



Orientation

Students observe a scientific phenomenon and become engaged. This phase captures students' attention and asks them to use prior knowledge to describe a phenomenon.

Conceptualization

Students make their thinking concrete by deciding the question to explore or hypothesis to test. Students brainstorm and make predictions during this phase.

Investigation

Students explore a phenomenon to answer a question or design an experiment to test a hypothesis. In both cases, data interpretation is critical for sense-making.

Conclusion

Students draw on their findings to generate a theory or model that explains the phenomenon they observed. This phase can also include refinement of questions and hypotheses, which may lead to new explorations or experiments.

Discussion

In each phase students communicate their thinking in groups or class discussions. This includes reflecting on other students' explanations and providing feedback. These interactions may lead to revision of theories and models.

Application

Students apply their learning to a new situation or phenomenon. This process may spur new questions and experimental designs to test hypotheses.