65th PITTSBURGH REGIONAL SCIENCE & ENGINEERING FAIR

JUNIOR DIVISION ABSTRACTS

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Note: Due to processing time constraints, some abstracts were omitted and others were limited to the purpose of the research. Omissions should not be considered as a negative reflection on the student or their project.

JUNIOR DIVISION – PHYSICAL SCIENCE

Project Number: JPS001 Grade: 6

Title: Which Bridge Can Hold the Most Weight

Abstract: Through this project I intended to learn
which type of bridge, truss or arch, would hold the most weight. I built a truss bridge and an arch bridge then placed books on each to see how much weight each would hold. After three trials, I discovered that the arch bridge held an average of 5.5 kilograms. The truss held an average of 6.6 kilograms.

Project Number: JPS002 Grade: 6

Title: What Is Your Roof's PSF?

Abstract: Homes are being built all across America, but any home built incorrectly won't last. In my experiment, I made one house and the three most common roof designs: Hip, Gable, and Shed. Most home builders and suppliers say, "Don't go crazy over your home not being strong enough." This is why I did my project - to test the weight that these precisely scaled down roof models could hold. To my surprise, the Shed roof held the most weight. My next step in this project would be to see what species of wood is best for roof construction in our region.

Project Number: JPS003 Grade: 6

Title: Gait Patterns in Hexapod Robot

Abstract: Studies have been conducted to determine the most efficient gait pattern in a hexapod robot. Initially it was necessary to construct a small Nitinol wire powered robot. After this was completed, six different patterns of leg movement were evaluated. This was done by changing the wiring pattern that was used to activate the legs. Distance of movement in a single leg cycle was measured. Based on a limited number of measurements a hexapod gait was shown to be the most efficient although other gaits using three legs on each side were nearly as efficient.

Project Number: JPS004 Grade: 6

Title: The Heat is In! Which Insulation Works the Best?

Abstract: The heat is in! That was the title of my science fair report. The reason why, was because I tested different insulations to see which one retained heat the best. I tested four different insulations using a “house” That I made out of wood board, a lamp with a 60 watt battery (for a heat source), and the four insulations. The four insulations I used were fiberglass, Styrofoam, insulation board, and newspaper. My hypothesis was that fiberglass insulation would work the best. I tested the insulations for five hours each, covering the inside of the house with one inch of insulation, and recording temperatures at the start, middle, and end of the experiment. The temperatures after five hours each were fiberglass, 50 degrees F to 62 degrees F. Styrofoam had temperatures of 68 degrees F to 76 degrees F. Then, insulation board had temperatures rise from 55 degrees F, to 62 degrees F. Newspaper had temperatures of 52 degrees F to 54 degrees F. I found my hypothesis to be correct; fiberglass insulation did work the best.

Project Number: JPS005 Grade: 6

Title: Reveal the Rainbow

Abstract: This project attempted to determine which combination of material and liquid is best for separating pen ink. Nail polish remover and water were used as liquids, and coffee filters and paper towels were used as materials. Lines of ink were made on the strips of material. These were dipped into cups with the

liquid. The results were observed. The ones with water all did nothing. The nail polish remover – coffee filter combination worked best. In the future it might be seen if adding something to water will allow it to work.

Project Number: JPS006 Grade: 6

Title: Out to Launch

Abstract: The question for my science fair project was "What rocket engine size will last the longest?" The type of rocket I used was an Estes Rocket. I used A8-3 and A3-4T type rocket engines. The A3-4T type rocket engine could fit in the hollowed out casing of an A8-3 type rocket engine. The A8-3 type rocket engine was fitted for the type of rocket (the Alpha) that I used. My hypothesis was that the A8-3 type rocket engine would last longer because it is noticeably larger, but during the experiment I noticed that there was a higher amount of solid fuel in the A3-4T type rocket engine. I took three trial fights with each type of rocket engine. I timed each flight, added the total time for each flight and then found the average for each type of engine. I found out that the A3-4T type rocket engine lasted longer than the A8-3 rocket engine, which meant that my hypothesis was incorrect. If I would do this experiment again I would have used engines that had a greater contrast size.

Project Number: JPS007 Grade: 6

Title: The Power of Glue

Abstract: The purpose of my experiment was to answer the question, “What kind of glue holds the boards together better?” When researching, I discovered that there are two ways the wood bonds. Mechanical adhesion occurs when the glue penetrates the wood and connects by grabbing the wood by its pores. Specific adhesion is based on the intermolecular forces that occur between glue and wood. Glues convert to solid substances in three different ways. PVA cures through evaporation of water. Epoxies cure by means of a chemical reaction. Hot melt cures through loss of heat. These could lead to many different experiments. I selected three types of glue from the family of PVAs. PVA stands for polyvinyl acetate and are the most common for woodworking. My experiment concluded that using a weight test, Elmer’s Wood Working Glue held the most. The strength of most woodworking glues exceeds the strength of the wood itself. Therefore, glues should not be based on strength alone. Glues should be chosen on the basis of other properties, like assembly time or heat resistance.

Project Number: JPS008 Grade: 6

Title: A Swinging Problem

Abstract: A pendulum is a swinging device consisting of a weight, a string, and source of energy. Pendulums can be found in many places: grandfather clocks, swings at playgrounds, and amusement park rides. This experiment tried to determine which fact (mass, angle, or length) had the greatest effect on a pendulum’s movement. Manipulating one of these factors at a time provided the means to determine that it is one factor, the length, that has the greatest effect on a pendulum’s performance. Future experimentation is planned to determine if the material of which the string is made affects the pendulum’s performance.

Project Number: JPS009 Grade: 6

Title: Brother Away

Abstract:

Project Number: JPS010 Grade: 6

Title: Bridges

Abstract: The purpose of this experiment is to educate myself, and also help people to pick the strongest bridge to build, and to improve the weaker bridges and to make them stronger. There are three main types of bridges in the U.S.A., they are Cantilever, House, and Arch. It is for you to know that studies have shown that the cantilever bridge is the strongest, but I don't agree with that. I think the house bridge is the strongest because of its form. The procedure of testing the bridges was first to build them (Cantilever, House, and Arch), I built them using balsa wood and crafting glue, then used 4 mimicking forces such as (rain/water), (wind, heat/hair dryer, fan), (people, cars, and trucks/weight). I tested them one at a time for four days. At the end of each test I took a picture of the bridge that was damaged from the test. The data of my experiment showed that the strongest force of the four tested in the experiment was weight; it damaged the most of the bridges. The house bridge was the strongest in water, but it was weakest in weight; the arch wasn't the strongest in anything, but it had resisted from collapsing; the cantilever was the strongest in weight which it held up, but it was weakest in wind/heat. The conclusion is that the cantilever bridge is the strongest, the arch came in second, and the house bridge is the weakest.

Project Number: JPS011 Grade: 6

Title: How High Will It Go

Abstract: The problem I investigated was, "How does temperture affect the height of a hot, cold, and room temperature tennis ball when bounced?" My hypothesis was the heated tennis ball would bounce the highest. I predicted this because of my research. Heat is the energy of moving molecules. Molecules move faster as they are heated. To conduct my experiment, I placed a new tennis ball in a closed plastic zip lock sandwich bag and placed it in the freezer for 10 hours. I wrapped a second new tennis ball in a heating pad set on high for 10 hours. I let the third new tennis ball sit at room temperature for 10 hours. I dropped the room temperature tennis ball, the heated tennis ball, and the tennis ball that was in the freezer three times each from 213.36 cm mark on the meter stick and recorded how high each tennis ball bounced. I calculated the average return and the rebound rating of each tennis ball. I concluded that the tennis ball that bounced the highest was wrrapped in the heating pad, with a rebound rating of 57.14 %. The heated tennis ball's molecules were hitting more vigorously against one another and against the cover of the tennis ball, causing it to bounce higher.

Project Number: JPS012 Grade: 6

Title: Hey, Where Did All the Water Go?

Abstract:

Project Number: JPS013 Grade: 6

Title: How Far Will a Piece of Gum Stretch?

Abstract: The purpose of this experiment was to determine how far a piece of gum would stretch before it began to rip. I hypothesized that the brand Bubble Yum would have the best results. I determine this because after researching my topic, I found that Rosen was the ingredient that produced the elasticity. Since Bubbly Yum was the bigger piece, it would stretch the farthest. I took each piece of bubble gum used in the experiment and chewed for 5minutes and after the 5 minutes, I stretched the gum. I found that Bubble Yum, indeed, stretched the longest.

Project Number: JPS014 Grade: 6

Title: How Good is Your Sunglass?

Abstract: I wanted to find out which sunglass protects my eyes the best. I setup the experiment with empty tissue boxes, a pair of lights, and several varieties of sunglasses. The light shined through the sunglass and then through the top hole. I covered the top hole with sheets of papers until no light was visible. I repeated my experiment three times. After the experiment I found out that the ladies' Revlon sunglass was the best. It was the best because I stacked the least amount of paper, which means this sunglass will hurt my eyes the least.

Project Number: JPS015 Grade: 6

Title: How Much Can It Take?

Abstract: Water always dissolves the sugar we put in it. Purpose: The purpose of this work was to find out whether there is a correlation between different water temperatures, the amount of sugar dissolved and the time it takes. Methods: Three glasses containing ice water, lukewarm and boiling water were timed for sugar dissolving in steps of one teaspoon at a time. Results: Results included the time length (in seconds) and the amount (in teaspoons) of sugar dissolved for each glass. Conclusions: The warmer the water, the larger and faster is the amount of sugar dissolved.

Project Number: JPS016 Grade: 6

Title: How Low Can You Go?

Abstract: Ever wonder why some salts melt ice better than others? To determine if the weight of salt or the number of ions in solution is the more important factor in salt's ability to melt ice, equal weights of salt were dissolved in 500cc of water and the freezing point of the solutions measured. Equal numbers of salt ions were then dissolved in 500cc of water and the freezing points measured. The results showed that the degree of freezing point depression is dependent on the number of salt ions in solution and not the
weight of salt.

Project Number: JPS017 Grade: 6

Title: How Can We Control Erosion?

Abstract: I tested the effects of water erosion on different types of materials. I poured one pound of each material on a ramp and poured 500 ml. of water on an uncontrolled side and a side controlled with wooden blocks. I did this to measure erosion. I was able to control the water in both the sand and soil but not in rocks. My conclusion was that the water eroded the sand the most because it was the lightest and easiest to move.. Future work will involve new materials, different amounts of water and different amounts of slope.

Project Number: JPS018 Grade: 6

Title: Do You See What I See?

Abstract:

Project Number: JPS019 Grade: 6

Title: The Mighty Ice Crystal

Abstract:

Project Number: JPS020 Grade: 6

Title: Solar Energy Absorption

Abstract: The purpose of this experiment was to determine if color affected the absorption rate of solar energy. I had hypothesized that a black background would result in producing a higher temperature out of all the colors I would be using. I proceeded with selecting 5 background colors. Placing a thin strip of tin under the paper and water on top, I waited for ten minutes and placed a Thermometer under the paper for 5 minutes and recorded the temperature. After analyzing the results, I came to the conclusion that black does absorb more solar energy than any other colors.

Project Number: JPS021 Grade: 6

Title: Air Temperature Affect on Bubbles

Abstract: My project is to observe how long a bubble will last in different air temperatures. I predicted that a bubble will last longer in hot air. I blew bubbles using bubble mix and recorded the amount of time that it took to pop. I tested the bubble in different air temperatures in constant temperature areas. Then I plotted a graph using the data that I had. I discovered that bubbles lasted longer in colder air surroundings.

Project Number: JPS022 Grade: 6

Title: Bridging the Gap

Abstract: My purpose was to determine what bridge, made of wood, held the most weight. I built an arch, warren truss and simple beam bridge of 4mm fir. I tested the bridges by attaching an eye-bolt to the center of the deck and adding weights to it. After each weight was added, I measured the amount of deflection, until it was greater than 1mm. The arch bridge held the most weight; the simple beam bridge held the least. The heaviest bridge, the truss bridge, did not hold the most weight. That was evidence that the design of the bridge is significant.

Project Number: JPS023 Grade: 6

Title: Galileo's Pulse

Abstract: The discovery of a means to provide an accurate time interval was an important development in Galileo's time. It's hard to imagine a time when your pulse is teh best timepiece available. Galileo conducted these same experiments and came to these conclusions. I did experiments as he did to see what affects the cycle time of a simple pendulum. The two pendulum clocks my family owns and the need for adjustment with the changing seasons sparked my interest. My research and the simple pendulum arrangement I began with roughly indicated that my belief was wrong. With further research, a more accurate procedure using a wooden frame and a photogate timer provided the answer to my question. With this apparatus and procedure I could better measure pendulum motion and see the relationship between the period and cord length in a way Galileo could only dream of.

Project Number: JPS024 Grade: 6

Title: Body Type VS. Wind Resistance

Abstract: Cars are interesting to me. My experiment determined which body type was the most efficient against wind resistance. I made the chassis and body types, which were screwed together, and attached them to a metered spring. I then used a hair dryer to simulate wind resistance. The spring measured the resistance. The vertical wedge was the most efficient, followed by the "curve," then "horizontal wedge," and last, the "box." Although the "vertical wedge" isn't a realistic car design, it surprised me by winning. I'd like to investigate more to see if any other body type will be more efficient.

Project Number: JPS025 Grade: 6

Title: Which Brand of Battery Lasts the Longest?

Abstract: My experiment had two purposes. The first was to find out which brand of battery lasted the longest in a flashlight – Energizer, Eveready, Ray-O-Vac or Duracell. The second purpose was to see which brand would make the flashlight brightest. I taped a piece of paper on the wall and placed the flashlight exactly 8 inches from the wall. I switched on the flashlight, set a digital stove timer for 60 minutes, traced the outline of the flashlight beam onto the paper and noted the start time. Then I wrote down any observations. When the timer would sound, I traced the beam again and reset the timer for 60 more minutes. I would note any changes. I repeated these procedures for all four brands. I tested each brand for six hours. My data is the result of each time trial for each battery. The Ray-O-Vac lasted six hours. Its beam was slightly yellow but still bright. The circle's diameter decreased rapidly, but not as quickly as the Duracell's circle. The Duracell lasted four hours and thirty-eight minutes. It started quite bright. The Energizer was brighter than the two brands before and lasted 6 hours. It didn't lose much in diameter. The Eveready started out brightest and dimmed only a little bit over 6 hours. The circle's diameter decreased more than Energizer, but stayed brighter. I concluded that the Eveready brand started and finished with the brightest beam. It also kept the second tightest circle diameter on the paper. I would buy this brand for home use.

Project Number: JPS026 Grade: 6

Title: All Mixed Up

Abstract:

Project Number: JPS027 Grade: 6

Title: Freezing R.O. H2O vs. Tap H2O

Abstract: Reverse osmosis water is purified water. This research was done to see if reverse osmosis water expands less than tap water when it is solidly frozen. The procedure of this project was to fill two glass measuring cups (one with tap water and one with reverse osmosis water) to 200mL each. Then, they were placed in the freezer until they were solidly frozen. The amount of time it took for each to freeze was charted. It was concluded that reverse osmosis water does not expand less than tap water when it is frozen, but it does freeze quicker and clearer.

Project Number: JPS028 Grade: 6

Title: The Effect of Different Materials on Heat Transmission

Abstract:

Project Number: JPS029 Grade: 6

Title: Ready Set Go

Abstract: My question was "How does weight distribution affect the speed of a Pine Wood derby car?" My hypothesis is that weight distribution will affect the speed of a Pinwood Car. It will make the car go faster depending on whether more weight is placed in the front, back or middle of the derby car. The first thing I did was create a wooden track which was 4.5 meters long and was set up at an incline of about 40 degrees. I then took my derby car and ran it down the track three times for each run. I next placed a 45.7 gram weight on the front of the car securing it with tape. I ran it three times and recorded the time for each run. I moved the weight to the middle, and to the end and repeated the procedure. After all trials I caculated the average speed & time. From the calculations done based on the trials I determined the following facts. The Pine Wood derby car with the weights in the back of the car ran the fastest thru the time trials. All cars with weights on whether in the front, back or middle went faster than the car without any weights.

Project Number: JPS030 Grade: 6

Title: Does Rear Wheel Size Matter?

Abstract:

Project Number: JPS031 Grade: 6

Title: Which Paper Airplane Design is Best?

Abstract: This year was the 100th anniversary of the first flight and I watched with interest, a test flight of the original, odd-looking Wright Brothers Plane. I made five oddly designed planes, and one standard large wing forward design like we see every day and tested them during the same weather conditions. The same materials and workmanship were used throughout the project. I tested the planes from fixed ramps for length of flight, time aloft and speed. Much to my disappointment the normal plane flew the Best overall. Testing different planes with various weights could be my next fun project.

Project Number: JPS032 Grade: 6

Title: How is the Strength of a Magnet Affected Through Different Materials?

Abstract:

Project Number: JPS033 Grade: 6

Title: Choosing the Right Bread

Abstract:

Project Number: JPS034 Grade: 6

Title: How safe are you at home from EMF?

Abstract: The purpose of my experiment was to see how many strong electric magnetic fields (EMF) are in everyday household items. When doing my research, I learned that prolonged exposure to EMF over 2 or 3 milli Gauss could be bad for you. My procedure for my experiment was as follows; I measured the electric magnetic fields of an item by using a Gauss meter. I took the Gauss meter and set it up near or against my object and then wrote down my readings. Then I graphed the data I collected. My conclusion is that you are most at risk from EMF from using

these household items frequently; TVs, computers, alarm clocks, and unique lights or fader switches. These items are most likely to cause problems because their EMF level was over 50+ milli Gauss. A way to prevent any possible problems is to use these things from a distance as little as one foot away because when you move back the field is weaker than when you are right next to the item.

Project Number: JPS035 Grade: 6

Title: Bac-Terminator

Abstract: Germs are an unwelcome visitor to our homes. The experiment was conducted to determine which cleaning and hygiene product was most effective in killing germs. Ten agar plates were used to grow bacteria from raw hamburger blotted into the agar. Paper disks were dipped into the cleaning and hygiene products. Using sterilized procedures, the disks were placed on the agar. The plates were covered and placed in a warm, dark environment. When the zones of inhibition were measured, it was proven that bleach was the most effective in killing germs; water was confirmed to be the least effective at killing germs.

Project Number: JPS036 Grade: 6

Title: Friction 500

Abstract:

Project Number: JPS037 Grade: 6

Title: What's in a Filter

Abstract: The purpose of my experiment was to find out what material filters certain impurities out of water best. I decided that I would use a coffee filter as the control. The variable was the filter and impurity used. After the experiment, I looked over my data. Activated charcoal filtered out everything best! All that was left was some black dust. It turns out you can get rid of the dust by simply rinsing the activated charcoal before using it, but it is not poisonous if it gets in your drinking water. A possible error that may have occurred is the cotton balls I used as a filter were bleach free. They could still have some of the chemicals used to remove bleach on them.

Project Number: JPS038 Grade: 6

Title: Which Airplane Can Fly the Longest?

Abstract: Paper airplanes have always been an interesting activity and toy for children. This science project was to prove which airplane, made from various materials, would fly the longest. A single model airplane design was used to make seven planes from seven different materials. A school gym was used to prevent any natural elements from the outcome. Each plane was flown multiple times from the balcony and ground levels and the distance measured and documented. It was determined that the newspaper airplane flew the longest from the balcony level and the writing paper flew the longest from the ground level. A future study may include a sling-shot type mechanism to release the planes.

Project Number: JPS039 Grade: 6

Title: Melting Race

Abstract: Some solids melt faster than others. The reason for this experiment was to learn which solids will melt faster. Twelve liquids were frozen then placed on a table, four at a time, where they were observed and timed to see which solid melted the fastest. Rubbing alcohol never

froze. Of the liquids that did freeze, it was determined that vegetable oil melted the fastest (25 minutes), while water was slowest (85 minutes) to melt.

Project Number: JPS040 Grade: 8

Title: A Day at the Races

Abstract:

Project Number: JPS041 Grade: 6

Title: Bouncing Golf Balls

Abstract: There are many different types of golf balls available in stores to meet the needs of golfers today. There are a variety of choices ranging in price from affordable to expensive. My project tries to determine if the price of a golf ball relates to how high it will bounce. When tested, the ball that bounces higher should go farther when hit with a golf club. I chose to use four different brand names of golf balls in my experiment. Each ball was dropped ten times from a distance of two meters from the floor. I measured and recorded the height of each bounce. It was determined that the Titleist NXT Tour golf ball bounced higher than the rest of the balls and was also one of the more expensive balls tested. This ball should travel farther on the golf course than the other balls. Further work will be to determine if the height a golf ball bounces actually does relate to how far it will travel when hit with a golf club.

Project Number: JPS042 Grade: 6

Title: Taking Water for a Walk

Abstract: Water has a skin that keeps it cohesive. This skin must be broken for water to adhere to other surfaces. This experiment is intended to find out if water will be more cohesive on materials as densities increases placed on a selected surface, its diameter was recorded in millimeters. Using a foam needle, the drop of water was pulled from the center and over the surface. Breaking the skin allowed its adhesive qualities to appear. Measuring the length of this water line permitted a comparison between water's cohesiveness and the adhesiveness to the surface. Additional experimentation is continuing.

Project Number: JPS043 Grade: 6

Title: How Does An Electromagnet Work?

Abstract:

Project Number: JPS044 Grade: 6

Title: What Is It?

Abstract: Without the use of sight, what sense is strongest in helping us to identify objects? This experiment set out to prove that the sense of touch was going to be the second strongest sense. A sample of sixth graders were blindfolded and each handed a different object. The subjects were asked to observe there objects while blindfolded and then record their observations onto a form. The observations were then tallied onto chart. This experiment proved that the sense of touch was the second strongest sense.

Project Number: JPS045 Grade: 6

Title: Mega Magnet Mania

Abstract: For this project, I wanted to test whether the size of magnets affected how powerful they are. It was hypothesized that it did matter, the bigger ones would be stronger. Five different magnets were tested by moving each magnet slowly toward a magnetic object. This was set next to a measuring tape to tell the exact spot where they touch. Do each magnet twice. Take an average, and compare. It was found that the bigger magnets drew the object to them quicker. Size does affect the strength of magnets. The hypothesis was correct.

Project Number: JPS046 Grade: 6

Title: Does Ice Melt Faster in Air or Water?

Abstract: I have been wondering whether ice melts faster in air or in water. My hypothesis was that ice melts at same speed in air and in water because the ice melting speed is not influenced by surrounding air or water. I made an ice cube using 20ml of tap water. The ice cube was placed in a glass chamber. I measured the time and temperature of the chamber until the ice cube melted completely. Next the ice cube was placed in a water-filled glass chamber, and then time and temperature were measured until the ice cube melted. I found that 1). The ice cube in air took much longer time to melt than in water; 2). The time course change in air temperature was much slower than water; 3). When ice cube melted, the air temperature in the chamber was same as water (air: 17 C, water: 18 C). My hypothesis was incorrect. Ice cube melting speed is likely influenced by changes in surrounding air and water.

Project Number: JPS047 Grade: 6

Title: Can A Robot Finger Move Humanlike?

Abstract:

Project Number: JPS048 Grade: 6

Title: Drag and Swimming Clothing

Abstract: I designed my project to see what kind of clothes put the most drag on swimmers. I am a competitive swimmer. I thought this would be interesting. I used the swimming pool at my school. I had two different set-ups. One had a bucket falling a set distance and one had a bungee cord. Both pulled a wooden cutout of me through the water. I timed how long it took for it to travel with different clothes. I found that the heavier the cloth, the longer it took. In conclusion I wouldn't want to race in sweat pants.

Project Number: JPS049 Grade: 6

Title: How To Build a Better Igloo

Abstract: For Centuries, Igloos or "APUTIAKS" had been the Inuit's temporary arctic housing. The insulating performance of 2 igloo designs, one built on a flat surface, the other on an inclined surface, was tested. In two trials, heated gravel was placed into the living areas of each igloo. The temperature fluctuated according to the outside temperature, the inclined igloo stayed warmer longer by creating a "cold air trap" at its base, trapping the warmed air in its living area. Future research concerning snow density and insulation is planned.

Project Number: JPS050 Grade: 6

Title: Why Don't We Drive Solar Cars?

Abstract:

Project Number: JPS051 Grade: 6

Title: The Investigation of Colored Solar Water Heaters

Abstract:

Project Number: JPS052 Grade: 6

Title: In a Heartbeat

Abstract:

Project Number: JLS001 Grade: 6

Title: Which Substance Promotes Plant Growth?

Abstract: The purpose of this experiment was to determine which substance would promote plant growth the best: Tap Water, Miracle Grow, or an organic concoction. I had hypothesized that the house plants treated with Miracle Grow would end up producing the best results. My procedure consisted of buying 3 Pothos plants, already in their pots labeling them with the type of substance being used and providing them with the substance they were going to fed with. I measured the heights of the plants daily. In conclusion, the plant that was fed Miracle Grow produced the best growth of all 3 plants

Project Number: JLS002 Grade: 6

Title: A Hairy Situation

Abstract: The sebaceous glands in the hair follicles help keep hair soft. I intend to find out what type of hair produces the most oil. Human boy, human girl, dog, horse, and cat hair were wrapped in white tissue paper which would show signs of oil. It was discovered that cat hair produced the most oil, while no oil was detected from the dog and the horse hair. This was surprising to me. The human hair produced some oil, but was no match for the cat hair.

Project Number: JLS003 Grade: 6

Title: Do Plants Have Brains?

Abstract:

Project Number: JLS004 Grade: 6

Title: Talking to Plants

Abstract: This work intended to learn if the growth and health of a plant increases with additional amounts of carbon dioxide. Three sunflower seeds were planted in each of eight cups. Four cups were placed in one aquarium labeled "carbon dioxide" and four were placed in the other aquarium. Both aquariums were placed together and partially covered with plastic wrap. Plants were identically watered. Additional carbon dioxide was given twice daily to the "carbon dioxide" aquarium. None of the plants grew! Based on my research, I'd say that plants do grow faster with additional carbon dioxide.

Project Number: JLS005 Grade: 6

Title: Give Me a Treat

Abstract:

Project Number: JLS006 Grade: 6

Title: Blood Pressure, Age and Exercise

Abstract:

Project Number: JLS007 Grade: 6

Title: Which Deodorant Inhibits Armpit Bacteria the Best?

Abstract: Bacteria is what makes your armpit smell. This project is intended to find which deodorant keeps your armpit antibacterial. I used five deodorants and a control. The procedure is to swab my armpit bacteria onto an agar plate, put the deodorant onto the agar plate, to put the agar plates into an incubator, and to record all of the data every 24 hours. My hypothesis was that Right Guard Xtreme Sport would inhibit the most bacteria. In conclusion I found that Right Guard Xtreme Sport inhibited armpit bacteria the best. Future work would be to test more deodorants.

Project Number: JLS008 Grade: 6

Title: Effect of Acid Rain on an Aquatic Envir.

Abstract:

Project Number: JLS009 Grade: 6

Title: Do Righties Get Left Out?

Abstract: I learned the difference in reaction times between lefties and righties by testing 5 of each. They were matched identically by age and gender controlling the variables and making sure that age and gender didn't change results. Each person sat at a table, extended their opened "writing" hand. They grabbed a dropped yardstick. The distance the yardstick fell before being grabbed was measured. After four tries an average was taken for each person. The results were averaged for each person and compared righties to lefties for the entire group. I determined that righties had a faster reaction time then lefties.

Project Number: JLS010 Grade: 6

Title: Water Monsters

Abstract The purpose of my experiment was to find out if protozoa differ form water source to water source. To find the answer, I collected water samples, and recorded temperatures from five different sources. The sources were a giant mud puddle, a stream off of Wildwood Road, North Park Duck Pond, North Park Lake and Shenot’s Pond. I looked at the samples of water under a microscope (usually 430X power). I recorded the types of protozoa I saw. I also tried to identify what they were with a book, that my Dad helped me get from the Carnegie Library. After looking under the microscope I saw nine different protozoa in the muddle puddle, eight in North Park Lake, none in the stream off Wildwood Road, four in Shenot’s pond and only bacteria in North Park Duck Pond. There are lots of different protozoa that reminded me of “water monsters”, in the samples of water I collected. Temperature, stillness of the water and available oxygen in the water affect protozoa. With the research and my experiment, I learned that protozoa do differ from water source to water source.

Project Number: JLS011 Grade: 6

Title: Does Caffeine Affect Plant Growth?

Abstract:

Project Number: JLS012 Grade: 6

Title:

Abstract: Can we built a colony in space?

Abstract: In space, we do not have water and oxygen, which are essential for human living. In addition to above, other constraint of living condition are very low temperature and harmful ultra violet rays from sun. The purpose of my experiment was to create oxygen cycle, carbon cycle and water cycle inside an enclosure where plant and living creature can survive and grow. If successful, such enclosure can be built in space where man can live for long period. I used a 2.5gallon fish tank with a transparent lid to create closed enclosure. In space, we need to build this enclosure with special type of glass, which can filter ultra violet rays from sun. I filled the fish tank with 4 inch of potting soil with a layer of pebbles. Inside the tank planted a small outdoor plant and kept one hermit crab. Moist the soil with sufficient water, also kept water and food for the hermit crab inside the tank. Plants provided oxygen to the hermit crab and getting carbon dioxide from it. The moist soil and water kept in the bowl was source of water cycle. I closed the tank lid tightly and kept the enclosure in the balcony where it gets sunlight during day time and exposed to low temperature in the evening. I measured the inside temperature of the fish tank with a thermometer and monitoried condition of the plant and hermit crab several times a day for eight days. Water vapor created by the sunlight was accumulating in the inside wall of the fish tank. In the evening, with the fall of outside temperature, water vapor was condensing back to water and flowing back to soil. It was also creating green house effect and maintained warm temperature (minimum 50 degree) inside the fish tank. Plant and hermit crab was very healthy at the end of seven days. Few new leafs started growing in the plant. Both plant and hermit crab was able to stay healthy and grow inside the closed fish tank. So I think carbon and oxygen cycle was maintained inside. Water cycle was clearly visible. Also the green house effect created inside allowed living condition for the plant and hermit crab.

Project Number: JLS013 Grade: 6

Title: Habitat Damage Affects Frogs?

Abstract: This project intended to determine how habitat damage effected green tree frogs. Two identical tanks contained the ideal habitat for frogs. Three frogs were placed in each tank. Over time, one of the tank's enviroment was degraded. The frogs in both tanks were misted and fed the same amount. The frogs were weighed and their behavior was monitored. It was determined that the behavior of the frogs in the damaged habitat tank was effected. They tried to hide and were stressed. However, as long as the frogs had a food source, their weight was not affected.

Project Number: JLS014 Grade: 6

Title: How Does Your Garden Grow?

Abstract: The purpose was to determine what color light plants grow the best under. I made a box with window squares to place my plants into and covered them with cellophane wrap. I hung a fluorescent light five inches above the plants. I watered them with ½ of a cup of water. I watered the plants once a week. The tallest plant was in the red pot. The plants with the most leaves and the greatest number of plants were in the purple pot. My hypothesis choice, yellow, was wrong. The best color of light to grow plants under is purple.

Project Number: JLS015 Grade: 6

Title: Is Audio or Visual Recalled Better?

Abstract:

Project Number: JLS016 Grade: 6

Title: Hermit Crab Behavior

Abstract: Hermit crabs vary in behavior as much as people do. This work was done to learn how these crabs would act when their environment changes. Two hermit crabs were taken and put in different cages. Each cage was set up in the same manner. They were observed daily for seven days and the results were recorded. It was determined that the hermit crabs are more social when they are together. Future work would include adding climbing toys to the cages to try to make the hermit crabs more responsive when they are alone.

Project Number: JLS017 Grade: 6

Title:

Abstract: This project was preformed to find the difference in the growth of bean plants using 5 different colored lights .My hypothesis is that a white light will grow a bean plant tallest because it's most like the sun. Since the sun is an essential in growing a plant, I think that the white light will be the best substitute. The first step of my experiment was to get five identical pots and fill them with equal amounts of the same soil. I then put 6 seeds from the same package in each pot equal distances apart. Then I added more soil to the top .After I watered each plant every other day with equal amounts of water. Once a pot had a plant (took about 7-10 days) I put a colored, 25 watt light above it. Then everyday I would observe each pot and write down how many plants it had and how tall each one was. If the pot had more then one plant then I would mark where the plant was. I recorded the height in inches everyday up until January 1st, 2004 the day that my experiment was over. On that day the blue light was the light that grew the tallest bean plants. It had three plants all of which were taller than every other plant. This probably happened because I checked each light and the blue light produced the least heat so the other lights probably were burning some of the plant.

Project Number: JLS018 Grade: 6

Title: Heart Rock

Abstract: The heart is a vital and interesting part of the human body. With this work I hoped to learn if a person's heart rate could be raised or lowered by listening to music. I had my subjects listen to both rap and a mellow type of music. I discovered that when they listened to rap music, the subjects' heart rate went up. When they listened to the mellow music, their heart rate either stayed the same or decreased.

Project Number: JLS019 Grade: 6

Title: Composting

Abstract:

Project Number: JLS020 Grade: 6

Title: Sleep and Memory

Abstract: I surveyed people w/ a list of items to memorize. They had 3 minutes to memorize the list and 2 minutes to complete the test. I reviewed the dataand concluded that sleep does affect the ability to memorize.

Project Number: JLS021 Grade: 6

Title: Speeding Up the Ripening of a Banana

Abstract: The purpose of this experiment was to determine if you could speed up the ripening process of a banana. I hypothesized that an unripe and ripen banana placed inside a brown paper bag would result in ripening the fastest. A ripen banana produces an ethylene gas and that helps the ripening process. Three bananas were placed in different locations throughout my kitchen, the ripe and unripe banana were placed in a paper bag, and the last banana was placed in a brown paper bag by itself. I found that the two bananas placed in the brown paper bag did speed up the ripening process.

Project Number: JLS022 Grade: 6

Title: Test Taking Times

Abstract: Tests are a part of a student's daily life and it is important to understand about them and about how to take them. One way is to know about pressure. This experiment was chosen to see if students take tests better with more or less time for the test. Fifteen 6th grade students took three tests, one with four minutes, one with seven minutes, and one with ten minutes. Every minute they were told how much time has passed. It was concluded that people take tests better with more time to take the test then less time.

Project Number: JLS023 Grade: 6

Title: Plant Growth in Various Soils

Abstract:

Project Number: JLS024 Grade: 6

Title: Ecosystems

Abstract:

Project Number: JLS025 Grade: 6

Title: Effect of Sed. on Photosyn.

Abstract:

Project Number: JLS026 Grade: 6

Title: Does the Color Change the Taste?

Abstract:

Project Number: JLS027 Grade: 6

Title: Picky Pigs

Abstract:

Project Number: JLS028 Grade: 6

Title: Plant Nap

Abstract: If plants grow bigger with more light, then will they grow even more with continuous light or do plants require a period of darkness? Twenty-four lima beans (two per cup) were planted. Groups of four cups were placed in three different groups and each group was observed in different lighting arrangements for a thirty day period. It was determined that plants require a period of darkness for best growth. Just as humans need a sleep period, plants need a period away from light.

Project Number: JLS029 Grade: 6

Title: Thumbs Up!

Abstract: My project examines, "Do family members have similar fingerprints?" I chose this project because I was curious to see if fingerprints were hereditary like other family traits. To complete my project, I fingerprinted three families and classified each fingerprint into groups. I then made a table that contained the fingerprint classifications for the father, mother, and one child. I determined if the child's fingerprint classification was the same as either parent and counted the number of fingers that matched. My results indicate that children have a large number of fingerprint patterns that are the same as one of their parents.

Project Number: JLS030 Grade: 6

Title: Does Lunchmeat make you sick?

Abstract: Just about everyone eats lunchmeat. This experiment intended to show that there is always bacteria on lunchmeat and exposure to air makes it grow faster. I tested roast beef, ham and turkey in three situations: within 24-hours after purchase, three days after purchase and after it had been un-refrigerated. for six hours (or about as long as lunchboxes are un-refrigerated before lunch). I learned that the lunchmeat that was not refrigerated grew bacteria at the highest rate. So the next time you go to a picnic and feel a little sick later
on that day, blame it on the meat, not the mayonnaise!

Project Number: JLS031 Grade: 6

Title: Which Fertilizer Works Best?

Abstract:

Project Number: JLS032 Grade: 6

Title: Athletics Affect of Heartrate

Abstract: The purpose of this experiment was to find out if playing sports affected one’s resting heart rate. I did this experiment because I am interested in heart rate and I love playing sports. I found subjects that were well rested and counted the amount of times their heart pumped blood in a minute. In conclusion, playing sports does lower one’s heart rate significantly. I would like to go into more detail with the experiment by taking the amount of hours playing sports into consideration.

Project Number: JLS033 Grade: 6

Title: Light Away

Abstract: The reason for my research project was to find or determine under what lighting situation would conduct the best plant growth. I gained my data for my project by placing red, green, and clear plastic wrap around each plant. Watered the plants with the same type of water and at the same time. Every week I measured the plants by height and diameter. The most important results were that red grew the fastest and consistently longer than the other three plants under the other lighting conditions. These results proved to me that colors greatly affect the growing cycle of plants by generating and storing heat from the sun.

Project Number: JLS034 Grade: 6

Title: How Does Music Affect our Breathing?

Abstract:

Project Number: JLS035 Grade: 6

Title: Macroinvertebrates and Water Quality

Abstract:

Project Number: JLS036 Grade: 6

Title: The Battle of Sun and Shade (Mold Growth)

Abstract:

Project Number: JCS001 Grade: 6

Title: Determining the Fat Content of Fast Food Hamburgers Using Ether Extraction

Abstract: Purpose: Attempt to answer the commonly asked question of which fast-food hamburger has the most fat. The working hypothesis was that frying versus grilling and the type of meat used in the hamburger would make a difference in fat content. Hamburgers from three fast-food chains were weighed and broken into small pieces in preparation for ether extraction. A Soxhlet crude fat extraction test was utilized. 100 ml of ethyl ether was added to each hamburger specimen and allowed to separate for 15 minutes. The ether/meat mixture was poured through filter paper into a funnel. The ether layer was then collected into an additional container. The meat and ether layer container were air dried overnight and weighed the next day.
Wendy's and McDonald's, who both use 100% quarter pound beef and fry their hamburgers, contained 16.2 g (27%) and 19.0 g (26%) of fat respectively. Burger King, who flame-grills their 100% quarter pound beef hamburgers, contained 8.6 g (23%) of fat. Post-cook weights for the hamburgers varied from Burger King as the lightest (37.1 g) to McDonald's having the highest post-cook weight (73.9 g). Hamburger cooking influences fat content. Grilled hamburgers have less fat than those prepared by frying. Grilling appears to allow for fat to drip off the hamburger while frying keeps the hamburger in the fat during cooking. Grilling also seems to significantly influence post-cook weights of hamburgers.

Project Number: JCS002 Grade: 6

Title: Which Battery Lasts the Longest?

Abstract: The purpose of this experiment was to determine which brand of batteries would last the longest. I had hypothesized that Energizer Max Batteries would result in lasting the longest. Five different brands of batteries were used. I placed each brand of batteries, one at a time, in the Gameboy. The Gameboy was kept with me at all times and every 20 minutes I checked the progress of the battery. Once the batters expired, I recorded the length of time and moved on to the next set of batteries. In conclusion, I found that the Duracell Battery lasted the longest.

Project Number: JCS003 Grade: 6

Title: How Do Household Bleaches Compare?

Abstract: The purpose of this experiment was to determine which bleach would clean clothes the best. I hypothesized that Clorox bleach would clean the mud and grass stains in the shirts the best. I conducted my experiment by taking five shirts and rubbing mud all over them and then rubbing them in grass for the grass stains. I then proceeded to wash each shirt in a different brand of bleach to determine which bleach produced the best result. After analyzing my data, I have concluded that Clorox takes stains out the best

Project Number: JCS004 Grade: 6

Title: The Best Mustard Stain Remover

Abstract: The purpose of this experiment was to determine which laundry detergent would take mustard stains out of clothes the best. I had hypothesized that Oxy Clean detergent would produce the best results and that X-tra would be the least effective. I took each piece of cloth and smeared mustard all over the cloth. Once I had prepared the cloth, I then took each piece of cloth and washed and dried each on a regular washing and drying cycle. In conclusion, Oxy clean did the best and actually All detergent, instead of X-tra, produced the worst results.

Project Number: JCS005 Grade: 6

Title: The Corrosion Colas

Abstract:

Project Number: JCS006 Grade: 6

Title: To Eat or Not to Eat?

Abstract: For my experiment I tested to see which fruit wash cleaned fruit the best. I used the FIT spray, soap and water, amd just plain water with three different types of fruit: apples, plums, and pears. each piece of fruit soaked for 5 minutes then rinsed separately. After wasing, each piece of fruit was swabbed and then innoculated petri dishes containing MacConkey agar. The FIT cleaner did clean the fruit the best.

Project Number: JCS007 Grade: 6

Title: Freezin Cold

Abstract: My question for my science experiment is "What insulation works the best keeping things cold." I chose this experiment because I am interested in what insulation works the best in keeping things coolest and at a controlled temperature. I used three types of insulaton: fiberglass, Styrofoam, and cardboard. I conducted this experiment by taking nine 250 mL beakers and filling them up to the 100mL mark with distilled water and froze the water for three hours. Once the water was frozen I took the beakers out of the freezer and immediately covered the beakers with insulation. I then placed this into a canister with a lid. After they had been covered I started timing how long it took for the water to begin to melt. Then I recorded all my data. My hypothesis was that the fiberglass would work the best because that is what manufacturers use most often.

Project Number: JCS008 Grade: 6

Title: Which Products are Electrolytes?

Abstract: The purpose of the experiment was to determine whether household products when dissolved in water, or by themselves, conducted electricity. The procedures used in the experiment are described in the following paragraph. 150mL of water was placed in a 250mL container (glass jar). The total amount of electricity flowing through the water was measured using a milliamp meter. This value was considered the control for the experiment. Each household product was used at full strength, diluted, or dissolved in the water. The milliamp reading for each product was then evaluated. All liquid products were evaluated using a 50/50 solution. (75mL of water and 75mL of product were mixed together into solution.) The data collected from the experiment shows that the following household products conduct electricity: Epsom Salts, table salt, baking soda, ammonia, CLR, DIF, and Spray & Wash. Sugar does not conduct electricity. All but the latter (sugar) are electrolytes. This experiment is meant to show whether chosen household products conduct electricity. Two conclusions I formed after evaluating my results were that most of the solutions that conduct electricity contain sodium and solutions that don’t dissolve well show a decrease in milliamp values as more of the household product is added.

Project Number: JCS009 Grade: 6

Title: Bad Breath Busters

Abstract:

Project Number: JCS010 Grade: 6

Title: Detergent Dilemma

Abstract: Americans spend a great deal of money trying to get their clothes the cleanest they can be. This work is intended to learn which laundry detergent is best for removing stains and producing the cleanest and brightest laundry. Thirty-six pieces of small cloth were stained with blueberries, chocolate, grass, ink, red punch, motor oil, coffee, and ketchup. All were washed and dried in the same manner. A scale was used to rate each stain for a specific detergent. It was determined that Sun detergent was the best at removing stains, even though it was the least expensive.

Project Number: JCS011 Grade: 6

Title: Which Greek Cheese Rots the Fastest?

Abstract: The purpose of this project was to determine which Greek cheese would result in spoiling or molding the fastest. I hypothesized that Feta Cheese would rot the fastest out of all other Greek cheeses used because it is submerged in water and is mad of both cow and goat milk, having a high fat content. I took each half a pound of each cheese and placed them in Ziplock bags positioned them in dark, warm areas in my kitchen. I monitored their progress daily. After completing the experiment, I found that Feta did not mold the fastest but Kasseri Cheese did.

Project Number: JCS012 Grade: 6

Title: Suds or Duds

Abstract: Step into your shower and pick up the soap. Well, this project was to discover which soap should be in your shower! Tested for producing the most lather were Lava Heavy-Duty hand cleaner, Dial Anti-Bacterial, and Ivory soap. It was hypothesized that Lava would produce the most lather followed by Ivory than Dial. Each of the soaps was vigorously scrubbed while submerged in a 1.4 liter container of water for one minute. After three trials of each soap, Ivory was the most effective producer of lather. The average amount of lather was: Ivory 1.1centimeters, Lava 0.6 centimeters, and Dial 0.5 centimeters.

Project Number: JCS013 Grade: 6

Title: Does the color of saran wrap affect the weight it holds?

Abstract: My experiment attempted to determine whether the color of saran wrap affected the amount of weight it could hold. Would adding color make the saran wrap stronger? I placed two identical tables about 30 cm apart and taped the saran wrap to the tables using duct tape. I placed plastic bags filled with all-purpose sand on the saran wrap and calculated how much weight each piece could hold before breaking. I did eight trials of clear, blue, green, pink, and violet saran wrap. I learned that the green was the strongest and the clear was the second strongest.

Project Number: JCS014 Grade: 6

Title: Diaper Power

Abstract: My purpose in doing this experiment was to see which diaper is most absorbent. I thought that the Pampers would be most absorbent because they were the most expensive. A section of each of the five brands of diapers was cut out and measured amounts of water were dropped on each until they leaked. I performed this experiment three times. Each time the Nice

'N' Cozy brand absorbed more than all the other brands. I was shocked by the outcome since this brand costs the least.

Project Number: JCS015 Grade: 6

Title: Dissolution Solution

Abstract: My probelm was "What liquid dissolves acetylsalicylic acid (aspirin) the fastest?" I did this because my mother gets headaches quite often and I wanted to see what liquid she should drink when taking the aspirin. My hypothesis was that acetylsalicylic acid would dissolve in orange juice the fastest because of the acid content. My hypothesis was incorrect because the acetylsalicylic acid dissolved in water the fastest. How I found this out was by doing my experiment with four different liquids: water, orange juice, Coca Cola and milk. I placed 250 mL of each liquid in a 1000mL beaker, dropped an aspirin tablet in the beaker and timed how long it took to dissolve. I recorded all of the results in a chart. The results showed that the aspirin dissolved in water the fastest at an average of 42.7 seconds. Then came the Coca Cola at an average of 1 minute 18 seconds. After that came the orange juice with an average of 2 minutes 26.7 seconds. Lastly, was milk with an average of 6 minutes 26.7 seconds. I have concluded that the best liquid to drink when taking an aspirin would be water.

Project Number: JCS016 Grade: 6

Title: Stop Sliced Apples from Browning

Abstract: The purpose of my project is to find the substance that works best to keep sliced apples from browning. Procedures – First, cut the apples evenly into seven slices. Keep one apple slice as the control. Place the remaining slices in separate cups. Add 30 ml. of each test substance (sugar water, vinegar, tomato juice, lemon juice, canola oil, lime juice) in separate cups with an apple slice. Observe the slices every ten minutes for thirty minutes. At each ten-minute interval, record observations about the apples.
Data – Immediately after slicing, each apple slice was crisp with no browning. After the first ten minutes, the results observed for each slice ranged from no browning to light browning. At twenty minutes, observed results ranged from no browning to medium browning. At the end of thirty minutes, final results observed ranged from crisp texture with no browning to soft texture with medium-dark browning. Conclusions – Based on the experiment that I conducted during my project, I have ranked the test substances used from best to worst for their ability to prevent browning of sliced apples: 1) Lemon juice; 2) Lime juice; 3) Tomato juice; 4) Sugar water; 5) Canola oil; 6) Vinegar.

Project Number: JCS017 Grade: 6

Title: What plastic wrap holds the most weight

Abstract: My experiment was " What Type of Plastic Wrap Holds the Most Weight?" I chose this topic because I have never done a project like this before. I thought plastic wrap would be an interesting topic to study and test. I first collected four different types of wrap and then taped a piece of the plastic wrap to my kitchen sink. After, I put one can of chicken broth on the wrap, then two cans, then three cans. I measured how far down each wrap sagged. Glad Wrap Press-N - Seal was able to hold the most weight.

Project Number: JCS018 Grade: 6

Title: Low Calorie vs Regular Food

Abstract: About 25% of America's children are over weight. The experiment's purpose was to decide if adolescents could tell the difference between regular and reduced calorie foods. The

subjects were given a brown bag lunch with several different food items. The subjects indicated on a data sheet if the “liked a lot,” “liked,” or “did not like” each food. According to the data most subjects could not tell the difference between the food items. The data indicated a notable difference with milk and peanut butter and jelly sandwiches. Future experiments would expand the food selections to include breakfast and dinner items.

Project Number: JCS019 Grade: 6

Title: Bacteria Wars

Abstract: My question was "Which liquid cleaner would kill the germs?" I did this because my family cleans the counter often and I would like to know which one would kill the most germs while cleaning. I started with four cleaners. I then cleaned the counter with one of the four cleaners after putting on the bacteria food. Then I took a sample of each and put it in a petri dish. I recorded my data every twelve hours for 5 days.
My hypothesis was that 409 cleaner would kill the most germs. My conclusion came to that the 409 cleaner did kill the most germs in my experiment.

Project Number: JCS020 Grade: 6

Title: Not Hot Chocolate, Hard Chocolate!

Abstract: Chocolate is one of the most-loved foods in the world, or at least in the USA. This experiment was performed to discover if white, milk, or dark chocolate hardens the fastest. An ice cube tray with different kinds of melted chocolate in the cups was placed at room-temperature on a table. They were observed, and noted, approximately every five minutes. It was discovered that white chocolate hardens the fastest and dark chocolate the slowest. This is most-likely because of ingredient differences in the different kinds of chocolate.

Project Number: JCS021 Grade: 6

Title: Caffeine=Hypertension Yes? No?

Abstract: My question was "Which drink causes a greater rise in blood pressure, Coca-Cola, coffee, or tea?" I did this because of how many of these beverages are a major staple in people's everyday lives. I hypothesized that coffee would cause an individual's blood pressure to rise more. My hypothesis was incorrect because, according to my experiment, tea causes blood pressure to rise more than coffee or Coca-Cola. I used four test subjects and had them drink the three beverages with one hour in between. I recorded the blood pressure a half hour after each person drank the individual beverage. My results, based on my experiment and the data and information collected, showed that tea was found to be the cause of raising blood pressure more than coffee or Coca-Cola by only a slight margin even though coffee does contain a larger amount of caffeine than tea or Coca-Cola.

Project Number: JCS022 Grade: 6

Title: Does the price of a plastic bag affect the weight it holds

Abstract: Plastics are used daily worldwide. This work intended to determine if the price of a plastic bag affects how well it can hold weight. Sand was put into three different types of bags fifteen times and the number of times the bags broke was recorded. The results of this experiment were that one Ziploc, the most expensive bag, broke and that none of the Glad or HomeBest bags broke. The conclusion came to be that the price of a plastic bag does not affect how much weight it can hold. This project was chosen to help consumers save money.

Project Number: JCS023 Grade: 6

Title: Don't Let Your Money Burst With Your Bubble Bath!

Abstract: To a child, the most important feature of bubble bath is, does it make a lot of bubbles? This work is intended to test various brands of bubble bath, to see which one produces the largest volume of bubbles in reference to how much it costs. Therefore, letting you determine if a higher priced product, truly gives you a better quality bubble bath. It was determined that the moderately priced bubble bath produced the largest volume of bubbles. Future work is planned to determine if water temperature has an effect on the volume of bubbles produced.

Project Number: JCS024 Grade: 6

Title: Which Popcorn Kernels Pop the Best?

Abstract: The purpose of this experiment was to determine which brand of popcorn would pop the best. Each brand of popcorn had a bag placed in the freezer for 24 hours and kept at room temperature. I had hypothesized that Orville Redenbacher would produce the best results overall. The experiment was completed by popping both bags of popcorn (frozen and room temp.) and determining the percentage burned, the volume, the number of kernels unpopped, and the number of kernels popped. After analyzing all my data, I had come to the conclusion that Pop Perfect produced the best results, overall.

Project Number: JCS025 Grade: 6

Title: Rainbow Cheese

Abstract: People's perception of food often determines whether or not they will like it. In the business world, advertisers are interested in food colors that will appeal to consumers. This work intended to learn if the color of cream cheese affects people's perception of the taste. Equal portions of cream cheese were colored: red, green, and blue. Another portion was left white. After tasting each sample, subjects were given questionnaires to determine their favorite rainbow cheese. The color most taste testers preferred was green, so one can conclude that color does affect people's perception of taste.

Project Number: JCS026 Grade: 6

Title: Detergents

Abstract:

Project Number: JCS027 Grade: 6

Title: Do add. In batt. Make them more prod.

Abstract:

Project Number: JCS028 Grade: 6

Title: What's the Effect of Colored Plastic Wrap on Lettuce?

Abstract:

Project Number: JCS029 Grade: 6

Title: What Toothpaste Works Best?

Abstract: