

Previous Projects

I have included previous 506 projects to help encourage you develop ideas for your project. The first few are from recollection only and the details are a little vague.

| Response | Factors | Comments |
|------------------------------------|---|--|
| Flakiness of Pie Crust | Shortening, pie plate | Response was tricky to define |
| Time to Exhaustion | Exercise drink, machine level, age | Well-designed experiment found a strong treatment effect |
| Club distance | Golf ball, length of iron | Noisy response |
| Tuning of Clarinet | Reed, note | |
| Yeast Volume | Water temp, time, sugar | Worked at Pizza Hut |
| Jump Rope Pulse Rate | Method, tempo | |
| Reservoir Fill Time | Pump type, inlet pipe diam., outlet pipe diam. | Family Farm in Oman |
| Alfalfa Sprout Biomass | Soak time, watering regimen, handling | |
| Holding Strength of Wall Putty | Shape, surface, amount | Shape was important—I had asked them to throw it out |
| Overhead Shot Put distance | Foot position, push off, stance width | USC shot putter |
| Pneumatic launcher distance | Force, object weight, launch tube length | Genius kid brother's science fair project |
| Stock Car Racing Lap times | Restrictor plate, car model, series | NASCAR intern |
| Concentration of expressed protein | Supplier of culture medium, container size, incubation time | |
| Pin circle diameter | Magnification, light source, cap orientation | Hitachi employee |
| Methane Adsorption | Resorcinol/formaldehyde ratio, weight percent solids | |
| Soccer goal kick | Side of field, ball design, type of kick | A little noisy, even for an experienced player |
| Housing starts | County, interstate access, lake access, urban/rural | |
| Basketball field goal percentage | Shooter, dribble/pass, movement, shooting sequence | |
| Command psychiatric referrals | Gender, comfort, previous history | Used survey responses as factors |
| Pool shooting percentage | Bridge, cue position | A level cue stick is very important |
| Recruiting success | Stress, well-being, type A behavior | Psychological tests were used as factors |

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| Percentage of lighted rooms | Building, time of week, time of day, room type | |
| Clarinet tuning | Reed size, reed brand, note | |
| Sprinkler distribution | Water pressure, diffuser, height | Required much preliminary experimentation |
| Product recall | Color/BW, graphics/text, ad size | Good marketing project |
| Fuel Cell Efficiency | Temp., pressure, oxy/air | |
| Potato Gun | Angle, Pressure, Size | Used number of skips over water as response |
| Compressive Strength of Previous Concrete | Aggregate shape, porosity, cure time | |
| Nontoxic insecticides | Oil, soap, tobacco | Used percent cricket fatality in 5 minutes as response |
| Purse Sales | Day, dress, market | Student was employee at Belk's |
| Sales and Items per Sale | Greet customer, bring customer clothes, present sales items at register | Good example of random assignment of treatment to incoming customers |
| Potato Gun | Angle, size, accelerant | Hair spray was used as accelerant |
| Muzzle velocity of bullet | Position of bullet in breach, bullet, firing pin | Team member was competitive shooter |
| Deep-fried shrimp | Oil type, batter type, color | Response was a scale constructed from several different attributes of the finished product |
| Lemon/lime soda taste test | Brand, container, regular/diet | |
| Stain intensity | Scotchguard/starch, number of washings, number of applications | Response was measured on a 1-255 grayscale |
| Tomato seedling growth | Presoak, potting soil, seed age | Can old seeds be re-used? |
| Soil moisture ratio | Reagent batch, testing kit, soil type | Calibrating SCDOT soil moisture testing equipment |
| Specific gravity of beer | Temperature, aeration, amount of yeast | Speed brewing experiment |
| Daphnia survival | Resveratrol, amount of food, technician | Technician was the dominant effect |
| Weld penetration | Power, line speed, gap | Welding stainless steel casing for fiber optic cables |
| Vocal range | Warm-up length, amount of sleep, amount of water | |