this time by 2's

Jake scratches his paper with one finger.
How many fingers are in our class?

Casey pulls Eric's ear.
How many ears are in our class?

The new girl, Kelly, sticks her tongue out at me.
How many tongues are in our class?

The lunch bell rings. Lunch is pizza and apple pie. Each pizza is cut into 8 equal slices. Each pie is cut into 6 equal slices.

If I want 2 slices of pizza should I ask for:

a) 1/8 b) 2/8 c) 2 slices of pizza

What is another way to say $\frac{1}{2}$ of an apple pie? a) 2/6 b) 3/6 c) la moitié

Which tastes greater: a) $\frac{1}{2}$ pizza b) $\frac{1}{2}$ pie

The Fraser River is about 4000 kilometres long. An M&M is about 1 centimetre long.

There are 100 centimetres in a metre, and 1000 meters in a kilometre.

Estimate how many M&M's it would take to measure the length of the Fraser River.

Estimate how many M&M's you would eat if you had to measure the Fraser River with M&M's

Phys Ed is a sports problem.

In 1919 Babe Ruth hit 29 home runs, batted .322, and made $40 000.

In 1991, the average major league player hit 15 home runs, batted .275, and made $840 000. Circle the correct answer:

Babe Ruth < The average modern player
Babe Ruth > The average modern player
Babe Ruth = The average modern player

After school, my friend and I go to the corner store. Chocolate bars are on for 99cents so I buy 2 and my friend buys one. We get to the till and I hand over my toonie but forgot about HST (12%). Oops! My friend has a toonie too so he lends me some money. How much is the HST on my 2 chocolate bars? How much will I have to borrow from my friend? How much money will my friend have left after he buys his?

I had to pay my friend back but when I went to the bank I saw that my account was -7. dollars. So I decided to mow the neighbours' lawns to earn some money. I charged $15. per lawn and mowed 4. I was on a "roll" so to speak. I went back to the bank and deposited my earnings.

How much money do I now have in my account?

Math Booklet Criteria

You and your partners have been hired by a local publishing company to write a humourous story book that uses everyday math problems.

Procedure:

After reading "Math Curse" by Jon Scieszka and Lane Smith, you are inspired and ready to work effectively and efficiently together to create your own imaginative and unique story.

In your group you will first agree upon a main character for your story. Using a story board you will then come up with a scope and sequence. Your story should follow a theme, and have a clear start and ending.

Each one of you will be responsible for writing a minimum of 3 math problems we encounter in everyday life. As there are 10 concepts that you need to cover one student will be required to write a fourth problem. Another student can then be responsible for a title page and the third can do the back cover which will have detailed solutions to all the problems.

Your finished booklet will be as follows:

Title Page: should include a border and be colourful, and include all names of the authors

10 pages: one for each problem (see *Concepts Covered* below), numbered sequentially: Each page is neatly presented and colour is used to enhance the overall appeal

Back Page: clearly provides the solutions to each problem, is accurately identified to the page where the problem is found, and shows a clear understanding and thinking of the problem and solution.

Concepts Covered:

1) Adding and Subtracting Integers
2) Equivalent Fractions
3) Conversion of Fractions to/from Decimals
4) Adding/Subtracting Fractions, Improper Fractions, Mixed Numbers
5) Equation demonstrating equality
6) Equation using a variable
7) Adding/Subtracting decimals
8) Multiplying/Dividing decimals
9) A problem dealing with percent
10) A problem dealing with measurement - circumference

You will be given _____ classes to complete this activity.

The final booklet is due on _____

Math Booklet Rubric

Aspect	Not Yet Meeting Expectations 1	Minimally Meeting Expectations 2	Fully Meeting Expectations 3	Exceeding Expectations 4
Complexity of Problems	Not all problems have been done or problems are very simple with some errors in thinking.	All problems have been completed and are in a simple format.	Some problems are complex and others are simpler. All problems have been completed.	All problems demonstrate complex thought and use challenging strategies to find a solution.
Use of Math Language and Terminology	No math language or terminology is used or very minimal use of language with some errors.	Some problems use math language and terminology.	Accurate use of math language and terminology is used.	Extensive and accurate use of math language and terminology is used.
Solutions and Understanding of concepts	No solutions are provided or solutions are inaccurate, and/or lack necessary steps that demonstrate understanding of concepts.	Solutions provided are accurate, although a step may be missing, and demonstrate an understanding of all concepts	Solutions are accurate and thoroughly demonstrate an understanding of all concepts.	Solutions are detailed, accurate, and demonstrate a thorough and advanced understanding of all concepts.
Creativity	Book is incomplete and/or lacks creativity. Some sections may not make sense. Ending may be abrupt.	Book shows some creativity with a character who follows a story line. Some humour may be used to entertain the reader.	Book is creative in that it has an imaginative character, and follows a logical story line. Humour is used to entertain the reader.	Book is creative with an imaginative character, and is realistic yet humourous. Story line is inventive with a clear start and finish.
Presentation	Book lacks neatness and/or colour. Drawings are incomplete and/or messy demonstrating a lack of care and pride in work.	Book is somewhat neat and uses some colour to add appeal. Some pages may have only minimal use of colour and/or some scribbly work.	Book is neatly presented using colour. It is clear that the work has been completed with care and includes all necessary components.	Book is neatly presented using colour effectively throughout. It is clear that the work has been completed with pride and care and includes all necessary components.