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**Testable and Measurable Experiments from** [www.ScienceBuddies.com](http://www.ScienceBuddies.com)

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| [Parachutes: Does Parachute Size Matter?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p017/aerodynamics-hydrodynamics/parachutes-does-size-matter)  **Science Fair Project Idea**   |  |  | | --- | --- | |  | How does a parachute work? Do bigger parachutes work better than smaller parachutes?  Find out in this science project if the size of the parachute matters. [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p017/aerodynamics-hydrodynamics/parachutes-does-size-matter) |   [Rubber Band Elasticity and Temperature](https://www.sciencebuddies.org/science-fair-projects/project-ideas/ApMech_p026/mechanical-engineering/rubber-band-elasticity-and-temperature)  **Science Fair Project Idea**   |  |  | | --- | --- | |  | Many materials expand when heated and contract when cooled. What do you think will  happen to the elasticity (stretchiness) of a rubber band when it is heated or cooled to various  temperatures? [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/ApMech_p026/mechanical-engineering/rubber-band-elasticity-and-temperature) |   **+ More Details**  [Cookies: Can You Blame the Burnt Ones On the Cookie Sheet? \*](https://www.sciencebuddies.org/science-fair-projects/project-ideas/FoodSci_p023/cooking-food-science/burnt-cookies-sheet)  **Science Fair Project Idea**   |  |  | | --- | --- | |  | Have you ever bitten into a beautiful golden-brown cookie only to realize in dismay that the bottom is  burned and black? What causes that uneven baking? Can it be prevented? You can discover the answer  by conducting a science fair project to determine whether different types of cookie sheets result in  noticeably different cookies. First you'll need to do some background research to figure out what kinds  of baking sheets you can buy. For example, there are aluminum, steel, insulated, and… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/FoodSci_p023/cooking-food-science/burnt-cookies-sheet) |   **+ More Details**  [Rocket Aerodynamics](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p002/aerodynamics-hydrodynamics/rocket-aerodynamics)  **Science Fair Project Idea**   |  |  | | --- | --- | |  | Have you ever heard the expression, "Well, it's not exactly rocket science..." ? For your science  fair project, you can be a rocket scientist. Here's how. [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p002/aerodynamics-hydrodynamics/rocket-aerodynamics) | |

[How Does Packaging Affect the Ripening of Fruit?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p022/materials-science/how-does-packaging-affect-the-ripening-of-fruit)

**Science Fair Project Idea**

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|  | Why do different types of fruits come packaged in different ways? In this project, you will experiment with different ways of packaging fruit to see if it has an effect on the freshness of the fruit. Will a different kind of packaging allow the fruit to stay fresh longer? [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p022/materials-science/how-does-packaging-affect-the-ripening-of-fruit) |

[Polymer Permeability: Which Plastic Wrap Prevents Oxidation Best? \*](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Chem_p033/materials-science/which-plastic-wrap-prevents-oxidation-best)

**Science Fair Project Idea**

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|  | There are three different kinds of polymers used for kitchen plastic wrap: low density polyethylene (LDPE) (e.g., Handiwrap or Glad Wrap), polyvinyl chloride (PVC) (e.g., Reynolds PVC Foodservice Wrap or Boardwalk PVC Food Wrap Film) and polyvinylidene chloride (PVdC) (e.g., Saran Wrap, which is almost 90% polyvinylidene chloride). Which of these materials is least permeable to oxygen? When you slice an apple, the surface of the slice turns brown as the apple is oxidized. Can plastic wrap… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Chem_p033/materials-science/which-plastic-wrap-prevents-oxidation-best) |

[Which Metal Is the Most Resistant to Corrosion?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p018/materials-science/which-metal-is-the-most-resistant-to-corrosion)

**Science Fair Project Idea**

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|  | Here's a practical engineering challenge: you need to build an enclosure for your dogs, using material that they can't chew through. It's going to be a lot of work to build, so you want to do it right. What material should you choose for the fencing? This project uses the scientific method to evaluate materials. [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p018/materials-science/which-metal-is-the-most-resistant-to-corrosion) |

[Need Help Getting Out of a Sticky Situation? \*](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p031/materials-science/adhesive-tape-temperature)

**Science Fair Project Idea**

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|  | Does adhesive tape hang tight at different temperatures? Measure the adhesive strength of tape at both low and high temperatures. To raise the temperature, we suggest using a blow dryer at both low and high heat settings. To lower the temperature, use an ice pack (try to keep condensation from forming on the tape and confounding the results). For even lower temperatures you could try "dry ice" (frozen carbon dioxide), if available. (Wear heavy gloves when handling dry ice, because it can… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p031/materials-science/adhesive-tape-temperature) |

[Which Is the Better Insulation Material?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p016/materials-science/which-is-the-better-insulation-material)

**Science Fair Project Idea**

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|  | You've probably noticed that the price of gasoline has been going up and up lately. Heating oil will probably cost more this winter than last winter, too. Using good insulation material is one way to conserve energy and save money. What insulation materials work better than others? [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p016/materials-science/which-is-the-better-insulation-material) |

[Which Kind of Wood Burns Slower? \*](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p026/materials-science/which-kind-of-wood-burns-slower)

**Science Fair Project Idea**

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|  | Do you ever go camping with your family and roast hot dogs and marshmallows over a campfire? If you want your campfire to burn long into the evening, what is the best wood to use? Do research on the necessary conditions/materials to sustain a fire and on the properties of different types of wood. Which properties do you think will be most important for determining how fast the wood burns? For example, how do you think density would be related to burning rate? Why? Measure the density and… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p026/materials-science/which-kind-of-wood-burns-slower) |

[Bottle Rocket Blast Off!](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Phys_p096/physics/bottle-rocket-blast-off)

**Science Fair Project Idea**

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|  | 3... 2... 1... 0— blastoff! In this science project, you will use a bottle rocket launcher to launch your own bottle rocket. You will load it with water and pressurized air, make several launches, and find out what makes your rocket soar the highest. [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Phys_p096/physics/bottle-rocket-blast-off) |

[Chemistry of Baking Ingredients 1: How Much Baking Powder Do Quick Breads Need?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/FoodSci_p007/cooking-food-science/how-much-baking-powder-do-quick-breads-need)

**Science Fair Project Idea**

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|  | If you like to bake, this could be a good science project for you! Have you ever wondered about the purpose of each of the ingredients in your favorite recipes? For example, why is baking powder used in some muffin recipes? How does the baking powder affect how the muffins look, feel, and taste? In this food science project you will use a scientific method to find out! [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/FoodSci_p007/cooking-food-science/how-much-baking-powder-do-quick-breads-need) |

[Cold Room? Heat It Up with A Homemade Solar Air Heater](https://www.sciencebuddies.org/science-fair-projects/project-ideas/EnvEng_p028/environmental-engineering/homemade-solar-air-heater)

**Science Fair Project Idea**

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|  | What do humans need to survive? We need food, water, and warm shelter. We all need a warm place to live, particularly when it's chilly outside. How do many of us warm our houses or apartments? We depend on fossil fuels to supply gas and electricity to our heaters. But burning fossil fuels to create energy is harmful to the environment. What if there was a way to warm our homes without burning fossil fuels and it was free? In this science fair project, you will build a solar air heater and see… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/EnvEng_p028/environmental-engineering/homemade-solar-air-heater) |

[Creating a Video Game for the Blind](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Games_p029/video-computer-games/creating-a-video-game-for-the-blind)

**Science Fair Project Idea**

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|  | Do you enjoy playing video games? Do you like the challenge of reaching a difficult game level and scoring lots of points? Video games include many graphic elements that are great to watch, but did you know that not only sighted people enjoy video games? Blind and visually impaired players can also play video games by relying on sound cues — the pings, pops, bangs, and bursts of music that make a game fun or exciting. When building a game that will be accessible to differently abled… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Games_p029/video-computer-games/creating-a-video-game-for-the-blind) |

[Does Weight Affect a Drone's Battery Life?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p053/aerodynamics-hydrodynamics/does-weight-affect-drone-battery-life)

**Science Fair Project Idea**

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|  | Drones—also called quadcopters or unmanned aerial vehicles (UAVs)—are an increasingly popular toy for hobbyists. Some companies even want to use them for business purposes, like delivering packages right to your doorstep! However, drones typically have a rather short battery life. Does the added weight of a package affect a drone's battery life? Try this project to find out! [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p053/aerodynamics-hydrodynamics/does-weight-affect-drone-battery-life) |

[Fruit Ripening \*](https://www.sciencebuddies.org/science-fair-projects/project-ideas/PlantBio_p021/plant-biology/fruit-ripening)

**Science Fair Project Idea**

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|  | Fruit is a strategy some plants use to attract animals to disperse seeds. The animals eat the fruit and disperse the seeds through the digestive system. To attract animals, fruit needs to ripen and develop an odor that acts as an attractant. How much more successful are ripe fruits at attracting animals? Try setting out an over and under ripe piece of fruit, and compare how many many insects are attracted to each fruit. How does ripening occur? You can do an experiment using a very ripe… [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/PlantBio_p021/plant-biology/fruit-ripening) |

[How Much Weight Can Your Boat Float?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p020/aerodynamics-hydrodynamics/how-much-weight-can-your-boat-float)

**Science Fair Project Idea**

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|  | Have you ever wondered how a ship made of steel can float? Or better yet, how can a steel ship carry a heavy load without sinking? In this science project you will make little "boats" out of aluminum foil to investigate how their size and shape affects much weight they can carry and how this relates to the density of water. [Read more](https://www.sciencebuddies.org/science-fair-projects/project-ideas/Aero_p020/aerodynamics-hydrodynamics/how-much-weight-can-your-boat-float) |