Skill	Score			Notes or Comments
	Proficient	**Developing**	**Needs Revisiting**	
Decide What to Model	• Assumptions made are clearly identified and justified. Resulting limitations are stated when appropriate. • Variables of interest are clearly identified and chosen wisely, and appropriate units of measure are used.	• Assumptions are noted but lacking in justification or difficult to find. • Variables of interest are noted, but may lack justification, be difficult to find, or not be measured with appropriate units.	• No assumptions are stated. • No variables are defined.	
	To improve at this skill, you could: • Ask questions about the situation to understand it better • Check the assumptions you're making to see if they're reasonable (Try asking a friend, or imagining that you're a person involved in the scenario. Would those assumptions make sense to you?) • Double-check the variables you've identified: Are there other quantities in the situation that could vary? Is there something you've identified as a variable that is actually fixed or determined? (Remember that more abstract things like time and speed are also quantities.)			
Formulate a Mathematical Model	• An appropriate model is chosen and represented clearly. • Diagrams, graphs, etc. are clear and appropriately labeled.	• Parts of the model are unclear, incomplete, or contain mistakes.	• No model is presented, or presentation contains significant errors.	
	To improve at this skill, you could: • Check your model more carefully to make sure it really fits well • Consider a wider variety of possible models, to find one that fits the situation better • Think about the situation more deeply before trying to find a model • Convince a skeptic: Pretend that you think your model is inadequate, or ask a friend to pretend to be skeptical of it. What would a skeptic find wrong with your model? Try to fix those things, or explain why they're not actually problems.			

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Use Your Model to Reach a Conclusion	• Solution is relevant to original problem. • Reader can easily understand the reasoning leading to the solution. • Relevant details are included like units of measure.	• Solution is not well-aligned to original problem, or aspects of the solution are difficult to understand or incomplete.	• No solution is provided.	
	To improve at this skill, you could: • Double-check your calculations: Show them to someone else to see if they agree, or take a break and look at your calculations again later • Make sure your calculations are justified by your model: Ask yourself how you decided what to calculate, and see if your reasoning matches up with your model • Think more deeply about what your conclusions mean in the original scenario: Imagine you're a person involved in the scenario, or explain your conclusions to someone else and see if they have questions			
Refine and Share Your Model	• The model's implications are clearly stated. • The limitations of the model and solution are addressed.	• The limitations of the model and solution are addressed but lacking in depth or ignoring key components.	• No interpretation of model and solution is provided.	
	To improve at this skill, you could: • Think more creatively about what your conclusions mean: Ask yourself "If I was involved in this situation, what would I understand better because of these conclusions? What would I want to do next?" • Be skeptical of your model: What don't you like about it, and what can you do to fix those things? • Explain your model to someone else: Tell them how it works and why it's good. If you're not sure how it works or why it's good, you might need to change it.			