

### Grading Rubric

Criteria	2 points	1 point	0 points
(1) Micro-entities are present in the model.	Sufficient micro-entities to show a cause for the phenomenon are included (e.g., the magnet & paperclip in each scenario).	Micro-entities present in only one of the objects in each scenario.	There are no micro-entities shown.
(2) Micro-entities illustrate polarity.	Scenario 1 shows polarity of micro-entities such that the micro-entities have some level of alignment. Scenario 2 shows polarity such that the entities in the paperclip and nail show misalignment.	Both scenarios show polarity such that there is some alignment of micro-entities, but not necessarily the correct alignment/misalignment.	There is no evidence of polarity in the micro-entities.
(3) Micro-entities show that the effects of magnetism travel through objects that are not touching.	In the first scenario, the micro-entities are drawn such that the paperclip, nail, and magnet have the same polarity. In the second scenario, the repulsion between the magnet and the paperclip is demonstrated by opposite polarity in the nail and paperclip when they are separated in space instead of touching.	The micro-entities are drawn such that the paperclip and the magnet have the same polarity in both scenarios.	The micro-entities are drawn such that there is no relationship between the polarity of the entities and the arrangements of the magnet, paperclip, and nail.
(4) Field lines are present and accurate.	Scenario 1 shows attractive field lines around the magnet, nail and paperclip. Scenario 2 shows repulsive field lines between the nail and paperclip.	Field lines are present, but are drawn in a way that is problematic. For example: the lines are overlapping, the lines ignore the nail, the shape is inconsistent with dipole magnets.	There are no field lines drawn.
(5) Explanation uses observational evidence.	Explanation includes relevant evidence from the stations or related demonstrations to justify the reasoning.	Explanation includes some relevant evidence from the stations but there is other evidence mentioned that does not support the student's argument (as in, faulty reasoning linking the evidence to the model)	Explanation does not include observational evidence

### Note on Using this Assessment

The assessment tool may be modified by (a) adding drawing templates for each “view” of the new phenomenon, (b) adding linguistic scaffolding (sentence stems or a paragraph template) to guide students’ writing.