

Collaborative Design & Discussion

Unit #: APSDO-00103824
Team: Angela Antonelli (Author), Rebecca Kerrigan, Lauren Bogoian

Grade(s): K
Subject(s): Informational Digital Literacy
Course(s): GR. K - INFORMATIONAL DIGITAL LITERACY

Unit Focus

In this unit, students will learn to use a design process to solve problems. Students will apply their learning through a variety of Makerspace projects and coding endeavors. Instructional resources include a range of Makerspace materials and coding platforms.

Stage 1: Desired Results

Established Goals	Transfer		
<p>Standards</p> <ul style="list-style-type: none"> • AASL Standards Framework for Learning <ul style="list-style-type: none"> ◦ <i>Shared Foundations and Key Commitments: All Grades</i> <ul style="list-style-type: none"> ▪ INQUIRE <ul style="list-style-type: none"> ▪ Create: Generating products that illustrate learning. <i>(IDL.INQ.05)</i> ▪ Share: Providing constructive feedback. <i>(IDL.INQ.07)</i> ▪ Share: Acting on feedback to improve. <i>(IDL.INQ.08)</i> ▪ INCLUDE <ul style="list-style-type: none"> ▪ Create: Interacting with learners who reflect a range of perspectives. <i>(IDL.INC.04)</i> ▪ Share: Contributing to discussions in which multiple viewpoints on a topic are expressed. <i>(IDL.INC.08)</i> ▪ COLLABORATE <ul style="list-style-type: none"> ▪ Think: Developing new understandings through engagement in a learning group. <i>(IDL.COL.02)</i> ▪ Grow: Actively contributing to group discussions. <i>(IDL.COL.08)</i> ▪ EXPLORE <ul style="list-style-type: none"> ▪ Create: Problem solving through cycles of design, implementation, and reflection. <i>(IDL.EXP.04)</i> ▪ Create: Persisting through self-directed pursuits by tinkering and making. <i>(IDL.EXP.05)</i> ▪ Grow: Iteratively responding to challenges. <i>(IDL.EXP.09)</i> ▪ ENGAGE <ul style="list-style-type: none"> ▪ Think: Responsibly applying information, technology, and media to learning. <i>(IDL.ENG.01)</i> 	<p><i>What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to...</i></p> <p>T1 (T106) Develop and refine a solution to a student-generated question or challenging problem using a design process.</p> <p>T2 (T103) Collaborate with others toward common goal(s) where everyone has a voice in both design and ownership of the work.</p>		
	Meaning		
	Understanding(s)	Essential Question(s)	
	<p><i>What specifically do you want students to understand? What inferences should they make? Students will understand that...</i></p> <p>U1 (U100) Deep learning requires an integration of quality resources with innovative spaces to stimulate creativity, intellectual curiosity, and lifelong learning.</p> <p>U2 (U700) Working to find creative solutions to a complex problem is an iterative process that requires perseverance and flexible thinking.</p> <p>U3 (U300) When presented with a challenge, the Design Process is an effective, iterative sequence that values information gained from both successes and failures to develop an innovative solution.</p>		<p><i>What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering...</i></p> <p>Q1 (Q300) Input: What problem/need am I trying to solve (now)?</p> <p>Q2 (Q701) How do we design and test a solution? How can we use feedback to make a better design?</p> <p>Q3 (Q301) Input: What are the constraints and available resources?</p> <p>Q4 How does better understanding the problem help us imagine viable solutions?</p>
	Acquisition		
	Knowledge	Skill(s)	

	<i>What facts and basic concepts should students know and be able to recall? Students will know...</i>	<i>What discrete skills and processes should students be able to use? Students will be skilled at...</i>
	<p>K1 That the design process is cyclical and requires perseverance</p> <p>K2 That improvements are a necessary component of design</p>	<p>S1 Persevering at problem-solving using a given set of tools</p> <p>S2 Articulating the thoughts and ideas behind their design thinking (with LMS support as needed)</p>