



CAREER OPPORTUNITIES WORKSHEET

Wondering how to translate your expert knowledge into hands-on, interactive activities for teens? Here are a few ideas!

ENGINEERING & TECHNOLOGY

	Career-Related Activity Topics	Does your organization have resources?	Who can teach this skill / activity?
1	Action-Reaction rocket construction		
2	Air Force satellite facility		
3	Amusement Parks Rides study of the ups and downs		
4	An Arm and a leg - Bioengineering		
5	Anemometer construction		
6	Attend an engineering conference		
7	Automobile safety		
8	Ball Bounce Experiment		
9	Balloon staging		
10	Barometer construction		
11	Bend the bar - several materials properties when designing		
12	Benefits of Biodiversity		
13	Bio-domes Engineering Design Project - Explore environments, ecosystems, energy flow, and organism interaction		
14	Bio-mimicry: Natural designs - how engineers imitate nature in the design of innovative new products		
15	Bird house construction		
16	Blackouts in large cities		
17	Brain teasers: questions		
18	Break the Tension - concept of surface tension		
19	Breaking beams - designing and building beams using polymer clay		
20	Bridge building		

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21	Bridge types: tensile and compressive forces		
22	Build an approximate scale model of an object		
23	Build propelled vehicles (rubber band-, spring-, or mouse trap-powered)		
24	Build straw towers		
25	Bumps and bruises - protective gear for athletes		
26	Capturing the sun's Warmth - thermal energy storage		
27	CO2 car competition		
28	Construct electronic dice		
29	Design a green rooftop garden		
30	Design a playground set for children		
31	Design a sturdy paper table		
32	Design a tornado proof building		
33	Earthquake city construction		
34	Egg drop		
35	Electromagnet construction		
36	Electronic wheel of fortune		
37	GPS Navigation (design safe bicycle routes using GPS)		
38	Hand-powered winch		
39	How to Retrofit a Building (explore the process of bracing a building with parallelograms to improve sturdiness)		
40	Insect trap construction		
41	Know the roles of six types of engineers		
42	Learn model-bridge building		
43	Learn NSPE's Code of Ethics		
44	Learn paper airplane design		
45	Learn soldering techniques		
46	Lighthouse Redesign (develop a modern interior lighthouse design)		

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47	Living Architecture (Use living trees in architectural designs)		
48	Measuring Velocity		
49	Missile launch		
50	NASA at Kennedy, Johnson, etc.		
51	Nat. Air and Space Museum (Washington, D.C.)		
52	Natural Attic Ventilation (engineer an attic ventilation system in which the air will be exchanged from the attic more often)		
53	Navigating the Wild Blue Yonder		
54	Obtain information on colleges and universities that offer engineering courses		
55	Paper rockets		
56	Participate in a Super Activity:		
57	Participate in engineering competitions:		
58	Participate in engineering science projects:		
59	Participate in National Engineers Week		
60	Prosthetic device construction		
61	Public buildings made accessible to disabled		
62	Robot Movement (sound/touch sensor circuitry-sequential or random movement?)		
63	Rocket car		
64	Roller coaster construction		
65	Rubber band racers		
66	School Building Design		
67	Serve as a mentor for a Mathcounts program		
68	Six ways or more to light a fire		
69	Six ways to avoid spilling coffee while driving		
70	Six ways to move a vehicle without an engine		
71	Six ways to produce electricity		
72	Six ways to use the jet stream		

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73	Solar water heater		
74	Strength in Numbers (determine whether using more layers in laminated wood creates a stronger product)		
75	Structural design in reference to 9/11		
76	Tetrahedral kite construction		
77	The Sheer Joy of Vacuuming (design a new and improved vacuum cleaner with self-changing parts)		
78	Tire House (design an architectural structure using discarded radial tires)		
79	Toothpick Bridge		
80	Tour a construction site with a civil engineer		
81	Use of fiber optics		
82	Using the engineering design method, discuss:		
83	Visit a manufacturer of soft and hard goods		
84	Visit an airport		
85	Visit the Web sites of engineering organizations		
86	Water Purification Technique Study		
87	What IZ it		
88	Windmill windup		
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