

# **Science Fair Resources and Ideas**

Are you struggling with coming up with an idea for the science fair?

These resources will help get you started by offering suggestions of possible science fair projects. You are encouraged to find a subject area which interests you (ex. Life science, Weather, Chemical reactions, etc.) and review project ideas related to that area. Finally, develop your own unique science fair investigation or demonstration/model with the help of your family, teachers, and/ or friends. See your teacher for additional help or assistance.

## **Science Fair Web Sites**

<http://www.cool-science-projects.com/Science-Fair-Project-Ideas.html>

<http://www.isd77.k12.mn.us/resources/cf/ideas.html>

[http://www.sciencebuddies.org/mentoring/register\\_quest.php](http://www.sciencebuddies.org/mentoring/register_quest.php)

<http://www.all-science-fair-projects.com/category0.html>

<http://school.discovery.com/sciencefaircentral/>

<http://www.all-science-fair-projects.com/>

## **Science Project Ideas**

Can people identify flavors of Kool-Aid when blindfolded?

Which color liquid do hummingbirds prefer?

What is the best condition for the growth of mold?

Which bread molds most quickly?

In which soil do plants grow best?

Growing potatoes at different locations.

Testing different potting soils.

Do plants prefer tap water or distilled water?

Do different kinds of apples have different amounts of seeds?

Do large apples have more seeds than small ones?

Does temperature affect the growth of plants?

How do plants react to different kinds of music?

How temperature affects plant growth.

How the amount of light affects the growth of Marigolds?

How fast do kidney beans grow?

What a plant needs to grow.

Do plants give off water?

Do roots always grow down?

Which materials dissolve in water?

Do coins corrode more in salt or fresh water?

Do parking meters give us our money's worth?

How long are yellow lights at various intersections?

Leaky faucets - how much do they cost us?

Which popcorn pops the most?

The frequency and length of TV commercials during a one-hour program.

Which candle is the best buy?

Which uses more water, a shower or a bath?

Which paper towel absorbs the most water?

Which brand of raisin bran has the most raisins?

Testing a sundial with a clock.

Measuring rainfall with a rain gauge.

How a shadow changes throughout the day?  
Depth of snow at ten different locations.  
Which materials conduct electricity best?  
Sounds from different rubber bands (or glasses of water).  
String telephones -- what materials work best in conducting sound.  
Splat! A study in droplet patterns.  
Which magnet is strongest?  
Which materials conduct heat best?  
How hot does it get inside a car with the windows rolled up?  
Which toy car rolls furthest?  
Magnetic and non magnetic materials.  
How accurate is the temperature knob on my oven?  
Which color of liquid absorbs the most heat?  
Which color container absorbs the most heat?  
Which color container cools off the quickest?  
What food does a hamster prefer?  
Can an earthworm detect light and darkness?  
How far does a mealworm (or snail) travel in one minute?  
Chickens and colored corn - which will they eat?  
The speed of snails on different surfaces.  
Do earthworms help plants to grow?  
Do goldfish grow larger in a larger tank?  
What conditions do pill bugs prefer (light or dark, moist or dry)?

### **ANIMAL BEHAVIOR**

Monkeys and people at the zoo.  
Frequency of cricket chirps vs. air temperature.

Can hermit crabs distinguish different types of music?

Territorial habits of goldfish.

Do dogs prefer to eat from a familiar or unfamiliar dish?

Which sugar do ants prefer?

Boa constrictor responses to false prey.

Will a chicken lay more eggs with rock music playing?

Cage size and nesting habits of zebra finches.

Can an earthworm learn?

The learning behavior of fish through a two-dimensional maze.

### **BIOLOGY/MICROBIOLOGY**

Which type bread molds fastest?

Do pyramids preserve food?

Decomposition of leaf litter.

How fast does the *Volvox* spin?

Effects of temperature on bacterial growth in buttermilk.

Effects of acid on *Euglena*.

Does phytoplankton grow better in warmer or colder temperatures?

Can *Euglena* be trained by conditioning?

How much of an apple is water?

Methods of controlling algae growth in waterbeds.

Variance in the size of *Euglena*.

Does diet affect the color of *Paramecium*?

Effect of water pollution on shrimp growth.

Study of marine growth on various surfaces.

## **BOTANY**

Under which thickness of plastic do radishes grow best?

Distribution of dandelions in an open lot.

How much weight can a growing seedling lift?

Under which color cellophane do plants grow best?

Acid rain effects on radishes.

Does acid rain affect the germination of seeds?

Can you give a plant too much fertilizer?

Do seeds sprout better in cold or hot climates?

The effects of rootbouding on plant growth.

Does the phase of the moon affect the germination of seeds?

Effects of artificial vs. natural light on plants.

Relationship of root length to plant height.

Germination rates of pumpkin seeds.

Do avocados ripen more evenly with the stems left on?

Does aspirin prolong the life of cut carnations?

How does increased gravity affect the growth of plants?

Does a magnetic field affect the growth of beans?

Does radiation affect the germination of lima bean seeds?

Which banana has the most sugar - green, yellow or brown?

How detergents affect the growth of algae in pond water.

How various vitamins affect root growth.

Does electricity affect the growth of beans?

Which mulch is best for conserving water while growing plants?

How detergents affect the growth of plants.

Does leaf surface area affect plant growth?

How salt tolerant is ice plant?

Effect of cigarette smoke on plants.

Do lawns grow in a linear function?

Comparing the moisture content of five varieties of apples.

Leaf size vs. location.

Does Instant Grow really work?

The action of tendrils.

Does Oxygen Plus affect plant growth?

Does carbon dioxide concentration affect the growth rate of plants?

Vegetation rebound following a brush fire.

Effects of the environment on popcorn (heat, cold, moisture, time, etc.).

Do mirrors affect the way plants grow?

### **CHEMISTRY/BIOCHEMISTRY**

The pH of soaps.

What are the differences between butter and margarine?

Corrosion - the effects of water on metal.

Ink evaluation with paper chromatography.

How do ultraviolet sterilizers affect the rubber straps on safety goggles?

Can salt water be desalted by freezing?

Epoxy and resins: their resistance to solvents.

What is the (starch, sugar, fat, or protein) content of various foods?

Effects of permanent hair color on normal hair.

How much oxygen does a candle use per minute.

Measuring the calories in a peanut.

How sucrose and yeast levels affect the rate of fermentation.

Chlorine levels in our drinking water.

The effects of swimming pool water (chlorine) on hair.

Testing sugar in soft drinks.

Comparison of vitamin A in frozen, canned and fresh peas.

Testing various orange drinks for vitamin C.

How teeth react to different liquids.

Smoking alternative: clove cigarettes.

The amount of dissolved salt in drinking water.

## **COMPUTERS**

A homemade computer.

Prism simulation.

An inexpensive computer-controlled robot.

Writing an Applesoft BASIC program that plays checkers.

Can I create a unique historical adventure game?

Zoom in! A computer map of my neighborhood.

Electron orbitals on a computer.

Hacker protection.

A computer program that teacher science facts.

Using a computer for mineral identification.

A computer program that tracks satellites.

A program that simulates model rocket trajectories.

Convert to or from metric instantly!

A computer program that finds the planets.

## **CONSUMER**

Liquid vs. bar soap.

Is there sugar in toothpaste?

Which tent stake has the greatest holding power?

Does temperature affect the output of a battery?

detergents on commonly - used trends.

The effects of washing on dyed materials.

Hardest and softest woods.

Which battery is the best buy?

Which detergent cuts grease the best?

Which lubricant reduces friction the best?

Which nails have the best holding power?

Effect of some exterior wood protectants on cedar siding.

The effects of deodorants on clothes.

The best mix for concrete.

Which sleeping bag fabric retains heat the best?

Endurance of roofing shingles and tiles.

Which hook and loop fastener works the best?

The feathers of archery.

How effective are commercially-produced water filters?

Which glue is the strongest?

Which wood absorbs paint the best?

Flexural strength of concrete.

Which fire alarm is best for the home?

which brand of lighter has the most fuel?

Which container (or wrapping) preserves food the best?

Are flame-retardant fabrics safe?

The effectiveness of pre-wash products.

The effect of different fin shapes on surfboard performance.

Do swimming caps help you swim faster?

Testing sunscreens' absorption of ultra-violet radiation.



How different fabric-care treatments affect the flammability of cloth.

Waterproofing agents -- which is best?

The spoilage rate of different types of baby food.

Which detergent has the longest-lasting suds?

How well do various fabrics absorb dye?

How much money can a pool cover save?

Which light bulb is most efficient?

Can roof overhang cut summer cooling costs?

Waterproof mascaras - are they really waterproof

Which firewood gives the most heat per dollar?

Which stain remover works best?

Are TV commercials louder than regular programming?

How much does it really cost to run a refrigerator?

Which solar panel is most efficient?

Which paint protects wood the best?

Thick or thin bicycle tires - which is best?

Which fabrics are most fire resistant?

How heat affects recording tape.

Stability of color slide film.

A comparative study of various packing materials.

Do oil additives reduce friction on engine parts?

Which toothpaste is most abrasive?

How fire affects roofing materials.

Which detergent removes grass stains best?

Airplane noise analysis in my neighborhood.

The effectiveness of different wood preservatives.

Antifungals: how well do they work on athlete's foot?

Meat, fat and moisture content of hot dogs.

Strength test for glues.

Water solubility of suntan lotions.

The power output of different model airplane fuels.

Shampoo evaluation.

Which diaper is best?

Effects of different sizes and materials on tennis rackets.

Physical properties of various brands of diesel fuel.

Air pressure and tire wear.

Comparison of locks - which is best?

Sole traction - which sole is best?

Fishing lines take the strength test.

Up to bat - wood or aluminum?

Do sausages vary in fat and water content?

### **EARTH/SPACE SCIENCE**

Mass loss in a rock tumbler.

How acid is our rain?

Impact craters: size and shape.

Using feathers to clean up oil spills.

The greenhouse effect.

How clean is our air?

How can mirrors increase a solar cell's voltage?

Wave barriers.

Speed of clouds using photography.

The effects of water on different types of wood.

Terracing and how it affects erosion.

Testing various materials for cleaning up oil spills.

Charting the apparent motion of Polaris.

The effect of wave action on different rocks (using a rock tumbler).

Composition of Hawaiian sand.

How much dust falls on your lawn in a month?

Water retention of different soils.

Crepe paper: it doubles as a relative humidity gauge.

### **ENGINEERING/ELECTRONICS**

Using electromagnets to power a car.

Different parachute designs and descent rates.

Battle of the bridges.

Paper airplane performance.

Can solar heat be used for a dog house?

Testing different water turbine blades.

Power from the waves.

Comparison of the hydrodynamics of keels.

Storing the sun's energy.

Testing a car headlight as a satellite dish antenna.

Best bridge structure for supporting weight.

Power from rising air.

How many rotor blades give maximum lift for a helicopter?

A frictionless magnetic bearing.

Robots.

Moving objects with air.

Automatic fish feeder.

A 3-D adaptor for photography.

Which windmill blade is most efficient for producing electricity?

Effect of lenses on a solar panel.

Do scales on the wings of aircraft increase lift?

Sail performance.

How increasing the number of batteries affects the speed of a motor.

What is the voltage range of the GE-14 bulb?

Analysis of rocket fins: stability and time of flight.

Flight of the boomerang.

Generation of electricity from wave energy.

Wind turbines and blade efficiency.

Aerobie or frisbee: which design flies the farthest and longest?

Strength of parabolas.

Which metals make the best batteries?

Wind effects between tall buildings.

### **HUMAN PSYCHOLOGY/SOCIAL SCIENCES**

Do babies prefer a familiar or unfamiliar toy?

Jelly bean preference.

Does petting an animal affect your pulse rate?

How people stand on a bus.

*Homo sapiens* at the zoo.

Missing children: do pictures on milk cartons really help?

School subject preference between boys and girls.

Colored cookie comparison.

A study on the usage of left turn signals at intersections.

Who knows the metric system best?

Working vs. non-working parents: effects on kids' grades.

Effect of student seating on academic performance.

Does the level of noise affect eye-hand coordinator?

Assertiveness: are there differences between junior high boys and girls?

Synergy: do we hear colors?

Does heart rate change while watching emotionally-charged movies?

Does your pulse rate go up when you see money?

Does color affect taste?

Music and math - how do they mix?

Tennis: which point wins?

Reading and remembering with different colored paper - which works best?

What type of people do graffiti?

The space between two people when they meet.

Does a blindfolded person walk in a circle?

The relationship between age and response time.

Can you recognize your own profile?

Left-hand, right-hand transference using a mirror tracing.

How do people react when seeing a teenager shoplift?

Are people biased towards types of vitamins?

Does chewing gum affect students in a testing situation?

Does age affect short-term memory?

Student attitudes concerning an AIDS patient in school.

Racetrack accidents: does a jockey's fall affect his/her performance?

Are there similarities between an owner and his/her pet?

Can the use of a computer game increase memory?

Audio memory vs. visual memory.

Are fads cyclical?

Should stop signs be red and white?

Is there a relationship between costs and perceived print quality?

Dumb blonds: rumor or reality?

Comic books - are they becoming more corrupt and violent?

How does our vision affect our taste?

Do adults know U.S. geography?

## **MATHEMATICS**

When it's raining, do you get more wet walking or running?

How accurately can we measure the height of a building with a quadrant?

How common is the perfect histogram?

Is there a sophomore jinx in baseball?

A statistical analysis of the length diversity of kidney beans.

Is high school harder? A comparative grade analysis.

Weather patterns: a study in probability.

World population statistics: what's ahead for the year 3000.

Popcorn: a graphical analysis of pops per second.

Estimating the volume of garbage generated in my town.

How tough is the teacher? A test score analysis.

Should you bet on the gray horse?

## **MEDICAL SCIENCES**

How does exercise affect the blood sugars in a diabetic?

Age and the ability to estimate distance.

Cornflakes or candy? Testing glycemic responses.

Effects of caffeine on blood pressure.

Which method of cooking is better for retaining vitamin C in foods?

Correlation between vision acuity and grade-point average.

Pupil size and reaction to light - age and sex differences.

Lights vs. vision - which color is best?

Night vision and the effects of colored objects.

The effect of color on depth perception.

Smoking vs. lung capacity.

Resolving power of the eye.

Lung power of different age groups.

Does eating breakfast affect short-term memory?

Flexibility: males vs. females.

Effects of coffee on a person's steady hand.

Hot tubs and their effect on blood pressure.

Effects of foul smells on blood pressure.

Tar and nicotine in five brands of cigarettes.

So taste buds grow weaker as you get older?

## **PHYSICS**

How temperature affects electricity generated by a solar cell.

Which material makes the best heat insulator?

How propeller pitch affects the power of an outboard motor.

Materials that absorb sound.

how much energy is generated by humans at the health spa?

Calculating liquid density using light refraction.

How temperature affects the height at which different balls bounce.

How accurately can we measure the height of a building with a barometer?

What properties of a ball will cause it to roll more rapidly?

What shutter speed is needed to photograph a moving fan blade?

Who has greater body density, boys or girls?

How do different surfaces effect friction?

Which wavelength of light best penetrates through smoke (or fog)?

Thermal expansion of different metals.

How strong is a spider web thread?

The strength of a magnet vs. distance.

Ball rebound speed: Astro turf vs. grass.

The velocity of water through different tubes (same size, different material).

The velocity of water through different size tubes (same material).

The velocity of different liquids through the same size tube.

Density of various cooking oils.

Microwaves: are U.S. standards safe?

how air pressure effects the performance of a basketball.

Strength of different woods.

Are brown eggshells stronger than white?

Patterns of energy loss experienced by a bouncing ball.

Conductivity of various liquids.

Which metals conduct heat best?

The effect of light on dyed materials.

The effect of temperature on the strength of dry cells.

How much force is required to break an eggshell?

Do black bottom pools keep the water warmer?

How constant is the temperature in my refrigerator?

## **ZOOLOGY**

Ant control - natural vs. chemical repellents.

Can insects pull more than their own body weight?

Can mice see colors?



Effects of household pesticides on earthworms.

The effect of different metals on snails.

Determining the dimensions of butterfly scales.

Horsepower of snails.

Fish feeding - the effects of light.

Can the color of unborn rabbits be predicted?

Shell selection of hermit crabs.

Distribution of earthworms in an open lot.

Environmental effects on the heartbeat of *Daphnia*.

Density distribution of mussels on a pier piling.

Humidity preference of flour beetles.

Can mice distinguish shapes (squares, circles, etc.)?

How many grams of food does a rabbit eat per day?

Hamster activity and the phases of the moon.

What color light are moths most attracted to?