

# Core Concept: Information Gathering

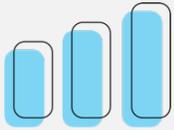
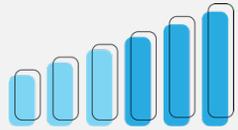
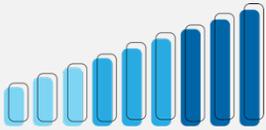
**Engineering Literacy Dimension:** Engineering Practices

**Practice:** Engineering Design

**Overview:** *Information Gathering* is the process of searching for the knowledge necessary to develop an informed resolution to a design problem. This process includes (a) *identifying the specific areas to be researched/investigated*, (b) *collecting and synthesizing data from multiple sources*, and (c) *assessing the quality of the information available*. This core concept is important to the practice of Engineering Design because once a design problem has been defined, engineers must decide what information they need to acquire as they work through the iterative stages of the design process to develop a design solution.

## Performance Goal for High School Learners

I can successfully collect, evaluate, and synthesize data and knowledge from a variety of sources to inform my design process.

	 Basic	 Proficient	 Advanced
RESEARCH & INVESTIGATIONS	I can use provided background information to inform my design.	I can identify what information is needed to inform my design, and gather the information from various sources, such as experts, online, technical reports, or previous designs.	I can evaluate and compile the information from various sources, such as experts, online, technical reports, or previous designs.
DATA COLLECTION & ORGANIZATION METHODS	I can collect existing data and organize it into a data table.	I can analyze the data collected by a research experiment and summarize it into a data table, with descriptive statistics and basic graphs.	I can conduct investigations (and simulations) to collect data and then organize the data to visualize its trends and patterns.
INFORMATION QUALITY ASSESSMENT	I can identify and explain criteria for valid and reliable resources.	I can evaluate provided or collected information on the type of publication and credibility of its source.	I can evaluate provided or collected information on multiple criteria in order to determine if it is valid and reliable (e.g. intended audience, publication type or source, objectivity).