|  |
| --- |
| About this Lesson |
| This lesson introduces students to the concept of “debt.” After examining the costs of different types of debt and the effect on purchase prices, students determine whether debt is worthwhile. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Grade Level** | **Course(s)/subject(s)** | **Learning Goal(s)** | **Suggested**  **Timing** |
| 7 | Mathematics, grades 1­–8 (2005)  Social Studies, grades 1–8 (2013) | At the end of this lesson, students will:   * identify the benefits and costs of debt, and the consequences of having or not having it | 75 minutes |

|  |
| --- |
| Curriculum Links |
| Mathematics, grades 1–8 (2005)  Number Sense and Numeration   * solve multi-step problems arising from real-life contexts and involving whole numbers and decimals, using a variety of tools (e.g., concrete materials, drawings, calculators) and strategies (e.g., estimation, algorithms) * solve problems that involve determining whole number per cents, using a variety of tools |

|  |
| --- |
| Inquiry Question |
| What is debt? Describe the possible consequences (positive and negative) of having/not having debt. |

|  |
| --- |
| Materials List |
| * Pictures of a house, a car and a movie ticket * Computers/iPads * Math Journals * Previously taught knowledge: calculating percentages * Exit Card (Appendix A) * Comparing Debt Costs Chart and Reflection (Appendix B) * Rubric (Appendix C) * Sample Comparing Debt Costs Chart (Appendix D) |

| **Timing**  (Mins.) | **Lesson Sequence** | **Assessment for and as Learning Opportunities** (self/peer/teacher) |
| --- | --- | --- |
| MINDS ON | | |
| 5-10 minutes | WHOLE CLASS  Prompt to Discuss:  What is debt (spending more than you have, having negative wealth, owing someone money, borrowing money now to buy something you can’t yet afford). Contrast this to a debit (subtracting funds from a positive balance in your bank account; using money that you already have).  Prompt students to give examples of acquiring debt, such as borrowing money from a friend. How did it make you feel to have negative money, that you needed to pay someone back before you had some for yourself? Write the examples on chart paper.  (Alternative activity: Have students create skits based about borrowing/owing money and present these skits to the class.)  Put up the three pictures up on the board/SMART board. Underneath the picture, put the question “Which of these do you think you would use debt to purchase?”  The answer is all of them, some of them, or none of them. After all, we use debt to purchase something when we either do not have enough cash to pay for something when we want it, or want to delay paying the entire price for it.  (Prior knowledge needed: percentages, percentage of a number, division) | Observation/Anecdotal Notes |

| **Timing**  (Mins.) | **Lesson Sequence** | **Assessment for and as Learning Opportunities** (self/peer/teacher) |
| --- | --- | --- |
| MINDS ON (cont'd.) | | |
|  | PAIRS/SMALL GROUPS  Instruct the students to discuss the question together in pairs (5 mins.). Come back together to the large group to discuss. |  |
|  | Context for Learning   * knowledge of negative numbers * knowledge of percentages * may need to have prior knowledge, or a prior knowledge of spreadsheets if you are going to use technology |  |
| ACTION | | | |
| 50–60 minutes | | WHOLE CLASS  Review different ways of acquiring debt (credit cards, bank loans, student loans, etc.) and why people choose to acquire it. (Some reasons: to buy something we can’t yet afford, to earn points, purchase an income-generating asset, etc.)  (Alternatively, if students cannot think of ways to acquire debt, provide students with examples of debt and explain why these types of debt are used.) |  |
|  | | PAIRS/SMALL GROUPS  Review the chart and reflection questions (Appendix A and Appendix B). Use the sample chart (Appendix D).  Together in groups or pairs, use the chart (Appendix B) with three sections that represents at least three debt instruments (e.g., credit cards, bank loans, student loans).  (**Alternative**: If you have taught basic spreadsheet skills up to this point, use Excel or Google sheets to re-create a sheet to input costs.)  Using a computer/iPad/calculator, find an interest rate that each type of debt could cost (e.g., mortgage rate from a bank, credit card interest rate). | Comparing Debt Costs Chart and Reflection (Appendix B) |

| **Timing**  (Mins.) | **Lesson Sequence** | **Assessment for and as Learning Opportunities** (self/peer/teacher) |
| --- | --- | --- |
| ACTION (cont’d.) | | |
|  | Under each column, write one item or thing (house, car, sports equipment, etc.) that you would like to buy using a form of debt. Write the dollar cost of the item that you would like to buy.  The students then must calculate the tax (using the Ontario tax rates, currently 13%). After calculating the after-tax price, calculate the price of the item with interest for each of the three interest rates. Remind the students that this is the price of the item after a year with interest charged on the purchase at the end of the year.  (**NOTE:** This assumes **simple interest only** with no payments made on the debt throughout the year.)  Tell students to compare the different end prices on the items when they use different debt instruments. |  |
| CONSOLIDATION/DEBRIEF | | |
| 5–10 minutes | WHOLE CLASS  In your math journal, answer one of the following questions.   1. Which debt instrument is the most expensive, has the most interest? Why would people choose to use this instrument? 2. Was the extra money paid in interest worth the cost of debt? 3. When would it not be a good idea to use debt to buy something? 4. When could debt be a good thing? 5. What conclusions can you draw about the extra money paid in interest compared to the cost of debt? 6. Under what circumstances might it not be financially beneficial to use debt to purchase an item? 7. Explain and/or give examples of how debt might be necessary (a good decision). | Exit Card (Appendix A) |

|  |
| --- |
| Exit Card |
| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_                          Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Debt: Benefits and Costs: Exit Card  (You can use calculators to answer the questions.)  Question #1: If you borrow $100 from a friend, and that friend charges you 4% interest per week on the money, how much will you owe him in a month, assuming each month has about four weeks and you do not pay the friend anything back during the month?  Question #2: If you paid $75 for a pair of jeans you really liked with a credit card and you didn’t pay back the card that month, how much would you be paying in total? Assume the credit card has a 20% interest rate and the tax rate is 16% on the purchase. |

**APPENDIX A**

|  |
| --- |
| Comparing Debt Costs |
| Group Members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | | | Credit Cards (CC) | Bank Loans (BL) | Student Loans (SL) | | **Interest rates** | | | **\_\_\_\_\_\_\_\_\_%** | **\_\_\_\_\_\_\_\_\_%** | **\_\_\_\_\_\_\_\_\_%** | | Items | Item Cost Before Tax | Item Cost with Tax | Item Cost with CC Interest | Item Cost with BL Interest | Item Cost SL with Interest | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  | **Total Cost Before Tax** | **Total Cost After Tax** | **Total Cost After Tax with CC Interest** | **Total Cost After Tax with BL Interest** | **Total Cost After Tax with SL Interest** | | **Total Cost** |  |  |  |  |  |   Choose one item. How much more are you paying for that item after a year when you use debt to buy it?  Show your work here. |

**APPENDIX B**

|  |
| --- |
| Comparing Debt Costs (cont’d.) |
| Comparing Debt Costs  Group Members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Was the extra money paid in interest worth the cost of debt in the purchases made above? 2. When would it not be a good idea to use debt to buy something? 3. When could debt be a good thing? 4. Which type of debt (i.e., credit card, student loan or bank loan) would cost the most in interest? 5. Explain and/or give examples of how debt might be necessary (a good decision). |

**APPENDIX B**

|  |
| --- |
| Comparing Debt Costs Rubric |
| Student name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Category | Level 1  (50%–59%) | Level 2 (60%–69%) | Level 3 (70%–79%) | Level 4 (80%–100%) | | Knowledge and Understanding | | | | | | Solve multi-step problems arising from real-life contexts | Demonstrates limited knowledge of content. | Demonstrates some knowledge of content. | Demonstrates considerable knowledge of content. | Demonstrates thorough knowledge of content. | | Thinking | | | | | | Solve multi-step problems involving whole numbers and decimals, using a variety of tools | Uses critical/creative thinking skills with limited effectiveness. | Uses critical/creative thinking skills with some effectiveness. | Uses critical/creative thinking skills with considerable effectiveness. | Uses critical/creative thinking skills with a high degree of effectiveness. | | Communication | | | | | | Solve problems that involve determining whole number per cents, using a variety of tools | Expresses and organizes ideas and information with limited effectiveness. | Expresses and organizes ideas and information with some effectiveness. | Expresses and organizes ideas and information with considerable effectiveness. | Expresses and organizes ideas and information with a high degree of effectiveness. | | Application | | | | | | Makes connections between class concepts and creates a plan for implementation | Makes connections and a plan for concepts with limited effectiveness. | Makes connections and a plan for concepts with some effectiveness. | Makes connections and a plan for concepts with some effectiveness. | Makes connections and a plan for concepts with a high degree of effectiveness. |   Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Mark: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Parent initials: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**APPENDIX C**

|  |
| --- |
| Comparing Debt Costs (Sample) |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | | | Credit Cards (CC) | Bank Loans (BL) | Student Loans (SL) | | **Interest rates** | | | **\_\_\_19\_\_\_\_%** | **\_\_\_\_4.5\_\_%** | **\_\_\_5\_\_%** | | Items | Item Cost Before Tax | Item Cost with Tax (13%) | Item Cost with CC Interest | Item Cost with BL Interest | Item Cost SL with Interest | | Cellphone | $500 | $565 | $672.35 | $590.43 | $593.25 | | Ball Cap | $25 | $28.25 | $33.62 | $29.52 | $29.66 | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  | **Total Cost Before Tax** | **Total Cost After Tax** | **Total Cost After Tax with CC Interest** | **Total Cost After Tax with BL Interest** | **Total Cost After Tax with SL Interest** | | **Total Cost** | $525 | $593.25 | $705.97 | $619.25 | $622.91 |   The interest cost in this example is calculated for a year, assuming no payments are made over the course of the year. |

**APPENDIX D**