

Skills in Science



I could teach it



I somewhat get it



I need to learn this



Glue this side into your ISN



Science Inquiry and Application

This theme focuses on helping students use scientific inquiry to discover patterns, trends, structures and relationships that may be described by simple principles. These principles are related to the properties or interactions within and between systems.

All students must use the following scientific processes, with appropriate laboratory safety techniques, to construct their knowledge and understanding in all science content areas

1. Identify questions that can be answered through scientific investigations
2. Design and conduct a scientific investigation
3. Use appropriate mathematics, tools and techniques to gather data and information
4. Analyze and interpret data
5. Develop descriptions, models, explanations and predictions
6. Think critically and logically to connect evidence and explanations
7. Recognize and analyze alternative explanations and predictions
8. Communicate scientific procedures and explanations

Technological and Engineering Design

Requires student to solve science-based engineering or technological problems through application of scientific inquiry. Within given scientific constraints, propose or critique solutions, analyze and interpret technological and engineering problems, use science principles to anticipate effects of technological or engineering design, find solutions using science and engineering or technology, consider consequences and alternatives, and/or integrate and synthesize scientific information.

- Understand and be able to select and use physical and informational technologies
- Understand how all technologies have changed over time
- Recognize role of design and testing in the design process
- Apply research, innovation and invention to problem solving

Vocabulary to Master

<input type="checkbox"/> independent variable (IV)	<input type="checkbox"/> levels (of IV)
<input type="checkbox"/> dependent variable (DV)	<input type="checkbox"/> control
<input type="checkbox"/> hypothesis	<input type="checkbox"/> constant
<input type="checkbox"/> trials	<input type="checkbox"/> title
<input type="checkbox"/> ethics	<input type="checkbox"/> data (quantitative and qualitative)
<input type="checkbox"/> research questions	<input type="checkbox"/> table
<input type="checkbox"/> chart	<input type="checkbox"/> graphs
<input type="checkbox"/> diagram	<input type="checkbox"/> map
<input type="checkbox"/> symbol	<input type="checkbox"/> sample size
<input type="checkbox"/> interpret	<input type="checkbox"/> inference
<input type="checkbox"/> prediction	<input type="checkbox"/> significance
<input type="checkbox"/> importance	<input type="checkbox"/> bias