

Asking Questions and Defining Problems 6-8

NGSS Practice 1

Asking questions and defining problems in 6–8 builds on K–5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.

- Ask questions
 - that arise from careful observation of phenomena, models, or unexpected results, to clarify and/or seek additional information.
 - to identify and/or clarify evidence and/or the premise(s) of an argument.
 - to determine relationships between independent and dependent variables and relationships in models.
 - to clarify and/or refine a model, an explanation, or an engineering problem.
 - that require sufficient and appropriate empirical evidence to answer.
 - that can be investigated within the scope of the classroom, outdoor environment, and museums and other public facilities with available resources and, when appropriate, frame a hypothesis based on observations and scientific principles.
 - that challenge the premise(s) of an argument or the interpretation of a data set.

- Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions.