

SCIENTIFIC INQUIRY	ENGINEERING DESIGN

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Planned or chance observations, and/or personal or outside motivation generate a question	Colleagues and/or clients present a need to be solved through engineering design
Define/refine the question with colleagues/collaborators	Define/refine a design problem that addresses the need with colleagues and clients
Research how others may have answered the same question	Research how others may have solved the same design problem
Brainstorm hypotheses and choose one	Brainstorm design solutions and choose one
Design and conduct pilot experiment to test hypothesis; gather and analyze data	Design and create a prototype/model, test it to gather and evaluate performance data
Modify hypothesis and/or experimental protocol as needed based on analysis of data	Redesign prototype based on performance data
Conduct revised experiment; gather and analyze data	Test revised prototype, gather and evaluate performance data
Draw conclusion, write paper	Finalize design, make drawings
Submit paper for peer review; respond to constructive feedback	Present best available solution to client; respond to client feedback
Publish the paper!	Build the project!

