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| **Course(s):** Science 1206 |
| **Curriculum Expectations:**   * 118-1 compare the risks and benefits to society and the environment of applying scientific knowledge or introducing a new technology * 118-9 propose a course of action on social issues related to science and technology, taking into account human and environmental needs * 331-6 analyse the impact of external factors on an ecosystem * 114-1 explain how a paradigm shift can change scientific world views in understanding sustainability. Explore and develop a concept of sustainability in relation to a natural resource industry (e.g., forestry, fishery, agriculture, aquaculture, mining, tourism or others)   (<http://www.ed.gov.nl.ca/edu/k12/curriculum/guides/science/sci1206/unit1.PDF>) |
| **Overview:** Students will start by completing the “Fishing in Bonne Bay” activity. This activity will introduce the idea of sustainable resource harvesting by modelling unsustainable fishing practices and the effect of more efficient technology on the fish populations. |
| **Materials:**   * SMARTBoard Fishing in Bonne Bay • Fishing Record Sheet (1 per student) * Plastic bowls (one for 4-5 students) • “Fish” (candies ie. chocolate with candy * Stop watch coating, macaroni noodles, etc.) * Straws (one per student) \*Depending on food allergies * Spoons (one per group |
| **CURRA Reference:** For more information on this topic, and efforts regarding fisheries recovery see  Globalization, Fisheries, and Recovery-A presentation by Martha MacDonald, Peter Sinclair, and Deatra Walsh. <http://www.curra.ca/presentations.htm> and “Marine wildlife of the Gros Morne national park region” – Joeseph S. Wroblewski |
| **Lesson Details:**   * Split class into groups 5 groups (5 fishing locations in Bonne Bay) * Give each group a bowl with 20 “fish” * Each student will receive a Fish Record Sheet and a straw to “catch” fish with (by sucking on one end) * Seasons will be timed by the teacher (approximately 20 seconds) * Students will record their catch, make notes on the season, and need at least two fish to survive until the next season * Remaining fish will “reproduce” one “fish” each season. Add one candy per fish after each round * Record student results on SMARTBoard (optional) * After the first two seasons, give one student from each group a spoon to represent increasing technology * Once data is collected, follow discussion questions as a class |
| **Assessment-Discussion Questions**:   * How did you feel when (if) your fish stocks began to run out? * Define sustainability. Ask students if this activity demonstrated sustainable fishing practices. * What are the impacts of unsustainable fishing practices? * Define stewardship. Explain how this concept relates to responsibly sharing resources. * How could you change your fishing strategy to ensure that practices were sustainable? |

**Fishing Record Sheet**

Fisher’s Name:

Fishing Location:

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| Season One | Catch |  |
| Remaining Fish |  |

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| Season Two | Catch |  |
| Remaining Fish |  |

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| Season Three | Catch |  |
| Remaining Fish |  |

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| Season Four | Catch |  |
| Remaining Fish |  |

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