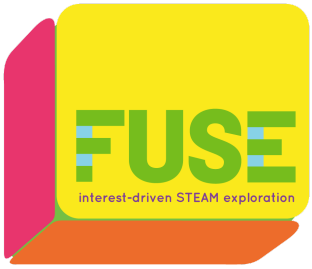

FUSE Challenge NGSS Alignment

Challenge Name	Description	CCC	DCI	SEPs
3D You	Use 3D scanner and 3D design software to create models of your head.	Scale, proportion, and quantity	PS4	• Developing and using models • Analyzing and interpreting data
Coaster Boss	Design a roller coaster that can meet various design goals given material and space constraints.	Energy and matter	PS2	• Defining problems • Analyzing and interpreting data • Designing solutions
Dream Home	Design a home using 3D design software that meets various design goals given space constraints.	Scale, proportion, and quantity	ETS 1	• Using mathematics and computational thinking • Designing solutions
Dream Home 2	Design a home for a client using 3D design software that balances the competing needs of your clients and space	Scale, proportion, and quantity	ETS 1	• Defining problems • Using mathematics and computational thinking • Designing solutions
Electric Apparel	Use e-textile components to design wearable circuits and modify a garment to be interactive and light up.	Energy and matter	PS4	• Developing and using models • Designing solutions • Planning and carrying out investigations

Eye Candy	Design a pair of eyeglasses frames that can be printed out on a 3D printer.	Structure and function	ETS 1	● Developing and using models ● Designing solutions ● Using mathematics and computational thinking
Game Designer	Use a powerful game design software to fix a broken game and create your own levels that meet various design goals.	Cause and effect	ETS 2	● Defining problems ● Using mathematics and computational thinking
Get in the Game	Use a Makey Makey to design and build embodied controllers for online games.	Cause and effect	ETS 1	● Defining problems ● Developing and using models ● Designing solutions
How to Train Your Robot	Use block based coding to program a robot to complete various goals.	Cause and effect	ETS 2	● Defining problems ● Analyzing and interpreting data ● Using mathematics and computational thinking
Jewelry Designer	Use 3d design software to design your own jewelry and print them out on a 3D printer.	Scale, proportion, and quantity	ETS 1	● Developing and using models ● Designing solutions ● Using mathematics and computational thinking
Just Bead It	Create gel beads using the same technique scientists use to grow human cells.	Structure and function	LS1	● Planning and carrying out investigations ● Designing solutions
Keychain Customizer	Use 3D design software to create custom keychain designs that can be printed out on a 3D printer	Scale, proportion, and quantity	ETS 1	● Developing and using models ● Designing solutions ● Using mathematics and computational thinking
Laser Defender	Use mirrors and a laser pointer to	Structure and	PS4	● Developing and using models

	create a laser defense grid.	function		● Designing solutions ● Analyzing and interpreting data
LED Color Lights	Build a circuit capable of lighting up three LED's.	Energy and matter	PS3	● Developing and using models ● Designing solutions
MiniMe Animation	Use 3D animation software to bring a CGI figure to life and meet various design goals.	Cause and effect	ETS 2	● Developing and using models ● Using mathematics and computational thinking
Music Amplifier	Using electrical components to build a circuit capable of playing music from your phone.	Energy and matter	PS4	● Developing and using models ● Designing solutions
Party Lights	Use a programmable micro-controller to build and control a light display.	Energy and matter	PS3	● Developing and using models ● Designing solutions ● Using mathematics and computational thinking
Print my Ride	Use 3D design software to build a model of your favorite car that can be 3D printed.	Scale, proportion, and quantity	ETS 1	● Developing and using models ● Designing solutions ● Using mathematics and computational thinking
Ringtones	Use a music mixing software to create your own custom tracks.	Cause and effect	ETS 2	● Developing and using models ● Using mathematics and computational thinking
Spaghetti Structures	Use spaghetti and marshmallows to build a tower that can pass various tests.	Structure and function	PS2	● Planning and carrying out investigations ● Designing solutions
Selfie Sticker	Use 2D design software and a vinyl cutter to create	Structure and function	ETS 2	● Developing and using models ● Designing solutions

	custom multi-layer vinyl stickers.			
Solar Roller	Design and engineer a solar powered car to meet various design goals.	Energy and matter	PS3	● Planning and carrying out investigations ● Analyzing and interpreting data ● Designing solutions
Wind Commander	Design and engineer a wind turbine to achieve various design goals.	Cause and effect	PS2	● Planning and carrying out investigations ● Analyzing and interpreting data ● Designing solutions