TABLE 1: Planning, implementing, and assessing the coordination of content representations with modeling.

Step	Why is it important?	Questions to ask
PLAN: Choice and sequence	Teachers should choose content representations and activities to directly support the question students are trying to answer and should avoid distracting details. The sequence of the content representations and activities should follow the most likely sequence of questions that students would ask about the anchor phenomenon.	• What key ideas do students need to explain the phenomenon? • Which interesting ideas are not needed to explain the phenomenon? Consider ways to focus student attention on the most salient aspects of a content representation. • What will students explain or predict using modeling? • What sequence of ideas best matches students' predicted questions about the phenomenon? • What content representations support those ideas? • How will students coordinate content representations together into a model explaining the larger phenomenon? • When will students develop or revise their models?
IMPLEMENT: Scaffolding and coordination	Content representations simplify the real thing, but they are still complex for students. With appropriate scaffolding, they provide opportunities for students to distill important underlying science ideas, but those ideas need to build on one another. The teacher needs to support students in coordinating the ideas associated with content representations to develop and use a complex explanatory model.	• What scaffolds can I use to help students make sense of each content representation? • What connections will students need to make between content representations, and how can I support this process? • How can students coordinate the use of multiple content representations into their modeling?
ASSESS: Interpretation informing instruction	Teachers can interpret students' understanding based on their explanatory models using the questions to the right. Answers to these questions should inform subsequent instruction.	• What science ideas do students understand? • What ideas are challenging to students? • Are students making connections between the content representations and their associated science ideas? • Do students understand how the underlying science ideas related to each content representation fit together to make a coherent conceptual model to explain or make predictions about phenomena? • As students use their models to explain phenomena and make predictions, what remaining conceptual challenges become apparent? • How do I respond when I notice those challenges?