***River Rangers Fall 2016***

Week of August 29, 2016 SRA staff will install aquariums in classrooms. Staff will also fill aquariums with aquatic samples from the Sackville River. The sessions indicated by \* will be led by SRA staff.

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| **DOE Grade 4 Habitat Outcomes**  ***Students will be expected to:*** |  |
| Identify questions to investigate the types of plants and/or animals at a local habitat using the terms:   * Habitat * Population * Community | ***\*Week 1 September 19, 2016***  Introduction to all classes participating in the River Rangers Program: PowerPoint/discussion session   * Description of the Sackville River watershed * History of the Sackville River Association * Definitions: **habitat, population** and **community** * Explanation of handout that is to be completed in class prior to following week’s field study * Agriculture and its effect on stream and river habitat |
| *Observe, describe and measure, using written language, pictures and charts, changes that occur through the life cycle of a flowering plant.* |
| *I**dentify, investigate and suggest explanations for life needs of plants and describe how plants are affected by conditions in which they grow.* |
| *Question and record relevant observations and measurements while investigating various growing conditions for plants.* |
| Examine and investigate, using various methods and questions, local habitats and their associated populations of plants and animals. | ***\*Week 2 September 26, 2016***   * Field study of organisms in and around the Sackville River * Observe and record organisms found in habitat * Photograph habitat |
| Construct and/or maintain a model of a natural habitat and, through observations, suggest improvements to make it more habitable for organisms. | Week 3 October 3, 2016   * In class observations of animals in the aquarium * Identification of behavioural and structural features of animals that enable them to survive in their habitat |
| Compare the external features, behavioural patterns, structural, and/or behavioural adaptations for an animal to survive a particular habitat. |
| *Place seed in groups according to one or more attributes.* |
| *Identify and describe parts of plants and their general function* |
| Classify organisms and draw diagrams to illustrate their role in a food chain | Week 4 October 10, 2016   * Elaboration of example food chains from the Sackville River watershed based on observations made during the field study, observation of the aquarium and book/internet-based research * Develop an understanding of how organisms within food chains are classified by feeding strategy as: **producers**, **consumers** (herbivores, omnivores and carnivores) and **decomposers** |
| Classify organisms and draw diagrams to illustrate their role in a food web | Week 5 October 17, 2016   * Examination of how the food chains that are found in the Sackville River watershed can be combined into a web of feeding interactions within the community * Consideration of the potential consequences of the removal of species from a food web using the plight of Atlantic Salmon in the Sackville River as an example. |
| Describe how scientists’ knowledge of plant growth has lead to agricultural and technological innovations and the impact on local and regional habitat issues | ***\*Week 6 October 24, 2016***  Impact of human activity in the Sackville River watershed on the natural community   * pH and acidity experiment * Fertilizers and leaching experiment * Physical destruction * Dumping |
| Identify their own and their families’ impact on habitats and describe how personal actions help conserve |
| *Describe and respond to ways in which plants are important to living things and how the environment and how the supply of useful plants is replenished.* |
| Predict how the removal of a plant or animal population affects the rest of the community and relate habitat loss to the endangerment or extinction of plants and animals. | ***\*Week 7 October 31, 2016***   * Wolf Island- picture story on habitat changes * Oh Salmon! Habitat game (outdoors or gym) |

The final week of the program will include the dismantling and removal of the aquariums and catch up of any lessons that may have been missed.