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| |  |  | | --- | --- | | This lesson provided by: | | | Author: | Rebecca Campbell | | System: | Perry County | | School: | Uniontown Elementary School | | C:\Users\STARBASE Academy\Desktop\ALEX Lesson Plan Math at Dinner!_files\GEMSwebLOGO.jpg |

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| Lesson Plan ID: | 26240 |
| **Title:** | Math at Dinner! |
| **Overview/Annotation:** | Each group of students will use word processing software to create a restaurant menu complete with food titles and prices. Groups will then exchange menus and use the menus to order a meal. Each student will total their meal, add 10% sales tax, 15% gratuity and figure their change from $20.00.  This lesson plan was created as a result of the Girls Engaged in Math and Science University, GEMS-U Project. |
| **Content Standard(s):** | |  |  | | --- | --- | | TC2(3-5) | 2. Use various technology applications, including word processing and multimedia software. | | MA2010(4) | 3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. [4-OA3] | | MA2010(4) | 20. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. [4-MD2] | |
| **Local/National Standards:** | NCTM Algebra standard for Grades 3–5 Expectations:  In grades 3–5 all students should–   * express mathematical relationships using equations. |
| **Primary Learning Objective(s):** | Students will be able to use a word processing program to create a menu, complete with food titles and prices. The students will then use the created menus to "order" and "pay" for their meal. |
| **Additional Learning Objective(s):** |  |
| **Approximate Duration of the Lesson:** | 61 to 90 Minutes |
| **Materials and Equipment:** | -  teacher created menu (see Teachermenu.rtf attachment)  - restaurant menus (1 per student)  (This can be from a local restaurant, take-out menus work best.)  -  math journals (I recommend journals to promote dialog   among students)  -  calculators (1 per student)  - Optional: waitress/waiter attire (such as an apron and notepad) |
| **Technology Resources Needed:** | - computer with word processing software  -  printer  - LCD projector connected to a computer/or an overhead projector |
| **Background/Preparation:** | Students will work in groups of 2 and diverse ability grouping is best for this activity. |
| **Procedures/Activities:** | **Step 1**  Teacher displays the restaurant menu on the LCD projector. (If you do not have an LCD projector, you can copy it onto a transparency and use an overhead projector or give every group of students a copy of the menu)  Teacher says: "Last night  I went to this restaurant and ordered dinner.  I only had $20 to spend. I was very hungry, so I ordered a cheeseburger, french fries, a large Pepsi and a slice of cheese cake for dessert. My bill was $12.50 and I decided to check over it to make sure she was right. I added the cheeseburger, $3.50 ( write the amounts on the board as you go), french fries, $2.00; large  Pepsi, $2.00; and cheese cake, $2.50. The total was $10.  (Use calculator to check your work)The tax is 10%, (figure the tax) or $1.00 and the gratuity for the waitress was 15% (figure the gratuity)or $1.50. I added it all together and my total bill was $12.50.  The waitress was correct! When I got ready to leave, I paid my bill. Remember, I only had $20. I subtracted how much I owed the restaurant from $20 and my change was $7.50."  **Step 2**  (Still using the displayed restaurant menu)   "Now, let’s order dinner together. What would you like to eat student's name?  (As the student names what he/she wants to eat write the amount on the board.)  When the student has "ordered", ask the class what do we need to do to figure out how much we owe the restaurant. (Guide students through adding the amounts, calculating the tax and gratuity, and getting a total. Use a calculator to check your work) Now, remember I have $20, so what will my change be? (Guide the students through calculating the change and use the calculator to check your work)  **The next day**  **Step 3**  (Teacher dresses in waitress/waiter attire and has teacher created menus in hand.)  Teacher says: "Welcome to my restaurant!  I am so glad you are here.  You may order exactly what you want to eat and drink, but you only have $20 to spend. After you have ordered you will have to add up your meal, calculate the 10% sales tax, my gratuity of 15%, and your change! Your entry in your math journal should follow this guideline. (Display guest check example. See guestcheck.rtf attachment.)   Teacher passes out teacher made menu (see Teachermenu.rtf attachment).  As students are working, walk around and check to make sure all students are staying on task.  **Step 4**  With the teacher made menu displayed, the teacher shows the students how to create a one page menu complete with prices. (If a projector is not available, small groups gathered around the computer will work also.)  Students will work in groups of two to develop a restaurant menu in a word processing program. Once the menus are created, four copies are printed, (one for each member of the group to glue in their math journal and two to share with classmates) students will exchange menus and "order" a meal, calculate their bill and change from $20. Students should follow the guest check guide to enter the amounts in their math journal.  Students should glue the menu that they ordered from in their menu also. |
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| **Extension:** | Students that have mastered the primary learning objectives can:   * use other restaurant menus to "order" and calculate totals * create a price list for different items at the school store * order items from a catalog and complete the company's order form |