



DRAGSTER 2.0



STRUCTURES 2.0



GREEN CAR 2.0



GLIDERS 2.0



ROCKETS 2.0



MOUSETRAP CAR 2.0



PROSTHETICS 2.0



ROVER 2.0



SURVIVAL SHELTER 2.0



KIDWIND 2.0

Content/ Concepts	Newtonian Physics (Newton's Laws, Mass, Drag, Friction, Center of Mass)	Statics (Method of Joints, Stability, Yield Strength, Compression, Tension, Trigonometry)	Renewable Engineering (Structure, Forces, Electricity/Electronics, Gear Ratios, Speed vs Range, Earth Sciences, Rechargeable Batteries)	Aeronautics (Four Forces of Flight, Bernoulli's, Three Principal Axes, Control, Fractions)	Rocketry & Ballistics (Four Forces of Flight, Thrust, Stability, Static Margin, Ballistics, Recovery)	Simple Machines (Power, Energy, Mechanical Advantage)	Bio-Physics (Muscle Forces, Simple Machines, Biomimicry, Control Systems, Bioengineering)	Mechatronics/Robotics (Mechatronics, Programming Logic, Electronics, Circuits, Robotics)	Survival Shelter (Human Energy, Resource Allocation, Conductive Heat Flow, Heat Transfer)	Wind Energy (Environmental Science, Turbine Blade Design, Wind Farm Siting, 3D Printing)
<b>STL Standards</b>	1,2,3,4,5,6,7,8,9,10, 11,12,13,16,17,18, 19	1,2,3,4,5,6,7,8,9,10, 11,12,13,16,17,18, 20	1,2,3,4,5,6,7,8,9,10, 11,12,13,16,17,18, 19	1,2,3,4,6,7,8,9,10, 11,12,13,17,18	1,2,3,4,6,7,8,9,10, 11,12,13,16,17,18	1,2,3,4,5,6,8,9,10, 11,12,13,16,17,18, 19	1,2,3,4,6,8,9,10, 11,12,13,14,15,17	1,2,3,4,5,6,7,8,9,10, 11,12,13,16,17,18, 19	6,8,9,10, 11,12,13,16,20	1,2,3,4,5,6,7,8,9,1 0,11,12,13,16,17, 18, 19
<b>NGSS Standards</b>	ETS-1:1-4ab, PS-2-6b, PS-3-3b	ETS-1:1-4ab, PS-2-6b	ETS-1:1-4ab, ESS-3-3a, PS-2-6b, PS-3-3b, PS-4-5b, LS-2-7b, LS-4-6b, ESS-3b	ETS-1:1-4ab, PS-2-4a, PS-2-6b	ETS-1:1-4ab, PS-1-6a, PS-2-4a, ESS-3-3a, PS-2-6b, PS-3-3b	ETS-1:1-4ab, PS-2-6b, PS-3-3b	ETS-1:1-4ab, PS-2-3b, PS-2-6b	ETS-1:1-4ab, PS-2-3b, PS-2-6b	ETS-1:1-4ab, MS-PS1-4-6, MS-LS2-1-2, HS-LS2-3-4, HS-PS3-1-4,	ETS-1:1-4ab, ESS-32-4,A-C, PS-3-A,C, PS-21-2, PS-2A
<b>Common Core (Math)</b>	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, 6.PR2, 7.RP, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, 8.G, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, 8.G, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE2, 6.G, 6.SP, 7.EE, 7.G2, 8.EE, HS:CED,REI,GMD,MG (Also supports ELA)	6.EE.2, 6.G, 7.EE, 7.G,8.EE,8.G, HS: A-CED, REI, G-GMD, G-MG (Also supports ELA)	6.RP, 6.EE, 6.G, 6.SP, 7RP, 7EE, 7G, 8EE, HS:CED,REI,GMD, MG (Also supports ELA)
<b>Ebd</b>	ET,II,TS,FT,TS,TD	ET,II,TS,FT,TS,TD, II:E:3 (PK), FT:4:3, TD:3:2	ET,II,TS,FT,TS,TD, II:5:3, TS:3:1, FT:6:2, FT:6:4, TD:5:3	ET,II,TS,FT,TS,TD, FT:6:4	ET,II,TS,FT,TS,TD, II:E:2, TS:6:3, FT:6:4	ET,II,TS,FT,TS,TD, II:2:1, TD:4:1	ET,II,TS,FT,TS,TD, ET:1:3, 2:2	ET,II,TS,FT,TS,TD, II:1:3, 2:3, 3:3, 6:3, TS:3:3, FT:3:6, FT:4:5, TD:5:2	ET,II,TS,FT,TS,TD, ET:3:4, TD:5:1	ET,II,TS,FT,TS,TD, FT:4:1, TD:4:4
<b>PLTW</b>	6-8: DM, ST; 9-12: IED, POE	6-8: DM, GA; 9-12: IED, POE, CEA	6-8: DM, EE, ST, ME; 9-12: IED, POE	6-8: DM, FS; 9-12: IED, POE, AE	6-8: DM, FS; 9-12: IED, POE, AE	6-8: DM, ST; 9-12: IED, POE	6-8: DM, MD; 9-12: IED, POE, BE	6-8: DM, AR; 9-12: IED, POE, CIM	6-8: DM, EE, GA; 9-12: IED, POE	6-8: DM, EE, ST, ME, GA; 9-12: IED, POE
<b>National Acad of Engineering's Grand Challenges</b>		Urban Infrastructure	Solar, Urban Infrastructure				Better Medicines	Urban Infrastructure, Rev Engineering of the Brain	Urban Infrastructure	Urban Infrastructure
<b>Competition EVENT</b>	TSA	TSA, Science Olympiad		TSA, Science Olympiad	Science Olympiad	TSA-CNC				