

Learning Experience

LE Title: Dewey Decimal Math

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Grade Level: 6

School: Parkway Middle School

Topic/Subject Area(s):
Information Literacy Skill/
Math

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LEARNING CONTEXT

Purpose or Focus of Experience

For students to increase their understanding of the Dewey Decimal System as the foundation for organizing library materials; and how the mathematical concept of decimals is applied in the real-world setting of libraries.

CONNECTION TO STANDARDS

New York State Learning Standards addressed in assessment:

Math, Science & Technology

Standard MST2: *Information Systems*—Students will access, generate, process, and transfer information using appropriate technologies.

Standard MST3: *Mathematics*—Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.

Standard MST7: *Interdisciplinary Problem Solving*—Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

AASL Learning Standards addressed in assessment:

Information Literacy Standard 1: The student who is information literate access information efficiently and effectively.

Library & Information Skills Learner Outcomes addressed in assessment:

LIS Learner Outcome 3: Be familiar with the layout and organization of the library.

LIS Learner Outcome 13: Differentiate between fiction and non-fiction books.

LIS Learner Outcome 15: Locate books on the shelves by using the call numbers.

LIS Learner Outcome 18: Use the card/electronic catalog to locate materials by title, author, etc.

ESSENTIAL QUESTION(S)

What does math have to do with libraries?
Why do libraries use decimals?
What is the Dewey Decimal System?

CONTENT KNOWLEDGE: DECLARATIVE, PROCEDURAL

Declarative:

1. Students will know the concepts: fiction and non-fiction, call number, book shelving order, Dewey Decimal System and Melvil Dewey.
2. Students will understand the Dewey Decimal System and the organization of library materials.
3. Students will know the difference between fiction and non-fiction books and the characteristics of each.
4. Students will know how to arrange non-fiction books by their call numbers on a library shelf.

Procedural:

1. Students locate non-fiction books on the library shelves by using their call numbers.
2. Students search the card/electronic catalog by book title to find the call number.
3. Students search the card/electronic catalog by Dewey Decimal number (call number) to find the subject.
4. Students place call numbers (Dewey Decimal numbers) of non-fiction books in sequential order from least to greatest.
5. Students locate non-fiction books by their call numbers in the Library Media Center independently or with minimal assistance.

PROCEDURE

Day 1

1. Prior to the arrival of the class, the LMS selects five non-fiction books per table or small group as a beginning activity on categorizing things for a discussion starter on the Dewey Decimal System.
2. Before students arrive turn on the overhead projector with the transparency of Melvil Dewey and set the five non-fiction books on each table.
3. When students arrive, explain to students that their task is to categorize the books in the center of the table. Give the students approximately 4 to 5 minutes to make their determination.

4. The LMS guides the short discussion about organizing books by having each table (group) explain how they categorized the five books. Using this discussion, the LMS leads into an explanation of the Melvil Dewey and his decimal classification system.
5. At this point, the LMS hands out the packet—Find it fast with the Dewey Decimal System, states the purpose of the lesson and explain the Dewey Decimal Classification System.
6. Next, the LMS and the students reads *“I’ve got your number”*, a comic story together. The LMS starts with the title frame and then each student reads a frame of the comic story, going around the room until the story is finished.
7. After the story, the LMS hands each student a 5X7Index card with a call number of LMC book on it. At each table, students arrange the call number index cards in Dewey Decimal order from least to greatest as the books is found on the library shelf and then creates a “human bookshelf” by each student holding the call number index card in the correct Dewey Decimal order.
8. One by one, the LMS asks each table to stand up according to their determined “human bookshelf” arrangement. Students at other tables assess if the order is correct or not. The student who thinks there are errors with the arrangement needs to explain his/her reasoning to the other students in the class.

Day 2.

1. Prior to the arrival of the class, the LMS puts a 5X7 Index card with a call number in front of each seat at the table for a Dewey Decimal hands-on activity.
2. Also before students arrive turn on the overhead projector with the transparency Ten (10) Dewey Decimal Classifications.
3. When students arrive, explain to the students that their task is to locate a book in the LMC with the call number on the 5x7-index card in front of you and bring the book back to your seat and place it in the middle of the table. Give the students approximately 5 minutes to make their selection.
4. Next, to refresh students’ memory of the Dewey Decimal System, the LMS and the students re-read *“I’ve got your number”*, a comic story together. The LMS starts with the title frame and then each student reads a frame of the comic story, going around the room until the story is finished. The LMS asks students a question—Who is Melvil Dewey? ; What is a call number? ; How are books arranged on a library shelf? A class discussion will evolve.
5. After reading *“I’ve got your number”*, students are curious about the books in the middle of the table. Tell students that you are going to see which table or small group can arrange the books by their call number or Dewey Decimal number in sequential order from least to greatest the quickest. Students need to shout “Dewey” when finished
6. With the stopwatch in hand, the LMS shouts go and starts the clock, timing to see which table or group is the fastest. Students must shout “Dewey” when finished, so the LMS can stop the clock.
7. The LMS and other students at non-winning tables assess if the book arrangement is correct or not. A student who thinks there are errors with the arrangement needs to explain his/her reasoning to the other students in the class.

8. After the Dewey game, the LMS discusses and models the homework worksheets using the transparencies on the overhead projector. Leave about 10 minutes at the end of the period to give students the opportunity to begin the assignment so they know how to do it.
9. At the end of class, LMS hands out Dewey Decimal bookmarks in recognition of students' achievement in learning the Dewey Decimal System.
10. Student Obligation— Find it fast with the Dewey Decimal System Homework Worksheets
On the worksheets, students must arrange the non-fiction book call numbers in order from least to greatest, use the card/electronic catalog to locate a book title's Dewey Decimal call number and to find out what subjects the Dewey Decimal call numbers represent.

Standards taught but not assessed:

Standard ELA1: Language for Information and Understanding—Students will read, write, listen and speak for information and understanding.

Standard ELA4: Language for Social Interaction—Students will read, write, listen and speak for social interaction.

INSTRUCTIONAL/ENVIRONMENTAL MODIFICATIONS

This learning experience was designed as a Math activity in the library media center using two (2) 40-minute class periods. It's important to carry out this lesson in conjunction to the time frame in which the students are learning decimals in Math. Also, It is particularly essential to work with the Resource Room teacher for the students needing Math AIS and Special Education Teacher for students with IEP's. This learning experience can easily be modified for block scheduling by combining the two days into one period, but I would not suggest it. I would use the extra block time for students to practice arranging Dewey Decimal call numbers from least to greatest and to search the card/electronic catalog to find a book title's Dewey Decimal call number and to find out what subjects the Dewey Decimal call numbers represent.

TIME REQUIRED

Planning: 1—40-minute planning period:

1— LMS meets with Math teachers to find out when decimals are taught in the classroom and coordinates dates for Dewey Decimal Math in the LMC.

2— LMS gathers resources and makes copies of the student packets.

Implementation: 2 —40-minute class in the Library Media Center

Student Assessment: Find it fast with the Dewey Decimal System Homework Worksheets

RESOURCES

5X7 index cards with call numbers of LMC books written on them
Computers with card/electronic catalog
Dewey Decimal Bookmarks from Demco
Find it fast with the Dewey Decimal System (attached)
Find it fast with the Dewey Decimal System Homework Worksheets (attached)
“I’ve got you number”, a comic story from Upstart (30 copies or enough for a whole class)
Overhead Projector
Transparency—Homework worksheets
Transparency – Melvil Dewey
Transparency – Ten (10) Dewey Decimal Classifications
Stop watch
Wall screen (portable or attached)

REFERENCES

“Information skill of the month—Scary House: De-wey Dare?” School Library Media Activities Monthly.
October 2001, p. 22.

Tesh, Jane. The Dewey Decimal System or I’ve got your number. Printed in USA : Highsmith Press,
1997.

Turrell, Linda. The Complete library skills—Grade 6. Minneapolis, Minnesota : T.S. Dension & Co.,
Inc., 1994.

ASSESSMENT PLAN

Students are visually assessed by the LMS during the two-day class activities for participation. For their partaking effort the student receives 15 points. Students are also evaluated on the Find it fast with the Dewey Decimal System Homework Worksheets. As in math class, each part of the question counts as one point, therefore, there’s no rubric. This learning experience counts as one test grade for the marking period.

Grades: 1-week of planning time for the LMS to mark student’s work. Once student work is graded the LMS gives the Math teacher’s the Dewey Decimal packets so that the student’s score can be put into their grade book.

STUDENT WORK

Available upon request
Find it Fast with the Dewey Decimal System Homework Worksheets (attached)

REFLECTION

This learning experience needs to be performed in conjunction to the time frame in which students are learning decimals in math because it gives them the opportunity to use decimals in a real-world setting.

Students are totally amazed that they are coming to the LMC for Math class. The usual questions I get from students walking in the door are—*Why are we here for math? And What does math have to do with the library?*

The hands-on activities are fun, yet meaningful to the learning experience. Students can get high strung and out of hand, so make sure you state the rules before initiating any activity in this lesson.

I re-read “I’ve got your number” with the students not only to refresh their memory, but for the students who were absent the first class. Re-reading is great because students add emotion and expression into the two book characters as they read.

It is also important that students are familiar with the LMC’s card/electronic catalog (OPAC) to complete the assignment.

I acquired the third part of the homework worksheets from the magazine, School Media Activities Monthly. The haunted house fits in perfectly because I usually do this lesson the last two weeks in October right around Halloween.