Elementary School Science Fair Project Tips

- Can you predict what things will glow under a black light?
- Will chilling an onion before cutting it keep you from crying?
- What ratio of vinegar to baking soda produces the best chemical volcano eruption?
- What type of plastic wrap best prevents evaporation?
- What plastic wrap best prevents oxidation?
- Are night insects attracted to lamps because of heat or light?
- Can you make Jell-o using fresh pineapples instead of canned pineapples?
- Do white candles burn at a different rate than colored candles?
- Does the presence of detergent in water affect plant growth?
- Can a saturated solution of sodium chloride still dissolve Epsom salts?
- Does magnetism affect the growth of plants?
- Does the shape of an ice cube affect how quickly it melts?
- Do different brands of popcorn leave different amounts of unpopped kernels?
- How accurately do egg producers measure eggs?
- How do differences in surfaces affect the adhesion of tape?
- If you shake up different kinds or brands of soft drinks (e.g., carbonated), will they all spew the same amount?
- Are all potato chips equally greasy (you can crush them to get uniform samples and look at the diameter of a grease spot on brown paper)? Is greasiness different if different oils are used (e.g., peanut versus soybean)?
- Do the same types of mold grow on all types of bread?
- Does light effect the rate at which foods spoil?
- Can you use a household water filter to remove flavor or color from other liquids?
- Does the power of a microwave affect how well it makes popcorn?
- Can you tell/taste the difference between ground beef, chuck, and round after they have been cooked?
- If you use invisible ink, does a message appear equally well on all types of paper? Does it matter what type of invisible ink you use?
- Do different brands of batteries (same size, new) last equally long? If a brand lasts longer than others, does this change if you change the product (e.g., running a light as opposed to running a digital camera)?
- Do all brands of bubble gum make the same size bubble?
- Do all dishwashing detergents produce the same amount of bubbles? Clean the same number of dishes?
- Is the nutritional content of different brands of a vegetable (e.g., canned peas) the same?
- How permanent are permanent markers? What solvents (e.g., water, alcohol, vinegar, detergent solution) will remove the ink? Do different brands/types of markers produce the same results?
• Do consumers prefer bleached paper products or natural-color paper products? Why?
• Is laundry detergent as effective if you use less than the recommended amount? More?
• Do all hairsprays hold equally well? Equally long? Does type of hair affect the results?
• How does the rate of evaporation of the crystal-growing medium affect the final size of the crystals? You can change the rate of evaporation by sealing the container (no evaporation at all if there is no air space) or by blowing a fan over the liquid or enclosing the jar of medium with a dessicant. Different places and seasons will have different humidities. The crystals grown in a desert may be different from those grown in a rain forest.
• How do crystals grown from uniodized salt compare with those grown from iodized salt?
• How do different factors affect seed germination? Factors that you could test include the intensity, duration, or type of light, the temperature, the amount of water, the presence/absence of certain chemicals, or the presence/absence of soil. You can look at the percentage of seeds that germinate or the rate at which seeds germinate.
• Is a seed affected by its size? Do different size seeds have different germination rates or percentages? Does seed size affect the growth rate or final size of a plant?
• How does cold storage affect the germination of seeds? Factors you can control include the type of seeds, length of storage, temperature of storage, light and humidity.
• What conditions affect the ripening of fruit? Look at ethylene and enclosing a fruit in a sealed bag, temperature, light, or nearness to other pieces or fruit.
• How are different soils affected by erosion? You can make your own wind or water and evaluate the effects on soil. If you have access to a very cold freezer, you can look at the effects of freeze and thaw cycles.
• How does the pH of soil relate to the pH of the water around the soil? You can make your own pH paper, test the pH of the soil, add water, then test the pH of the water. Are the two values the same? If not, is there a relationship between them?
• How close does a plant have to be to a pesticide for it to work? What factors influence the effectiveness of a pesticide (rain? light? wind?)? How much can you dilute a pesticide while retaining its effectiveness? How effective are natural pest deterrents?
• What is the effect of a chemical on a plant? You can look at natural pollutants (e.g., motor oil, runoff from a busy street) or unusual substances (e.g., orange juice, baking soda). Factors that you can measure include rate of plant growth, leaf size, life/death of the plant, color of plant, and ability to flower/bear fruit.

• What percent of an orange is water?

Get an approximate mass percent by weighing an orange or other fruit, liquefying it in a blender, and measuring the strained liquid. Note other liquids will also be present, such as oils, though in small amounts. The mass of a ml of
water is 1 g. Alternatively, you could bake the weighed orange until it is dried and weigh it again.

- Does the temperature of a soda affect how much it sprays?
  
  You can refrigerate a soda, warm one in a hot water bath, shake them up, measure how much liquid is sprayed out. How do you explain the results?

- Do all brands of soda spray the same amount when you shake them up? Does it matter if it's diet or regular soda?
- Do all brands of paper towels pick up the same amount of liquid?
  
  Compare single sheet of different brands. Soak a sheet until it is saturated, let the excess liquid drip off, squeeze the liquid from the wet paper towel into a measuring cup. Note you may need to use teaspoons to measure this liquid.

**The following experiments and many more can be found at:**


*Staining of teeth by beverages* ★

This science fair project was performed to compare the amount of stains left on our teeth by the beverages we drink. The tests were done by comparing the effects of coffee, tea, grape juice, red wine and Coca-Cola, when exposed to tooth enamel.

**Category:** Medicine & Health > Miscellaneous  
**Difficulty:** Elementary school

*Collecting micrometeorites* ★

This science fair project was performed to find the best way of collecting and observing micrometeorites. The samples were collected from a roof, the leaf of an outdoor plant and rain water.

**Category:** Physics > Astronomy  
**Difficulty:** Elementary school
Soil type and liquefaction

This science fair project was performed to observe soil liquefaction in different types of soil. The testing was done using 3 types of soil - sand, clay and loam.

Category: Earth Science > Geology
Difficulty: Elementary school

Effect of carbonated drinks on the erosion of tooth enamel

This science fair project was performed to find out if carbonated soft drinks can really cause the erosion of tooth enamel. Testing was done by immersing teeth in Coke, Sprite and root beer for a few days.

Category: Biology > Human anatomy
Difficulty: Elementary school

Music to my ears

This science fair project was performed to compare the ability of participants to recognize and repeat the musical notes that they hear. Testing was done using only the left ear, only the right ear and both ears.

Category: Others > Music
Difficulty: Elementary school

Territorial behavior

Does highlighting what you read help you remember more easily?

This science fair project was performed to find out if students using a highlighter while studying would be able to recall facts better. The experiment was done by comparing the test scores of participants who
were given an essay to study without the use of a highlighter, with those who were given an essay that was already highlighted, as well as those who were allowed to make their own highlights.

How does breakfast help improve a student’s performance? ★★★

This science fair project was performed to find out if having breakfast every morning will help to improve the performance of students in school. The students’ performance was tested by giving them memory tests and comparing the performance of those who had breakfast with those who had skipped breakfast.

Category: Behavioral Science > Human Behaviour

Difficulty: Elementary school
Is there a relationship between a person's height and the length of his or her stride?

Is there a relation

How the temperature of food affects our taste

This experiment was performed to find out how the temperature of our food will influence our taste sensation. The taste buds on our tongues are sensitive to temperature. Hence, in order to taste the full flavor of the food that we eat, should we eat it when served piping hot, warm, or cool?

How the tempera

How hand-Eye coordination is influenced by age

This experiment was performed to find out how hand-eye coordination improves as we grow older.
The Correlation between physical activity and academic performance

This experiment was done to investigate the benefits of doing physical activity before students sit for an examination.

Do different types of firewood produce different amounts of heat?

This experiment was done to find out whether different types of firewood will burn at different temperatures. The results will help us to choose the ideal type of wood to use in campfires or outdoor cooking.
Cold water and your voice

This science fair project was conducted to find out how drinking cold water will affect the ability of a person to sing. The tests were done by comparing the high notes a person can reach before and after drinking cold water.

Difficulty: Elementary school

Do you have a blind spot and if so, how can you determine your blind spot?

One of the most dramatic experiments to perform is the demonstration of the blind spot. The blind spot is the area on the retina without receptors that respond to light. Therefore an image that falls on this region will NOT be seen. It is in this region that the optic nerve exits the eye on its way to the brain. To find your blind spot, look at the image below or draw it on a piece of paper:
How do oil spills affect marine life?
To demonstrate what happens in an oil spill, fill a glass bottle two-thirds full of water. Add blue food coloring to make the "ocean."

Difficulty: Elementary school

What makes stars twinkle?
Have you ever wondered what makes a star twinkle? On the next clear night look at a bright star. How many blinks does it make in 10 seconds? Look at the moon, an airplane or a bright planet at night. Do these objects twinkle?

Difficulty: Elementary school

How to make your own sundial
Sundials are the oldest way to tell time. The position of the sun changes during the day. The sun doesn't move; the Earth rotates around the sun, making it seem like the sun rises in the east and sets in the west. As the sun goes across the sky, the post in the center of the sundial casts a shadow on a circular plate. Marks on the plate tell you what time it is. It's just like reading a clock!

Difficulty: Elementary school

Explain how the tilt of the earth works
Demonstrate that seasons exist because of the tilt of the earth and its impact on the intensity of the sunlight at a given location.

Difficulty: Elementary school
How to measure the diameter of the sun

The earth is approximately 150,000,000 km from the sun. This distance varies somewhat with the seasons because of Earth's elliptical orbit. Yet, a simple instrument can be constructed which will provide measurement data that permits a relatively accurate measurement of the sun's diameter.

Difficulty: Elementary school

How to make your own comet

In ancient times, people did not understand the objects in the sky, how they moved or what they were. They did not know what a comet was, where it came from, or where it went. A large comet is a spectacular sight and inspired both awe and fear in primitive peoples.

Difficulty: Elementary school

Describe the different phases of the moon and explain what causes them

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