

Strand	Virtual / In-person	Level	Division(s)	Competition	Objective	Engineering Lab Book	Sponsors	Subject/Discipline
Mathematics	Virtual	6-8	6-8	Math Escape Challenge - Virtual	Solve math questions through Brain Chase	Not required	Pacific / Cal State LA	mathematics
Mathematics	Virtual	9-12	6-8	Math Escape Challenge - Virtual	Solve math questions through Brain Chase	Not required	Pacific / Cal State LA	mathematics
Mathematics	Virtual	6-8	6-8	Coding Solutions - Virtual	Debug challenge and technical test using CodeHS (JavaScript) / incorporate math	Not required	UCSB / UCR	computer science and mathematics
Mathematics	Virtual	9-12	9-12	Coding Solutions - Virtual	Debug challenge and technical test using CodeHS (Python programming) / incorporate math	Not required	UCSB / UCR	computer science and mathematics
Engineering	In-person	6-8	6 and 7/8	Moon Base	Design and build lightweight structure using recycled cardboard or paper-based materials to withstand highest amount of impact (Impact-to-Mass Ratio)	Required	CSU East Bay / SJSU	civil engineering
Engineering	In-person	9-12	9/10 and 11/12	Moon Base	Design and build lightweight structure using recycled cardboard or paper-based materials to withstand highest amount of impact (Impact-to-Mass Ratio)	Required	CSU East Bay / SJSU	civil engineering
Engineering	In-person	6-8	6 and 7/8	Cargo Glider	Design and build glider over an obstacle with a payload (i.e., 4 ping pong balls) for distance	Required	IV	aerospace engineering
Engineering	In-person	9-12	9/10 and 11/12	Cargo Glider	Design and build glider over an obstacle with a payload (i.e., 8 ping pong balls) for accuracy	Required	IV	aerospace engineering
Engineering	In-person	6-8	6 and 7/8	MESA Machine: Wind-Powered Vehicle	Design and build complex machine - wind powered vehicle for distance	Required	USC	mechanical and electrical engineering
Engineering	In-person	9-12	9/10 and 11/12	MESA Machine: Wind-Powered Vehicle	Design and build complex machine - wind powered vehicle for accuracy	Required	USC	mechanical and electrical engineering
Engineering		6-8	6-8	NEDC	Designing for Equity in Your Community			
Engineering		9-12	9-12	NEDC	Designing for Equity in Your Community			
Science	Virtual	6-8	6 and 7/8	Think Tank - Environmental Sustainability - Virtual	Presentation and design concept with environmental solutions theme / zero emissions	Not required	UCI / Global Institute for Futures Teaching	environmental science
Science	Virtual	9-12	9/10 and 11/12	Think Tank - Environmental Sustainability - Virtual	Presentation and design concept with environmental solutions theme / zero emissions	Not required	UCI / Global Institute for Futures Teaching	environmental science
Science	Virtual or In-person	6-8	6-8	Crime Scene Science (PILOT)	solve crime scene using punnett square and plant cells with sketch of microscope	science journal (in the rules)	USC / Fresno State	life science
Science	Virtual or In-person	9-12	9-12	Crime Scene Science (PILOT)	solver crime scene through DNA and fingerprinting with building a DNA model	science journal (in the rules)	USC / Fresno State	biology
Achievement				Engineering Lab Book	Revised lab book for required competitions; future to incorporate systems engineering		UCR/Pacific	
Timeline:								
September 3, 2021		To be posted on Statewide website - DRAFT version rules						
November 3, 2021		To be posted on Statewide website - FINAL/OFFICIAL rules						