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| --- | --- | --- | --- | --- | --- |
|  | 5 | 4 | 3 | 2 | 1 |
| Details | 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 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 situations that have not been encountered yet by the student. | The model can predict situations that have not been encountered yet by the student. | The model can predict situations that have not been encountered yet by the student. | No predictive capability | No predictive capability |
| Accuracy | The model is an accurate representation of the phenomenon. | The model is an accurate representation of the phenomenon. | The model is an accurate representation of the phenomenon. | The model is an accurate representation of the phenomenon at basic level. | The model is NOT an accurate representation of the phenomenon at basic level. |
| 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 new understandings and/or new evidence. | The model has been NOT revised to include new understandings and/or new evidence. | The model has been NOT revised to include new understandings and/or new evidence. | The model has NOT been revised. |
| Clarity | The model clearly communicates the student’s thinking to others. | The model clearly communicates the student’s thinking to others. | The model communicates the student’s thinking to others. | The model attempts to communicate the student’s thinking to others. | The model does NOT communicate student thinking. |