

DCI: Engineering Design

K.ETS1.A: Defining and Delimiting Engineering Problems

A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may

have many acceptable solutions. (K-2ETS1-1)

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K.ETS1.A: Defining and Delimiting Engineering Problems

Before beginning to design a solution, it is important to clearly understand the problem. (K-2ETS1-1)

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K.ETS1.A: Defining and Delimiting Engineering Problems

Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2ETS1-1)

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K.ETS1.B: Developing Possible Solutions

Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K-2ETS1-2)

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K.ETS1.C: Optimizing the Design Solution

Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2ETS1-3)

Science and Engineering Practice

Asking Questions and Defining Problems

Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.

Ask questions based on observations to find more information about the natural and/or designed world(s). (K-2ETS1-1)

Science and Engineering Practice

Asking Questions and Defining Problems

Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.

Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2ETS1-1)

Science and Engineering Practice

Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

Develop a simple model based on evidence to represent a proposed object or tool. (K-2ETS1-2)

Science and Engineering Practice

Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

Analyze data from tests of an object or tool to determine if it works as intended. (K-2ETS1-3)

Crosscutting Concept

Structure and Function

The shape and stability of structures of natural and designed objects are related to their function(s). (K-2ETS1-2)