

MATH

Can Take You Places

LESSON 22

“Real-World Reasonableness”

by Debbie Miskiewicz

CONCEPT AREA Domain/Range/Reasonableness

GRADE LEVEL 4-6

TIME ALLOTMENT Two 60-minute sessions

LESSON OVERVIEW Students will recognize math in everyday situations. Students will connect reasonableness to everyday situations that they encounter.

LESSON ACTIVITIES OVERVIEW After reading *Math Curse*, by Jon Scieszka and Lane Smith, students will work in pairs to write a sequel to the book using problems that they create. In the sequel, the “math curse” continues as the character in the book goes on a class field trip. Students will incorporate estimation and travel as they develop their problems and illustrate.

LEARNING OBJECTIVES Students will be able to:

- Make a plan to solve a problem.
- Evaluate strategies to solve problems for reasonableness.
- Carry out a plan effectively to solve a problem.

STANDARDS (TEKS) From the Texas Essential Knowledge and Skills for Math for grades 4-6:

Grade 4

4.1A, B, D, F, G

Grade 5

5.1A, B, D, F, G

Grade 6

6.2D; 6.8A; 6.11B, D

MATERIALS

- *Math Curse*, by Jon Scieszka and Lane Smith
- Colored construction paper
- Markers/crayons
- Index cards (optional)

PREP FOR TEACHERS Teachers will need to be familiar with the book *Math Curse*, by Jon Scieszka and Lane Smith.

Note:

The following concepts will be covered during this lesson: **time, arrays, fractions, patterns, monetary value and estimation.** Students may need to review the concepts prior to beginning the activities.

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If your class includes students who are acquiring English as a second language (ESL), you may also need to brainstorm problem-solving strategies or offer a list of possible strategies for students to refer to while completing the activities.

INTRODUCTORY ACTIVITY: SETTING THE STAGE

1. Teacher and students will brainstorm and make a list of how math is used every day.
2. Students will then take the list and classify each item under a topic of mathematics (for example, geometry, fractions, arithmetic).
3. The teacher will read the book *Math Curse*, by Jon Scieszka and Lane Smith. Ask students to pay close attention because they will be writing the sequel to the book.

LEARNING ACTIVITIES

1. Tell students that they will be writing the sequel to *Math Curse* where the character in the book wakes up the next day and still has “the curse” that makes her see mathematics in every situation. Her class will be taking an overnight field trip, and the students will be able to decide the activities of her day.
2. Divide the class into pairs or sets of threes. Each group will be assigned one of the major mathematic concepts mentioned in the book (1. Time, 2. Measurement, 3. Months of the year, 4. Arrays, 5. Fractions, 6. Geography, 7. Sports, 8. Patterns and 9. Money). You may want to put each topic and its number on an index card and allow students to draw from the deck of cards.
3. Brainstorm aloud some locations where the character may be going on the field trip. Choose the most popular attraction among the students as the destination for our character.
4. The task for the students is to develop one or more questions that relate to their assigned topic, incorporate estimation if possible and integrate it with the story that the class is developing as a whole. Students will have to communicate with the groups before and after them as they develop their problems. For example, if my group is assigned “2. Measurement,” then we must talk to the “1. Time” group and the “3. Months of the year” group to make sure that every part of the story makes sense. The students can refer back to the book if needed, but cannot copy verbatim.
5. Let the students know that they will be graded using the following rubric:
 - Is the problem creative and funny? (15 points)
 - Are the illustrations neat? (15 points)
 - Are their math problems correct? (40 points)
 - Does the page work well with the pages before and after it? (15 points)
 - Did they incorporate estimation? (15 points)
6. Allow students to work in their groups and with other groups to develop their rough draft of the problem and the illustration. When the groups are done, they should

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exchange their page with the group that is numerically ahead and behind. Students then use the rubric to grade the rough draft and give suggestions for improvement.

CULMINATING ACTIVITY

1. After all of the suggestions have been gathered for improvement, students will then create the final draft of their problem on construction paper. Make sure that students put the answers on the back of their final versions.

2. Have a representative from each group stand and hold his or her work up facing the class while the teacher reads the story aloud. Later, assign grades using the scoring rubric.

Extension:

Let students visit other math classes and read their creations.

CROSS- CURRICULAR EXTENSIONS

Art

Allow students to do Internet research on the artistic style of collage. Allow students to share the examples they find as well as the biographies of famous artists who used the style (such as Romare Bearden). Students should use magazines to create collages of their own.

REAL-WORLD CONNECTIONS

Ask your school principal to speak to the class. Ask him/her to describe how (s)he uses math in the principal’s job within the school.

ASSESSMENT

Use the “Estimation” *Math Curse* Scoring Rubric to assign grades to each group of students. The teacher may also want to collect the rubrics done by the students, and incorporate some of the applicable comments into the grading.

STUDENT HANDOUTS

“Estimation” *Math Curse* Scoring Rubric

“Estimation” Math Curse
Scoring Rubric

- Is the problem creative and funny? (15 points)
Comments:

- Are the illustrations neat? (15 points)
Comments:

- Are their math problems correct? (40 points)
Comments:

- Does the page work well with the pages before and after it? (15 points)
Comments:

- Did they incorporate estimation? (15 points)
Comments:

