Topic:	Field Study: Data Collection Day
Science 14 Program of Studies outcome(s):	Students will: 2. Analyze a local ecosystem in terms of its biotic and abiotic components, and describe factors of the equilibrium
Science, Technology and Society (STS) and Knowledge	• <u>https://education.alberta.ca/media/3069383/pos_science_14_24.pdf</u>
Skills:	Initiating and Planning:
	Ask questions about relationships between and among observable variables and plan investigations to address those questions
	<ul> <li>Identify questions to investigate arising from practical problems and issues</li> <li>Define questions and problems to facilitate investigation</li> <li>Select appropriate methods and tools for collecting data and information to solve problems</li> </ul>
	Performing and Recording:
	Conduct investigations into the relationships between and among observations, and gather and record qualitative and quantitative data
	• Carry out procedures, controlling the major variables
	<ul> <li>Estimate measurements</li> <li>Organize data, using a format that is appropriate to the task or experiment</li> <li>Use tools, technology and apparatus safely</li> </ul>
	Communication and Teamwork
	Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures and results
	<ul> <li>Receive, understand and act on the ideas of others</li> <li>Communicate questions, ideas, intentions, plans and results, using lists, notes in point form, sentences, data tables, graphs, drawings, oral language and other means</li> <li>Work cooperatively with team members to develop and carry out a plan, and troubleshoot problems as they arise</li> <li>Evaluate individual and group processes used in planning, problem solving,</li> </ul>

## Lesson # 8: Setting the Stage

	decision making and completing a task
Attitudes	Most of the Attitude Outcomes stated in the Program of Studies are included into each of the <i>Wading in for Water</i> lessons. This includes; Interest in Science, Mutual Respect, Scientific Inquiry, Collaboration, Stewardship, and Safety. Please refer to the specific outcomes . <u>https://education.alberta.ca/media/3069383/pos_science_14_24.pdf</u>
Planning ahead	<ul> <li>Field Study Day</li> <li>Bring a few extra copies of the data sheet from last class</li> <li>Data collection equipment for each group is ready from last class (see list)</li> <li>Have some sunscreen, mosquito spray, rubber boots prepared for sharing with students</li> <li>Several clipboards and pencils</li> <li>Have a trolley/tray/ space for students to place their samples once they return to class after they have collected their samples</li> <li>Collection bags/vials, etc. for each group</li> </ul> *Safety First: Refer to your school/department/district regulations* <ul> <li>Emergency phone number and cell phone for use during an emergency</li> <li>Safety protocol such as carrying a first aid kit</li> <li>If needed, have an extra teacher/ administrator/ lab technician to accompany the group depending on location and group dynamic.</li> </ul>
Type of lesson	Field study out of the classroom
Word Wall	Listed in Appendix A

## NOTE:

Ensure that you have met all of your School District's criteria for student safety and risk management for off-site field studies.

## **Getting Started**

Topic opener "hooks"	<ul> <li>Intro/ Hook ideas:</li> <li>Hook: field study in a local environment</li> <li>Have students check in for attendance, sit with their group members, and make sure their equipment and data sheet is located and ready to go.</li> <li>Notify the office that you are leaving the campus</li> <li>Pep talk about representing the school when we are out in the community (no horseplay, appropriate language, etc.)</li> </ul>
Lesson Sketch	<ul> <li>*Safety First: Refer to your school/department/district regulations*</li> <li>Field Study Day: Data collection</li> <li>Lead students to the collection location.</li> <li>Each group needs to collect their own data. Arrange the groups in relatively close proximity, where they are approximately 50 m away from each other. Close enough for safety and for the teacher to rotate back and forth to support groups, but far enough away that students do not distract each other.</li> <li>Depending on the group, if the data is collected early, guide the students around the area pointing out interesting observations. <ul> <li>Are there shore birds? Watch for a ground nest.</li> <li>Are there any human disturbances obvious? Litter, or sound from an adjacent roadway.</li> <li>Listen to any bird songs, or a frog chorus</li> <li>Watch for insects, including butterflies</li> <li>Discuss what is upriver, or what feeds the waterbody, and where the water goes to next.</li> </ul> </li> </ul>
Closing ideas	<ul> <li>Have students label all samples, and to place their samples on a designated tray/trolley/ lab space that is safe and free of other students until the following class</li> <li>Have students either hand in their data sheet, or place it with their samples.</li> <li>*Safety First: Refer to your school/department/district regulations*</li> <li>Take attendance before leaving the field site and again back at school</li> <li>Check in with the office upon return to school</li> </ul>

Notes: