

STANDARD ALIGNMENT: MHA LABS

DiscoverDesign.org	MHA Labs 21st Century Skill Building Blocks:
<p><i>The Design Process is an approach for inventive problem solving. It involves breaking down complex projects into manageable steps. Architects, engineers, scientists and other thinkers use the design process to harness human creativity and facilitate collaboration so that innovative solutions can be applied to real world challenges.</i></p> <p>How does the design process help develop the core social, emotional and cognitive skills deemed critical for college, career and life success?</p>	
<p>Define the Problem</p>	<p>Planning for Success: Sets and prioritizes goals that reflect a self-awareness of one's capabilities, interest, emotions, and/or needs</p> <p>Problem Solving: Defines problems by considering all potential parts and related causes.</p>
<p>Collect Information</p>	<p>Problem Solving: Gathers and organizes relevant information about a problem from multiple sources.</p>
<p>Brainstorm and Analyze Ideas</p>	<p>Planning for Success: Applies existing/newly acquired knowledge, skills, and/or strategies that one determines to be useful for achieving goals.</p> <p>Collaboration: Encourages the ideas, opinions, and contributions of others, leveraging individual strengths.</p>
<p>Develop Solutions/Build a Model</p>	<p>Planning for Success: Breaks goals into actionable steps.</p> <p>Planning for Success: Applies existing/newly acquired knowledge, skills, and/or strategies that one determines to be useful for achieving goals.</p>
<p>Present your Ideas to Others for Feedback</p>	<p>Verbal Communication: Seeks input to gauge others' understanding of the message.</p> <p>Verbal Communication: Asks questions to deepen and/or clarify one's understanding when listening to others.</p> <p>Collaboration: Provides feedback in a manner that is sensitive to others' situation/feelings</p>
<p>Improve your Design</p>	<p>Problem Solving: Identifies alternative ideas/processes that are more effective than the ones previously used/suggested.</p> <p>Planning for Success: Applies existing/newly acquired knowledge, skills, and/or strategies that one determines to be useful for achieving goals.</p>

STANDARD ALIGNMENT: ISTE

DiscoverDesign.org	ISTE Standards for Students:
<p><i>The Design Process is an approach for inventive problem solving. It involves breaking down complex projects into manageable steps. Architects, engineers, scientists and other thinkers use the design process to harness human creativity and facilitate collaboration so that innovative solutions can be applied to real world challenges.</i></p> <p>How does the design process and help empower student voice and ensure that learning is student-driven, creative, and exploratory, in order to develop key dispositions of 21st century citizens?</p>	
Define the Problem	By using the Design Process through DiscoverDesign, students practice being:
Collect Information	
Brainstorm and Analyze Ideas	Empowered Learners: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.
Develop Solutions/Build a Model	Knowledge Constructors: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
Present your Ideas to Others for Feedback	
Improve your Design	Innovative Designers: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

STANDARD ALIGNMENT: REACH

DiscoverDesign.org	REACH Framework for Teaching
<p><i>The Design Process is an approach for inventive problem solving. It involves breaking down complex projects into manageable steps. Architects, engineers, scientists and other thinkers use the design process to harness human creativity and facilitate collaboration so that innovative solutions can be applied to real world challenges.</i></p> <p>How does the Design Process help teachers further their professional practice?</p>	
Define the Problem	<p>By using the Design Process in the classroom, teachers can demonstrate competency in:</p> <p>1a: Knowledge of Content and Pedagogy</p> <p>1d: Designing Coherent Instruction</p> <p>2b: Establishing a Culture for Learning</p> <p>3c: Engaging Students in Learning</p> <p>3d: Assessment in Instruction</p>
Collect Information	
Brainstorm and Analyze Ideas	
Develop Solutions/Build a Model	
Present your Ideas to Others for Feedback	
Improve your Design	

STANDARD ALIGNMENT: NEXT GENERATION SCIENCE

DiscoverDesign.org	Next Generation Science Standards - Engineering Design
<p><i>The Design Process is an approach for inventive problem solving. It involves breaking down complex projects into manageable steps. Architects, engineers, scientists and other thinkers use the design process to harness human creativity and facilitate collaboration so that innovative solutions can be applied to real world challenges.</i></p> <p>How does the design process help students engage with major global issues at the interface of science, technology, society and the environment?</p>	
Define the Problem	Disciplinary Core Idea: ET S1.A: Defining and Delimiting Engineering Problems
Collect Information	HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
Brainstorm and Analyze Ideas	Disciplinary Core Idea: ET S1.B: Developing Possible Solutions
Develop Solutions/Build a Model	HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. Disciplinary Core Idea: ETS1.B: DEVELOPING POSSIBLE SOLUTIONS What is the process for developing potential design solutions?
Present your Ideas to Others for Feedback	HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
Improve your Design	Disciplinary Core Idea: ET S1.C: Optimizing the Design Solution

STANDARD ALIGNMENT: IB DESIGN CYCLE

DiscoverDesign.org	IB Design Cycle
<p>The Design Process is an approach for inventive problem solving. It involves breaking down complex projects into manageable steps. Architects, engineers, scientists and other thinkers use the design process to harness human creativity and facilitate collaboration so that innovative solutions can be applied to real world challenges.</p> <p>When International Baccalaureate students enter into the Middle Years Program (MYP), design becomes a necessary part of the curriculum. Why? Design thinking keeps the function of any project constantly in mind while considering real world applications. If function is forgotten, the result will be a subpar design. Though there are many tangible results of Design, design thinking can be used to solve problems within any aspect of life. By doing the same action of relating function to actual applications – whether that's to become a better reader, improve in math or anything else.</p>	
Define the Problem	Investigate / Inquiring and Analyzing
Collect Information	
Brainstorm and Analyze Ideas	Plan / Developing Ideas
Develop Solutions/Build a Model	Create / Creating the Solution
Present your Ideas to Others for Feedback	Evaluate
Improve your Design	

Technology in the MYP

The design cycle



Design Cycle

Middle Years Programme

