STEM Resources:

Do-At-Home Challenges	SpaceX, NASA, and others are making plans to send humans to Mars. Click [here](#) for informational video. It is your job to design your own version of a colony on Mars! Learn about Mars, brainstorm and research design solutions for food, water, energy, and other critical systems. Consider the following questions: How will colonists get food? What is the Martian environment like? Will our colony have a government? How do we prevent boredom? Plan a long term habitat on Mars by researching and developing prototypes for a Mars Colony. Prototypes should be built from recycled materials. Design a colony considering both human health and happiness: • Food Source • Energy Source • Water Source • Air Source • Transportation • Entertainment • Government • Homesickness
	[Mailbox Challenge](#)—Design a mailbox that is like no other! What theme will you choose? Will it attract the attention of your neighbors? Is it functional? Your design should not just resemble a "normal" mailbox. Be creative!
	[Partner Costume Challenge](#)—Design a costume for two people to attend a gathering together. The costumes should relate to each other. (Example: Costume 1—Chicken and Costume 2—Waffles…or Costume 1—Hammer and Costume 2—Nail) Your costumes should be original. Think outside the box!
	[Pet House Challenge](#)—Design a house for one of the animals listed on the challenge sheet. Your house should be an original design and reflect the characteristics of the animal.
	[Self-Reflection Challenge](#)—Design something that accurately represents yourself. If you had one hour to build a 3D sculpture that would show the world something special about yourself, what would you build?
	Draw a Top/ Front/ Side view of a room in your house or your backyard. Include as much detail in the measurement as possible.
	Read about your favorite topic, draw a model of something from the book, and then build it. For example, you could read about the history of flying machines, draw a model of one, and then try to build it.
	Edible Rovers: https://www.teachengineering.org/activities/view/cub_mars_lesson03_activity1 Design and construct an edible Mars rover.
	Engineering Pop-Up Books: https://www.teachengineering.org/activities/view/cub_art_lesson01_activity2 Learn about applied forces as you create pop-up-books — the art of paper engineering.

Coding & CAD	Scratch: https://scratch.mit.edu/ With Scratch, you can program your own interactive stories, games, and animations, and share your creations with others in the online community.
	Code.org: https://code.org/ Learn computer science. Change the world.
	Blockly Games: https://blockly.games/ Blockly Games is a series of educational games that teach programming.
	Tinkercad: https://www.tinkercad.com/ Create, design, and make anything (3D design/CAD). Program, simulate, and assemble (electronics). Design with code (Codeblocks).
Lessons	Research: https://share.nearpod.com/JSc463NIa5
	3D Printing: https://share.nearpod.com/v0EMJFA3O4
	Critical Thinking: https://share.nearpod.com/v8EljXQIa5
	Automation and Jobs: https://share.nearpod.com/g8xf706eGU
	Scale Drawing: https://share.nearpod.com/eUT0hBqALT
	Everfi: https://everfi.com/k-12/parent-remote-learning/ Digital lessons. Real-world learning.