



**Dover Area School District Curriculum K-U-D
K-2 STEM Makerspace**

Subject	Standards	Know	Understand	Do
Collaboration				
	CC.1.5.K(1 and 2).A Participate in collaborative conversations with peers and adults in small and larger groups.	Collaborative conversations Working in group settings	When others are sharing, students listen quietly and then afterwards become active listeners and ask questions.	Participate, talk with your peers and the adults
	CC.1.5.K.C Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	Seek help, get information or clarify something that is not understood.	Taking ownership of learning to ask questions of others when content or directions are not understood	Ask 3 before me Answer questions of others Ask the teacher to expand or clarify
	4. Innovative Designer: 4b: Students use age appropriate digital and non-digital tools to design something and are aware of the step-by-step process of designing (Grades 2)	Engineering Design Process. Ask. Plan. Create	When creating, use the engineering design process to solve a problem.	Create a design plan Follow the plan to solve the problem.
Coding and Robots				
	CSTA: 1A-AP-12 Develop plans that describe a program's sequence of events, goals, and expected outcomes.	Code Writing a Program	Writing code is creating a program that tells a computer what to do.	Use coding apps to learn about coding
	CSTA: 1A-AP-10 Develop programs with sequences and simple loops, to express ideas or address a problem.	Sequence Simple loop	A program needs to include a sequence and can include a simple loop.	Use coding apps to create programs Create programs to code the robots
	CSTA: 1A-AP-14. Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.	Bug De-Bug Algorithm	When a program has a problem in the order of the code, it needs to be fixed in order for the program to work.	Practice writing and fixing programs in the coding apps
Design Thinking				
	4. Innovative Designer: 4C. Students use a design process to develop ideas or creations, and they test their design and redesign if necessary	Ask Imagine Plan Create Improve	The engineering design process helps to break down the necessary steps to solve a problem or answer a question.	Create a solution for the given problem
	4. Innovative Designer: 4d: Students demonstrate perseverance when working to complete a challenging task	Perservence	When using the engineering design process, students will need to test and improve their design.	Students will test their design and improve as needed to solve the problem.
	K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	Question Observations Information Solution Improve	When being presented with a problem to solve, students will need to make observatons, gather information about the problem, and then develop a solution to solve the problem.	Students will be presented with a problem to solve, then ask questions, make observations, gather information and create an improved object or tool.
Creative Communicator				
	6 Creative Communicator: 6b: Students use digital tools to create original works.	Digital Tools Original	Student can create original works using the iPad or a website to showcase learning.	Create an original work using a digital tool such as Toontastic, Chatterpix, Seesaw, Clips