

Scoring Rubric: NGSS Modeling

	1 Developing	2 Approaching Standard	3 Meets Standard	4 Exceeds Expectations
Diagrams and Annotations (25%)	<ul style="list-style-type: none"> Model fails to correctly describe relationships between important structures and variables Labels minimal Figure caption is absent or minimal 	<ul style="list-style-type: none"> Major structures shown; "story" of system lacking Diagrams unclear, inaccurate, or missing Annotations of relationships unclear, lacking, unspecific, or inaccurate Figure caption is lacking specificity or accuracy 	<ul style="list-style-type: none"> Annotated diagram '<i>tells the story</i>' of the system being shown Diagrams and labels accurate and complete Annotations describe relationships between all important structures, variables and/or processes Figure caption is sufficiently detailed and specific 	<ul style="list-style-type: none"> Annotations give reasoning and/or explanations of important relationships An evaluation of the limitations/assumptions of the model is given Evidence of deeper understanding of the system being modeled is clear
Evidence (25%)	<ul style="list-style-type: none"> Model does not accurately account for relevant evidence 	<ul style="list-style-type: none"> Model incorporates some relevant evidence Evidence is presented with gaps or does not reflect research done in class Reasoning (common sense statement) absent or in error 	<ul style="list-style-type: none"> Model incorporates relevant evidence that reflects research done in class Evidence is presented accurately and completely Reasoning (common sense statement) explicitly connects evidence presented with an element of the model 	<ul style="list-style-type: none"> An evaluation of the limitations and/or strengths and weaknesses of the evidence is included, (ex. sample size, measurement errors, and assumptions)
Predictions (35%)	<ul style="list-style-type: none"> Model fails to predict the results of important variables changing, counterexamples, or novel situations Prediction not specific to system being modeled 	<ul style="list-style-type: none"> Model attempts to predict the results of some important variables changing Predictions of events contain mistakes, are incompletely shown Reasoning behind predictions not explicitly shown using model 	<ul style="list-style-type: none"> Model explicitly predicts the results of important variables changing, including reasoning and results Prediction explicitly follows from aspects of the system being shown 	<ul style="list-style-type: none"> Model correctly predicts situations that have not been encountered by the student or discussed in class Prediction provides evidence of deeper understanding of the system being modeled
Clarity (15%)	<ul style="list-style-type: none"> Diagrams/labels are unclear or absent Substantial content is assumed by the reader 	<ul style="list-style-type: none"> Some diagrams/labels are unclear or important elements are assumed Student's thinking is not <i>explicitly</i> communicated through the model 	<ul style="list-style-type: none"> Diagrams are clearly labeled and aid in understanding the system The student's thinking is clearly and <i>explicitly</i> communicated by the model 	