

Begins with a question about phenomena

Involves a problem that needs to be solved

Produces new knowledge

Produces solutions and products

Develops and uses models

Plans and carries out investigations

Answers shaped by individual and social values

Uses tools to identify patterns and interpret results

Deals with tradeoffs and constraints

Brainstorms possible solutions

Collects and analyzes data

Requires creativity

Uses mathematics

Goal is to provide explanations

Engages in reasoning and argument

Involves collaboration

Derives meaning from colleague's texts

Communicates information about their work