

Category: Botany

Student Name: Melissa Hammond

Team Members (if any):

Project Title: Lil' Sprouts""

Abstract: I wanted to know if adding different elements like carbon dioxide, sugar and salt to water affect the way seeds sprout. If there was a better way to spout seeds, plants would grow faster resulting in quicker harvests. The amount of vegetables that could be harvested each year would then be able to increase because of the early start plants could have. By giving plants the things they need to grow they won't have to work as hard and it may help speed up the process. I will be able to know if I should add something to the water when I start growing plants. I predicted that seed germination with a carbonated beverage, like lemon-lime soda, will occur quicker and result in a healthier plant because it won't have to produce as much carbon dioxide on its own. I tested 10 different seeds with each different liquid type. My control was the tap water. My variables were salt water, bottled water, lemon-lime soda water and melted snow. I tracked the measurements of the seeds over several days until the seeds started sprouting and then calculated the change in size keeping track of everything.

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Student Name: Ian Lowell

Team Members (if any):

Project Title: Really Environmentally Friendly?

Abstract: My project is about the effects of so-called environmentally friendly laundry detergents on the growth of rye grass. I took the gray water from the wash that used these detergents. With the gray water I watered rye grass and recorded the growth. I observed the grass that was watered with tap water grew 2 ½ inches less than the tallest blade of grass watered with detergent. My conclusion disproved my hypothesis because the grass watered with detergent 2 grew faster and taller. I choose a question about gray water and laundry detergents because I care about the environment and question the truthfulness of the product's advertising. During the research I found out that gray water is used in landscape watering. My hypothesis could be proven or disproven by measuring how fast the grasses grew. My experiment allowed me to plant a fast growing type of grass in a controlled inside environment. According to the data two of the three grass samples watered with environmentally friendly detergents grew faster and taller than the grass watered with tap water. My conclusion is partially true because one, grass sample did not grow taller than the grass watered with tap water. This disproves my hypothesis. Reporting my results has been the most challenging part of the project.

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Student Name: Ariana Avila

Team Members (if any):

Project Title: Geotropism

Abstract: For Science Fair this year, I wanted to know How is a plant's growth affected by a constant change in gravity's directional pull? My hypothesis was that if a bean seed is constantly turning it will not grow because the seed won't be able to determine which direction to grow it's roots. The way I performed this experiment was as follows: I set up a system where I would have three beans growing at once. One bean would grow without any rotation. The second bean would be manually turned a quarter a day. The last bean would be spinning non-stop on a mechanical device. To my surprise my hypothesis was incorrect. The bean that was constantly turning grew roots in a start shape. The bean I turned a quarter each day grew roots in a bundle.

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Student Name: Brielle Booth

Team Members (if any):

Project Title: 20 Beans and Peas in a Pod... How Odd

Abstract: How will the temperature affect the germination of bean and pea seeds? My Hypothesis is the Peas will do best in the storage room temperature and the bean seeds will do best in the kitchen room temperature...I placed 20 bean and 20 pea seeds on plates in four different areas of my house that were consistently different temperatures...The kitchen, the storage room, the fridge and on a heating pad. I placed the seeds on paper towels and poured water on them for them to germinate. Each day I recorded the temperature and the progress of the seeds in each area. The results in my project are the pea and bean seeds were most successful in the storage room temperatures, so my hypothesis was wrong about the bean seeds which I predicted they would do best in room temperatures.

Category: Botany

Student Name: Melanie Davidson

Team Members (if any): Sadie Haslam

Project Title: Scope It Out

Abstract: Our question was what effect will a pre-emergent have on the seed coat of a pea seed over a period of time? After some research and discussion, we decided that the longer the pre-emergent is on a pea seed, the greater the damage will occur to the seed coat. To complete our experiment, we performed the following experiment. First we scheduled an appointment with the BYU electron microscope lab. Then 25 days before going to BYU, we took one Lincoln pea seed and dropped it into a sandwich bag. We placed .5 mL of pre-emergent on top of the seed. We then repeated this same procedure with six more pea seeds. We taped the bags to a wall in a dark closet. At the 25 day mark, we also put seven seeds without the pre-emergent in bags and taped them up in the same place as the other seeds. Every five days, we completed the same procedure as mentioned above. After 25 days, we took all the seeds to the electron microscope lab at BYU. We dried the seeds and took off the seed coat from each pea seed. Then the seeds were gold coated causing an electron charge. We then placed the seeds in the electron microscope and took pictures of the seeds at various magnitudes. We found out that our hypothesis was correct because the seed coats that were covered with pre-emergent for 25 days looked the most different from the control seed.

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Student Name: Sadie Haslam

Team Members (if any): Melanie Davidson

Project Title: Scope It Out

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Student Name: Whitney Miller

Team Members (if any):

Project Title: Clean vs. Grey: Do Suds Really Matter?

Abstract: My question was, Will grey watered plants grow as effeciently as plants watered with clean water? I wanted to do something that would be valuable to myself, others, and the enviornment. My hypothesis was, that if I water 5 pansies with clean water, and 5 other pansies with grey water, then they will both grow at the same rate. Grey water is basically dirty water; that i got from my bathroom sink. I continued to water them throughout the 7-week study. I took pictures of the flowers about every two weeks and compared them. My hypothesis was incorrect because the plants watered with clean water grew and blossomed, but the plants watered with grey/dirty water died and wilted. I conducted this experiment because if the grey water helped the plants grow like the clean water, I would impact the enviornment and share my outcomes with others, thus reducing the overall carbon footprint by using grey/dirty recycled water.