***Lesson Plan Template for***

***Christmas Shopping List RPc3/NS5***

Adapted from: Smith, Margaret Schwan, Victoria Bill, and Elizabeth K. Hughes. “Thinking Through a Lesson Protocol: Successfully Implementi ng High-Level Tasks.”

*Mathematics Teaching in the Middle School 14* (October 2008): 132-138.

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| **PART 1: SELECTING AND SETTING UP A MATHEMATICAL TASK** | |
| What are your mathematical goals for the lesson? (i.e., what do you want  students to know and understand about mathematics as a result of this lesson?) | Students will be able to find the percent of a quantity and fluently add and subtract multi-digit decimals. Students will round all answers to the nearest hundredths. Sale tax will also be determined in their calculations. |
| What are your expectations for students as they work on and complete this task?   What resources or tools will students have to use in their  work that will give them entry into, and help them reason through, the task?   How will the students work—  independently, in small groups, or in pairs—to explore this task?   * How will students record and report their work? | * Holiday advertisements * Calculator * Blank Paper * Students will work in pairs * They will create a poster to present their information |
| How will you introduce students to the activity so as to provide access to *all*  students while maintaining the cognitive demands of the task? | Start with a Christmas list of ten people. Tell them:  You have been awarded $100, from the principal, to buy ten holiday gifts for family, friends, or pets. For every dollar you spend you will pay $0.06 in sales tax. The student that spends closest to $100, without going over, wins! ☺  You will have a variety of store ads to do your shopping in. \*pay special attention to discounts  Show them how comparison shopping works. (Money, ad vs. ad, item with price tags, discounts etc.) |

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| **PART 2: SUPPORTING STUDENTS’ EXPLORATION OF THE TASK** | |
| As students work independently or in small groups, what questions will you ask to—   help a group get started or make progress on the task?   focus students’ thinking on the  key mathematical ideas in the task?   assess students’ understanding of  key mathematical ideas, problem- solving strategies, or the representations?   advance students’ understanding  of the mathematical ideas? | Ask students…  1. How does a sale affect the price of an item?  2. How does tax affect the price of an item?  3. Talk through how they find a percent  4. What can you tell me about percentages?  5. What does a discount mean? How does it affect the cost of the item?  6. When do you figure the sales tax? Is it before or after you take the discount?  7. If you don’t know how to compute a discount (15%, 20%) how can you use 10% to help you?  8. How could rounding help you work through this task?   * advanced students use a more precise tax value such as 6.25% * advanced students will find what percent of the $100 each gift cost * Students can look at store receipts to compare tax rate on food vs. non-food items |
| How will you ensure that students remain engaged in the task?   What assistance will you give or what questions will you ask a  student (or group) who becomes  quickly frustrated and requests more direction and guidance is  solving the task?   What will you do if a student (or group) finishes the task almost  immediately? How will you  extend the task so as to provide additional challenge? | 1. monitoring students work (walk around)  2. questioning : ask the students how they will figure the percentage to find the discount.  3. Have students justify their thinking.  4. Have students explain various parts of their solution. |

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| **PART 3: SHARING AND DISCUSSING THE TASK** | |
| How will you orchestrate the class discussion so that you accomplish your mathematical goals?   Which solution paths do you want to have shared during the  class discussion? In what order will the solutions be presented? Why?   What specific questions will you ask so that students will—  1. make sense of the  mathematical ideas that you want them to learn?  2. expand on, debate, and question the solutions being shared?  3. make connections among the different strategies that are presented?  4. look for patterns?  5. begin to form generalizations?  What will you see or hear that lets you know that *all* students in the class  understand the mathematical ideas that  you intended for them to learn? | 1. Ask student to come up one group at a time. Focus on students who used different strategies. Have them explain how they organized their information. 2. Did they compute the problems with a calculator or by hand? 3. When working with money which place do you round to? (tenths, hundredths, thousandths) |