Unit 1 Physics Essentials Phenomenon

Modeling

What does modeling mean?

Showing what we see in a scientific occurrence through diagrams, drawing and writing. We use past knowledge to describe what we see. As we go through our unit, we will revise our models with our new knowledge.

Phenomenon: Unit 1 Physics Essentials

How are the penguins able to jump up the ice shelf?

Why are some falling down and others are making it up the ice shelf?

	4- Accomplished	3- Advanced	2- Developing	1- Beginning	0- Basic
Details	Extraordinary amount of details are present in the model to explain unobservable mechanisms, show input/output, or increase clarity.	Details are present in the model to explain unobservable mechanisms, show input/output, or increase clarity.	Some details are present in the model to explain unobservable mechanisms, show input/output, or increase clarity.	Minimal details are present in the model to explain unobservable mechanisms, show input/output, or increase clarity.	No details to show science behind the phenomenon
Predictions	The model can predict all situations that have not been encountered yet by the student.	The model can predict most situations that have not been encountered yet by the student.	The model can predict several situations that have not been encountered yet by the student.	Some predictive capabilities.	No predictive capability.
Accuracy	The model is an accurate representation of the phenomenon and integrates all concepts from current topic and previous topics.	The model is an accurate representation of the phenomenon some concepts from current topic and previous topics.	The model is an accurate representation of the phenomenon and uses all concepts from previous topics.	The model is an accurate representation of the phenomenon with some concepts from previous topics.	The model is NOT an accurate representation of the phenomenon and does not use concepts from previous concepts.
Revisions	The model has been revised to include new understandings and/or new evidence. In the revision process the student is systematic about selecting a type of model to best represent the phenomenon.	The model has been revised to include some understandings and/or new evidence.	The model has been revised but does not include new understandings.	The model has been NOT revised to include new understandings and/or new evidence, but students have discussed ways to revise.	The model has NOT been revised.
	The model clearly	The model clearly		The model attempts to communicate the	

Phenomenon Day 1

1) Go over modeling… it's about what students SEE and EXPERIENCE
2) Explore modeling rubric- highlight what is different
3) Show phenomenon
4) Students (on whiteboards) model the penguin jump up onto the ice shelf- successful and not successful (independent and silent)
5) Students are randomly paired. Create a model of the penguin together using the rubric.
6) Exchange with another group and grade on rubric