

Approved Science Fair Projects

Read through each of the projects and highlight 3 you may be interested in completing. If you have an idea that is not listed, you must get approval from your teacher and the STEM coordinator before going forward with your project idea.

1	Compare the effect of acids, bases, and water on the enzyme in apples that speeds the browning reaction of apple by oxygen.	Chemistry
2	Come up with and test non-chemical methods for purifying water.	Chemistry
3	Does the pH of rainwater vary from place to place in your community?	Chemistry
4	The effects of temperature on the reaction time of Alka-Seltzer	Chemistry
5	Explore what effect particle size of the reactants has on the speed of a chemical reaction: production of carbon dioxide gas by an Alka-Seltzer tablet	Chemistry
6	Determine how pH levels affect the rate of corrosion	Chemistry
7	Which type of water is the hardest?	Chemistry
8	Dealing with chemical spills from industry. Are there better ways to lesson the problem?	Chemistry or Engineering
9	Chemical change and the factors that affect the rate such as heat, light, and catalysts	Chemsitry
10	Compare the speed/effectiveness of different programming languages in the running of the same program.	Computer Science
11	Develop a program to solve mathematical formulas.	Computer Science
12	Do bends in fiber optic cables cause a loss of audio transmission data?	Computer Science or Physics
13	Search Engines: Which is best? Define Best.	Computer Science or Physics
14	Which factors most affect the operating speed of a computer?	Computer Science or Physics
15	Which affects the rate of evaporation the most? Temperature, humidity, wind speed or other factors?	Earth Science
16	Does wind travel at the same speed and in the same direction at different heights?	Earth Science

17	Study the pattern and determine if there is a relationship between sunspot cycles and earthquakes.	Earth Science
18	Comparison of the load bearing strength of different soils.	Earth Science
19	Study the relationship between wind direction and temperature inversions.	Earth Science
20	Sunlight-how do different surfaces affect the amount of sunlight reflected or absorbed? Design a method of measuring how much sunlight is available each day.	Earth Science or Energy
21	Which material filters water the best? Define best.	Earth Science or Engineering
22	Analyze soil samples for their components. Ability to hold moisture, fertility, and pH	Earth Science or Environmental Science
23	The effect of the surface of an inclined plane has on how far an object rolls.	Energy
24	How do different surfaces affect the amount of sunlight reflected and absorbed?	Energy
25	Does fresh water hold heat longer than salt water? Which holds heat the longest, soil or water?	Energy
26	The effect of architecture on energy consumption.	Energy
27	Which materials create the most static charge?	Energy
28	Compare the effectiveness of wool, cotton, and nylon as insulators.	Energy
29	Compare the ability of materials to conduct heat	Energy
30	Construct solar containers made of different colors of materials.	Energy
31	Is the air in your house the same temperature at the floor level and near the ceiling? How could you spread heat more evenly throughout the house?	Energy
32	How do different fabrics compare against UV radiation?	Energy
33	Ways to reduce the heat inside of cars. Testing different materials.	Energy
34	What are the best designs for propellers for wind generators? Define best.	Energy or Engineering

35	Test the insulation properties of different materials and make a recommendation based on cost-efficient or environmental impact.	Energy or Environmental Science
36	Which type of blade will generate the most electricity?	Engineering
37	Can a suspension bridge carry a greater load than a simple beam bridge?	Engineering
38	How filtering can clean water	Engineering
39	To build two dew traps of different diameters and determine how the amount of water collected depends on the surface area of the trap.	Engineering
40	make your own paper, test it, and rate its quality, using either recycled paper or plant fibers as the source material	Engineering
41	Polymer Permeability: Which Plastic Wrap Prevents Oxidation Best?	Engineering
42	Moving Water with the Archimedes Screw Pump	Engineering
43	What kinds of materials work best to protect products from damage?	Engineering
44	Effect of Temperature on Elasticity of Rubber Bands *	Engineering
45	How do environmental conditions affect the amount of biogas produced? Natural sunlight, refrigerator light or partial light	Environmental Science
46	Chemical analysis of rainwater	Environmental Science
47	Do males have a larger visual blind spot than females?	Health & Medicine
48	The effect of color on depth perception.	Health & Medicine
49	Design a computer mouse for people with physical disabilities (no hands, arms, etc)	Health & Medicine, Computer Science, or Engineering
50	Test Peripheral Vision	Health & Medicine
51	Infinity comes in different 'sizes'. What does this mean? How can this be explained?	Mathematics

52	Compare the mean, median, and range of the heights of males and females in your grade. How will this compare to a class one year older?	Mathematics
53	What is the probability of reaching into a bin and selecting a particular color of M&M candy?	Mathematics
54	Is it possible to develop mathematical systems based on numbers such as 4 or 5 instead of the normal base 10 system we use?	Mathematics
55	Demonstrate experimental methods of determining the value of pi.	Mathematics
56	Can statistics be used to predict the contents of edible consumer products such as fruit snacks, a bag of jelly beans, or M&Ms?	Mathematics
57	Is there an algorithm for getting out of a 2-dimensional maze? What about 3-dimensional? Look at the history of mazes. How would you go about finding someone who is lost in a maze (2D or 3D) and wandering randomly? How many people would you need to find them?	Mathematics
58	The Birthday Paradox: mathematical probability sometimes contradicts our intuition. Despite the fact that there are 365 days in a year, if you survey a random group of just 23 people there is a 50:50 chance that two of them will have the same birthday. Don't believe it?	Mathematics
59	Compare the insulative properties of various natural and commercial insulators. Which are the best? Define best.	Physic or Energy
60	See if the size of the nozzle of a balloon affects how far the balloon goes.	Physics
61	Determine if the higher a water source, the higher the water pressure.	Physics
62	Find out if the diameter of a PVC pipe would affect the speed of a small metal ball traveling inside the pipe - explore the relationship of friction and gravity inside the pipe.	Physics
63	Does the presence of water, and or other liquids, affect the magnetic force of a magnet?	Physics
64	What happens to the force needed to lift a weight when additional pulleys are added to a system?	Physics
65	What affects the pitch of sound?	Physics
66	Determine how changing the position of the fulcrum changes the balance of a lever.	Physics
67	How do mass and shape affect the rate at which an object sinks?	Physics
68	The effect of heat on luminosity?	Physics

69	Compare the surface tension of various liquids.	Chemistry
70	The relationship between kinetic energy of a dropped object impacting the water and the height of its resulting wave.	Physics
71	Index the refraction of liquids versus temperature.	Physics
72	Does temperature affect data transmission in fiber optic cables?	Physics
73	Lenses-effects of curvature, materials on light beams.	Physics
74	What materials carry the most static electricity?	Physics
75	Compare the heat absorbing ability of solar collectors that contain water to those that do not contain water.	Physics or Energy
76	Factors affecting sound dampening	Physics or Engineering
77	Which type of barriers is most effective in reducing noise?	Physics or Engineering
78	Which types of paper decompose the most rapidly when buried?	Plant Science
79	How do roots grow when the direction of gravity changes?	Plant Science
80	Determine whether the location of moss growth on trees is a good way to determine cardinal direction?	Plant Science
81	What are the best grasses to use to reduce the amount of soil runoff?	Plant Science or Earth Science
82	Compare the pH levels in the mouths of various animals and humans at different times of the day. What are the benefits of knowing the results?	Zoology
83	Is color a factor in attracting various types of insects?	Zoology
84	Are hummingbirds attracted by any certain color feeders?	Zoology
85	Can crickets be used as a thermometer?	Zoology