

Dynamic Population Dynamics  
SAMPLE RUBRIC

Pre-Activity	Exceeds Expectations	Approaches Expectations	Below Expectations
Understanding of Population Growth (and Relevant Mathematical Formulas)	<p>Student is able to clearly brain-storm many factors that affect the growth and carrying capacity of a given population.</p> <p>Student is able to explain the relationship between the given mathematical formulas and the subsequent changes in the size of a population.</p>	<p>Student is able to brain-storm some factors that affect the growth and carrying capacity of a given population.</p> <p>Student is able to articulate some aspects of the relationship between the given mathematical formulas and the subsequent changes in the size of a population.</p>	<p>Student cannot provide examples of factors that affect the growth and carrying capacity of a given population.</p> <p>Student cannot articulate aspects of the relationship between the given mathematical formulas and the subsequent changes in the size of a population.</p>
Activity	Exceeds Expectations	Approaches Expectations	Below Expectations
Carrying Capacity & Geometry	<p>Student is an active and knowledgeable participant in the geometrical computations and analysis of carrying capacity data.</p>	<p>Student is an active participant in the calculations of carrying capacity, but does not understand the relationship between the math &amp; carrying capacity.</p>	<p>Student is neither active, nor knowledgeable in the relationship between the math &amp; carrying capacity.</p>
Designing a Model of Population Growth	<p>Student is an active and knowledgeable participant in the design of the Logistic Model of Population Growth.</p>	<p>Student is an active participant in the implementation of the Logistic Model, but does not understand the basis for the implementation.</p>	<p>Student is neither active, nor knowledgeable in the implementation of the Logistic Model.</p>
Manipulation of the Predator-Prey Relationship Model	<p>Student is an active and knowledgeable participant in the manipulation of the predator-prey model.</p>	<p>Student is an active participant in the manipulation of the predator-prey model, but does not understand the basis for alterations that occur.</p>	<p>Student is neither active, nor knowledgeable in the manipulation of the predator-prey model.</p>
Post-Activity	Exceeds Expectations	Approaches Expectations	Below Expectations
Analysis of the Population Dynamics & Mathematical Models	<p>Student can clearly explain the relationship between changes in an ecosystem and the mathematical expression of those changes.</p>	<p>Student can identify some aspects of the relationship between changes in an ecosystem and the mathematical expression of those changes.</p>	<p>Student cannot explain the the relationship between changes in an ecosystem and the mathematical expression of those changes.</p>