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| About this Lesson |
| In this lesson, students consider the financial and other benefits of buying local produce. |

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| **Grade Level** | **Course(s)/subject(s)** | **Learning Goal(s)** | **Suggested**  **Timing** |
| Intermediate grades 7–9, including LDCC | Math Social Science | By the end of this lesson, students will be able to give financial, nutritional and social reasons why it may often be advantageous to buy local produce. | Total of  at least 2x 50- to 75-minute lessons |

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| Curriculum Links |
| Elementary curriculum  Grade 7 Math  Overall: (Number Sense and Numeration)   * Apply a variety of computational strategies to solve problems involving whole numbers and decimal numbers   Specific   * Identify and compare integers found in real-life contexts * Use estimation when solving problems involving operations with whole numbers, decimals and per cents to help judge the reasonableness of a solution   Overall: (Data Management and Probability)  • Make and evaluate convincing arguments, based on the analysis of data  Specific   * Collect data by conducting a survey or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject and record observations or measurements * Collect and organize categorical, discrete or continuous primary data and secondary data (e.g., electronic data from websites such as E-Stat or Census At Schools) and display the data in charts, tables and graphs (including relative frequency tables and circle graphs) that have appropriate titles, labels (e.g., appropriate units marked on the axes), and scales (e.g., with appropriate increments) that suit the range and distribution of the data, using a variety of tools (e.g., graph paper, spreadsheets, dynamic statistical software) * Read, interpret and draw conclusions from primary data (e.g., survey results, measurements, observations) and from secondary data (e.g., temperature data or community data in the newspaper, data from the Internet about populations) presented in charts, tables and graphs |

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| Curriculum Links (cont’d.) |
| Grade 8 Geography  Overall:  B2. Use the geographic inquiry process to investigate issues related to the impact of the extraction/harvesting and/or use of natural resources around the world from a geographic perspective.  [LDCC Grade 9 and 10](http://www.edugains.ca/resources/CurriculumDocuments/LDCC_Math_9_10.pdf)  **MAT1L**  **Overall:** **(Developing and Consolidating Money Sense)**  **DMSV.03**   * Communicate information about money concepts   DMSV.04   * Use literacy skills (reading, writing, listening and speaking) to obtain and communicate information about money sense   **Specific**  **DMS3.02**   * Explain their reasoning used in problem-solving and in judging reasonableness   **DMS3.03**   * Communicate, orally and in writing, the solutions to money problems and the results of investigations, using appropriate terminology, symbols and form   **MAT2L**  **Overall:** **(Extending Money Sense)**  **EMSV.01**   * Solve problems drawn from everyday situations involving money, demonstrating skill and understanding in the use of decimal numbers   EMSV.02   * Communicate information about money sense   EMSV.03   * Use literacy skills (reading, writing, listening and speaking) to extend their money sense   Specific  EMS2.02   * Explain their reasoning used in problem-solving and in judging reasonableness   **EMS2.03**   * Communicate, orally and in writing, the solutions to money problems and the results of investigations, using appropriate terminology, symbols and form |

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| Inquiry Question |
| What are the financial, nutritional and social advantages and disadvantages of buying produce grown locally? |

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| Materials List |
| * Computers for referencing distances * Posted World Map * Chart Paper * Appendix A: Favourite Fruits and Veggies * Appendix B: Produce Origins, Processing and Shipping Times |

| **Timing**  (Mins.) | **Lesson Sequence** | **Assessment for and as Learning Opportunities** (self/peer/teacher) |
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| MINDS ON | | |
| 20 minutes | **Arrange students in groups of four or five.**  Each group divides a sheet of chart paper in two horizontally with a marker, and then the top half in two again vertically, and the bottom half in two again horizontally, labelling them as shown in **Appendix A: Favourite Fruits and Veggies**  First, they list five fruits and five vegetables that they like and identify where they think that fruit or vegetable is grown (listing more than one source if applicable).  From their list, they should identify (underline) the two items they think are grown the farthest away (If available, sources outside of Canada could be marked on a posted map of the world. Alternatively, students could use the Internet to determine approximate distances.).  They should then list any possible disadvantages they can identify with produce that is not grown locally (e.g., ripeness when picked, nutritional value change, etc.).  Finally, they should identify factors that will affect the time between harvesting and buying produce (e.g., packing, unloading trucks/ships/trains, warehousing, etc.).  Have students share the longest distance their group had, and one disadvantage of produce that is not local. | Provide ongoing feedback on students’ observations  Through observation of student interactions and listening to students’ conversations, assess students’ prior knowledge and possible misconceptions |

| **Timing**  (Mins.) | | **Lesson Sequence** | | **Assessment for and as Learning Opportunities** (self/peer/teacher) |
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| ACTION | | | | |
| 20 minutes | **(Individually, pairs, or in small groups, depending on computer availability)**  **Use a current grocery store flyer to list:**   * All the produce items * Their country of origin * The other information shown on **Appendix B: Produce Origins, Processing and Shipping Times** (capital of origin location, distance between that capital and Toronto, approximate travel time, approximate total processing time, availability from Ontario)   Some suggested websites are listed in the sample completed **Appendix B**. (May not be completed in first period.) | |  | |
| CONSOLIDATION/DEBRIEF | | | | | |
| 5 minutes | | In preparation for the second lesson, ask students to start thinking about and identify what factors should be taken into consideration in deciding whether or not to “buy local.” | |  | |

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| Favourite Fruits and Veggies |
| |  |  |  | | --- | --- | --- | | **Fruits we like** | **+** | **Vegetables we like** | |  | + |  | | + | | + | | + | | + | | + | | + | | + | | Food from other countries:  1)  2) | | | | Disadvantages of buying food that has come from a long way away: | | | | Factors that will affect the time between harvesting and buying produce: | | | |

**APPENDIX A**

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| Produce Origins, Processing and Shipping Times |
| **Notes:**  1) Some countries have a legislative capital and separate administrative or judicial capitals (e.g., South Africa: Pretoria, Cape Town and Bloemfontein respectively). Any of these could be considered acceptable.  2) Average transportation times:  By sea: Average speed of container ships is approx. 34 knots (37 km/hr) By road: Approx. 500 miles/800 km per day By rail: Average freight train speed (Canada) 40 km/h  3) Food available in Ontario: <https://www.ontario.ca/foodland/page/availability-guide>  4) Processing time refers to the (estimated) time between picking and the consumer buying. Factors might include sorting, washing, packing, warehousing, etc. |

**APPENDIX B**

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| Sample Completed Appendix B with Web Links |
| **Notes:**  1) Some countries have a legislative capital and separate administrative or judicial capitals. e.g., South Africa: Pretoria, Cape Town and Bloemfontein respectively.  Any of these could be considered acceptable?  2) Average transportation times: By sea: Average speed of container ships is approx. 34 knots (37 km/hr) By road: Approx. 500 miles/800 km per day By rail: Average freight train speed (Canada) 40 km/h  3) Food available in Ontario: <https://www.ontario.ca/foodland/page/availability-guide>  4) Processing time refers to the (estimated) time between picking and the consumer buying. Factors might include sorting, washing, packing, warehousing, etc.  5) Data Sources: Item list – Metro Flyer September 6–13, 2018  6) Useful/sample weblinks: Google Maps is a good source for most road distances. Otherwise, Googling “sea distance Brasilia Toronto” (sometimes Vancouver or Halifax) for example works well (e.g., Distance from Brasilia: <https://www.prokerala.com/travel/distance/from-brasilia/to-toronto/>).  Availability in Ontario: Foodland Ontario: <https://www.ontario.ca/foodland/page/availability-guide>  Some foods are not listed, and sometimes, again, simply Googling works. For example, searching “Chinese eggplant Ontario” yielded this four-minute YouTube video: <https://www.youtube.com/watch?v=_kU8gQAXT9E>  (Video could also be deferred to the Lesson 2 Minds On) |

**APPENDIX C**