

## Lesson Study Unit Timeline

Note: [Pre-assessment](#) administered before start of lesson

<b>Day 1:</b>	Learning Goal:	<ul style="list-style-type: none"> <li>Students will research the population they have chosen in order to understand factors that affect population change</li> </ul>
	Materials:	Computer Lab Research sheet for each population
	Time:	1 day (plus additional research time outside of class, if needed)
	Lesson Outline:	<ul style="list-style-type: none"> <li>Introduce project to students: They will choose an animal and study the changes in population, use data sets to create graphs, analyze trends, and make predictions</li> <li>Show list of populations that are available to choose from</li> <li>Let students choose partners</li> <li>Have partners choose which population they wish to study</li> <li>Review lab expectations (work the entire time, be on task, work together, etc.)</li> <li>Pass out <a href="#">research sheet</a> for the population chosen</li> </ul>
<b>Day 2:</b>	Learning Goal:	<ul style="list-style-type: none"> <li>Students will analyze simple graphs and data sets to determine which family of functions best fits the data.</li> <li>Students will learn how to put data into a calculator and run regressions.</li> <li>Students will analyze a graph and data set for their chosen population and determine a function that best fits.</li> </ul>
	Materials:	Simple data set Worksheet Regressions instruction sheet Data set for populations Graphing calculators (1 for each pair) Colored pencils Rulers
	Time:	1 day
	Lesson Outline:	<ul style="list-style-type: none"> <li>Pass out <a href="#">data worksheet</a> and <a href="#">regression instructions</a></li> <li>Students identify function families that apply to the data sets</li> <li>Check in with groups to ensure they are identifying correct families</li> <li>Pass out <a href="#">data sets</a> for chosen populations, ask students to identify function family to best fit</li> <li>Students should struggle to identify an appropriate family</li> </ul>
<b>Day 3:</b>	Learning Goal:	<ul style="list-style-type: none"> <li>Students will subdivide their graphs in order to find function families that better suit individual sections of the data for their chosen populations</li> </ul>
	Materials:	Graphing calculators (1 for each pair) Regressions instructions (received yesterday) Population Data (received yesterday) Guiding Questions document Lesson Wrap-up document

		Colored pencils Rulers
	Time:	1 day
	Lesson Outline:	<ul style="list-style-type: none"> <li>● Introduce Lesson - Students will reflect on learning from previous lesson</li> <li>● Think, Pair, Share - Students will reflect on learning from previous lesson</li> <li>● Class discussion - Students will distinguish between ideal data and real world data</li> <li>● Partner Discussion - Students will identify strategies to make this problem doable</li> <li>● Share out, Class discussion - Students will share observations with the class.</li> <li>● Partner Work - Students will divide the data and write equations to match the graphs. Pass out <a href="#">guiding questions</a> to facilitate group discussions.</li> <li>● Pass out <a href="#">Lesson Wrap-up</a> - Students will make connections between changes in animal population and human actions</li> </ul>
<b>Day 4:</b>	Learning Goal:	<ul style="list-style-type: none"> <li>● Students will reflect on the function families they identified to represent sections of their data in order to determine reasons for changes in population trends</li> <li>● Students will predict future population with evidence to support their claim</li> </ul>
	Materials:	Graphing calculators (1 for each pair) Graph paper Colored pencils Rulers
	Time:	1 day
	Lesson Outline:	<ul style="list-style-type: none"> <li>● Continuation of Lesson from prior day</li> <li>● Students will finish wrap-up worksheet</li> <li>● Students will complete <a href="#">post-test</a></li> </ul>