



Unit 2: Planning & Design

Subject Area: Digital Learning	Course: Miller Makes & Innovates		
Unit Title: Planning & Design	Grade(s): 5	Start: January	End: February
Unit Summary: In this project-based learning unit, students will explore the intersection of STEM/DLCS and empathy. Through hands-on activities, collaborative project design, and thoughtful discussions, students will develop essential skills in both STEM/DLCS and empathy. Students will develop their communication skills and gain confidence in expressing themselves in front of an audience.			

Stage 1: Desired Results	
Massachusetts Learning Standards - Communicate key ideas and details individually or collaboratively in a way that informs, persuades, and/or entertains using digital tools and media-rich resources - Identify digital information sources to answer research questions (e.g., online library catalog, online encyclopedias, databases, websites). - Develop intermediate research skills to create artifacts and attribute credit.	
Transfer (Authentic, relevant application of learning to new situations)	
Students will be able to independently use their learning to... - Use the Engineering Design Process to: Ask, Imagine, Plan, Create & Improve their project concepts and ideas during this unit - Collaborate in small groups - Practice their public speaking skills	
Meaning	



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Enduring Understandings Students will understand that... • Empathy extends beyond personal interactions and can be applied to broader societal issues, such as environmental concerns, social justice, and global citizenship. • Empathy allows us to understand and share the feelings, perspectives, and experiences of others, fostering meaningful connections and promoting positive relationships. • Public speaking is a valuable skill that can be developed and refined through practice, preparation, and feedback.	Essential Questions Students will consider... • How can STEM disciplines, such as engineering and technology, be leveraged to promote empathy and understanding in society? • What role does empathy play in the design and development of innovative STEM solutions to address real-world challenges? • How can the collaboration and teamwork inherent in STEM projects be enhanced by integrating empathy and promoting understanding among team members? • What are the key elements of a compelling and persuasive public speech?
Acquisition	
Knowledge Students will know... • The five steps in the Engineering Design Process • How to design a clear, concise presentation to persuade an audience • The importance of speaking in front of an audience	Skills Students will be skilled at... • Collaborating with others around a project idea and plan • Utilizing Canva to create a presentation • Developing public speaking skills using PVLEGS (Poise, Voice, Life, Eye Contact, Gestures, Speed)