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| Data AP Bio Project Journal **November 10, 2001**, Today my dad and I went shopping to buy mice, cages, and supplies. We first started off by going to the Feed & Seed store in Livermore where we bought rodent food and a cage. While we were there one of the employees said that she had two baby mice that she was trying to get ride of if we wanted them. She also said she would give us the cage, their food, and bedding. We said we would take them, and she told us to come back on Monday to get them. After that, we went to several stores before we went to PetCo in Dublin where we found the mice we wanted. We bought all six of the fancy mice that they had and took them home. Their names are Bear, Harbie, Chip, Fanny, Moose, and Got Milk (see "Meet the Mice" to read descriptions of each).  Once we were home, we put the cage together (in my room) and then put the mice in it. There were four males and two females. The mice spent several hours running all around the cage sniffing everything. They all get along together just fine, and are friendly to people as well. By the end of the day, they had all approached my hand to smell it, and some of them even jumped into it. The mice seemed especially excited over the wheel, which is probably because they did not have one at the pet store.  **November 11, 2001**, I had to move the cage into the garage because their smell was bothering my mom's allergies. Everyone still seems to be doing fine, and look very healthy. I have now been able to hold all of them and they seem to recognize me.  **November 12, 2001**, I went back to the Feed & Seed store in Livermore to pick up the baby mice. The lady gave me a cage, which is roughly the same size as the one I had bought, food, an exercise ball, and two different kinds of rodent treats. I never saw the mice until I got them home (they had been sleeping under newspaper strips). When I did see them I was shocked at how big they were. In fact, they we twice as big as the mice I already had. They were white haired, red eyed sisters (completely identical). I picked on up to put into the cage with the other mice and it bit me, and because of that I never put the other one in because I was afraid it would bite me as well.  The one sister who was in the cage with the other six mice is truly a monster. It fights the other mice, bites them, and jumps on them. The other six mice, in return, will gang up on her and attack her two or three at a time. I tried several times to catch her but she is completely afraid of me and runs whenever I open the cage. I have great suspicion that these sisters are not baby mice, but baby rats.  **November 14, 2001**, the baby rat is still in with the other mice. They still fight with each other but now she is sleeping with the others.  **November 16, 2001**, My dad was able to catch the rat in with the mice and put her back in the cage she came in with her sister.  **November 18, 2001**, I cleaned out both cages this morning. I went back to PetCo to get more mice and to give them the baby rats. They were just too difficult to work with. The pet store hadn't received their normal shipment of mice on Friday like they usually do but they showed me some mice that had been breed at the store. I took home with me two young (but large) males. One is solid gray (Smoky) and the other is solid black (Matches). Matches does not get along with the six original mice, whereas Smoky is extremely shy yet has no problems with the others. Matches acts much like the baby rat did. He bites, jumps on, and chases the other mice. I'm not sure what to do with him.  I used a tube to connect the two cages together. The mice can now run back and for between cages, but overall prefer the first cage.  **November 22, 2001**, I separated Matches from the rest of the mice. He is now in the second cage by himself.  **November 23, 2001**, While cleaning out the cages this morning, I made up a little container to put Matches in until I took him back to the pet store. He hated it and tried to dig his way out of it.  At PetCo, I bought my last five mice and returned Matches. There were four females and one male (Raccoon, Spot, Cheddar, Swiss, and Pepper Jack). This brings me to a total of twelve mice; six males and six females. The new five get along together just fine with the other seven. Now that Matches is gone, the other mice run around more. Before, if they left the space needle he would chase them back up. Even Smoky is more social now. Today, I've seen him be the more active than when his brother was here.  **November 26, 2001**, Smoky came up to my hand and sniffed it and put his front paws on my fingertips. I almost got him to jump into my hand. Before I was worried that he would never warm up to me, but I now he is beginning to.  **December 9, 2001**, I decided to clean out the cages in a different manor. It's a pain to clean them because I have twelve little bodies to make sure don't escape. What I did is got them all into one cage and then blocked off the connecting tube so that they could not get back. Then I cleaned the cage they were not in. Once I was done with that cage I switched them into the clean one. I did put some into a tall bucket because I thought the cage would be too crowded. Smokey was in the bucket and I saw him try to jump out. He jumped about a foot off the ground. It completely scared me half to death and surprised me because he almost jumped out. Raccoon managed to get out of the cage and I walked into the garage to find her sitting on the table, sniffing the food bag. She jumped right into my hand and I was able to put her back with no problems.  I have become very worried that some of my females, if not all, are pregnant. I have been doing a lot of research on mouse reproduction. Sometimes the parents will eat the babies. Sometimes the mother will abandon them. Mouse germination is 21- 23 days and the average littler size is 10 - 12. However, very young and very old mice may only have as few as two or three in one litter. I am also worried about incest going on in my mice. I don't want them to have unhealthy babies.  **December 11, 2001**, I separated the males and females today. The females are in the original cage. I did this because that cage has more nest room and a bigger water bottle. There should always be fresh water readily available for a nursing mother (which I have none, but may have several soon). The mice that I think are pregnant are Fanny and Spot. They both seem to be very round right now and I've noticed that Fanny doesn't run on the wheel as much as she used to. It took a lot of time and coordination to separate them. Although they are quite tame, they are not always cooperative. I accidentally caught one of Chip's fingers in one of the connectors. I felt so bad. His finger is cut a little and I wouldn't be surprised if it were broken. However, after about five minutes after the accident he was already back on the wheel running and he hasn't shown any signs of limping.  Once the mice were all separated, both the males and females an around their cages as if looking for each other. I put in more bedding to try to make up for the loss of body heat they will have when they sleep. Recently I was holding Got Milk and I am now questioning what sex he is. I have always thought he was a male but he is now quite a bit smaller than the other males and does not have obvious testes. When I first got him I was positive that it was a male, so now I think that possibly his tests have shrunk due to the weather, or that he's just a small male. I did put him in with the other males so I suppose the real test will be to see if he has any babies.  I also bought new food today from Best Friends in Pleasanton. It is full of sunflower seeds, corn, rodent pellets, and things that look like dry cat food. I gave some of it to them today and they seem to enjoy it. I also thought of a quite simple way of how to manage the lights in the garage. I now turn them on at six in the morning (when I'm getting ready for school) and turn them off at six in the afternoon. This way it's easy for me and I know that they are getting a good twelve-hour "day" and "night."  **December 14, 2001**, Today I had a mysterious accident. I walked into the garage to find that the tube leading to the bubble in the male's cage had completely come off and the hole was exposed. When I first saw this, my whole body froze. I blocked the tube so that no one else could get out and them I counted how many were actually in there. I could see four and I knew that at least one was missing. So I was extremely quite and I could hear some rustling. I followed the noise (about five feet from the cage) and found Bear sniffing around the fish tank cleaning equipment. I grabbed him and put him back in his cage. Then I stirred up the nest so I could see if anyone was still missing and, Got Milk was gone. I stood very still for a few minutes before I heard anything. I found him in the far corner of the garage making a nest out of some leaves. I immediately snatched him. Before I he would go back in the cage I held him for a while because he seemed absolutely terrified. He was shaking and snuggling into my hand. When he finally went back in he went straight to the nest in the cage and fell asleep next to Bear.  There are several things that I can hardly believe. First of all, I can't believe that the tube came undone. I figured someone must have knocked the cage but my family says that they didn't touch anything. Second, I can't believe that only two of them ran out because the open hole was right next to the nest where they all sleep. Third, I'm amazed at myself that I was able to hear them and follow the sound right to them. Lastly, I was surprised that the two who did get out didn't stay together. In fact, they were on complete opposite sides of the garage. So today turned out to be quite an experience for Bear, Got Milk, and myself.  **December 15, 2001**, I cleaned the cages today. Everything went smoothly. I changed the tubing on the male's cage to avoid further mishaps. I basically cut it in half so that it wouldn't have to support so much weight. One side has the bubble attached to it, and the other just has the rest of the tube and a stopper.  **December 21, 2001**, Tomorrow I leave for a week on vacation and so I'm stocking the cages with food and water. I'm very worried about leaving them alone, but I couldn't find anyone who was willing to take care of twelve mice for a week. I'm afraid that the males will run out of water but I think the girls will be fine.  **December 31, 2001 (very early in the morning)**, I got home at 1:00 this morning and immediately checked up on my mice. As I feared the boys we out of water and, to my surprise, so we the girls. The girls were also pretty much out of food. I refilled everything and the males all went straight to the water and started drinking. The girls, on the other hand, didn't seem to do much of anything but continue their nap. This made me nervous and so I woke them up to see if everything was all right. This is when things got interesting.  Spot and Swiss are enormous. They are both very pregnant. Once I started touching them they got up and started eating. The other girls still didn't do much. I then started to fear that they were dead. With a little coaxing, I got Raccoon and Cheddar to move around a bit. However, when I picked Fanny up she let her legs go limp. If I looked hard enough I could just barley see her breathing. When she was in my hand she would stretch herself over my palm and go back to sleep. She has lost a lot of weight and was not opening her eyes up all the way. I then found Mousse buried under the bed fillings and she was dead. I was very sad to see this.  While I was watching the other girls I noticed that they were stealing food from each other, even though their bowl was full. I think that they must have been fighting over food while I was gone and Fanny and Mouse turned out to be the weakest.  Once that I discovered that not everyone was doing as well as others I decided that I needed to check all the males individually as well. All of them were fine except for Got Milk who was nothing but fur and bones (but he was still alive). I put him in a separate cage with Fanny and I spent over two hours hand feeding them. It seemed like everything they did was in slow motion. They would take a bite of corn, for example, and slowly chew it about twenty times before they would swallow their bite. To get them to drink I would take one of the bottles and gently rub it on their nose so that a drop of water would come off. After a few tries they would finally flick their tongue up and drink it. I did all of this with them sitting in my palm and I could feel and see their whole bodies shaking. After about an hour they started picking food up themselves and eating it and they would drink water without me putting it on their noses. I left the two of them in the separate cage for the night with a pile of food and water.  **December 31, 2001 (later on that day)**, When I checked on my two sick mice after I got up, I found that all of their food was gone. This surprised me, pleasantly, because I had left a lot in there. Fanny was so much better than earlier this morning. She was running around the cage and so I put her back in with the others. Got Milk, however, was still shaky. He was eating and drinking, but he wasn't ready to go back with the other males.  I cleaned the cages today. I did the males' first and once I was done I put Got Milk back in. The other males treat him nice and I saw him getting food and water for himself so I think he'll be fine. I also went to the pet store and bought them a new wheel. This one works well and it looks a lot better in the cage than the old one.  The girls' cage had lots of trauma going on. First off, I opened up the cage and found blood on one of their paper cups. I then saw blood on Fanny's head. My first thought was that the other girls had been biting her. Then I saw blood on Raccoon's lower body and some dead baby mice. I then realized that Raccoon had had babies and Fanny was either grooming Raccoon or eating the babies. So I put Fanny, Raccoon, and Cheddar in a bucket, like usual, but I wasn't sure what to do with Spot and Swiss because I was afraid that they would have babies while I was cleaning their cage and eat their babies as well. I ended picking Spot up and putting her and Cheddar in a different cage while I cleaned and discovered that pregnant mouse's stomachs feel like jelly. Once the cage was cleaned, I washed the blood off of Fanny before I put her back in. This was a very stressful day.  **January 1, 2001**, I have been noticing some interesting behavior patterns with the girls today. They have been mounting and occasionally fighting each other. I read that mice of the same sex will mount each other to show rank. However, I thought if anyone would do that it would be the males. I have a few ideas why they are doing this all the sudden. First off, I think they ran out of food while I was gone because they were eating more than usual (or at least most of them) due to the fact that they are pregnant. Perhaps they are stating who gets first dibs on the food. Another possibility is that their hormones are off balanced due to their pregnancy, or in Raccoon's case recent child birth and they are feeling more sexually active. My last idea is that they are stating whose babies are more important. They may feel that there are too many of them in that cage for all of them to have babies so they are ranking themselves to see whose they will accept. Here is who I've seen jumping who so far:  Raccoon on Spot (She also bites Spot, however Spot never squeaks or runs away)  Swiss on Cheddar  Swiss on Raccoon  I haven't seen anyone bother Fanny of vice versa. Another strange behavior I've noticed in the girls is a dramatic increase of them grooming each other and sniffing each other's privates. Swiss and Cheddar do most of the grooming and the sniffing, although I have seen all of them do it at times.  **January 2, 2002**, Today I found another dead baby mouse in the girls' cage. However, I only found one and no blood or other body parts. I'm not even sure whom it belonged to. I don't think it was Spot's because she is still huge. She is by far the biggest mouse I have right now. She's even bigger than the males. Since I separated the males from females on December 11 the girls should have their babies by January 3rd (tomorrow), that is if they are pregnant.  Fanny seems perfectly fine now. Got Milk is still really small and still a little weak, but he seems to be getting along fine. A new behavior trait that I've noticed in Bear is that he climbs the sides of the cage more and he bites the bars. It makes me nervous because I feel like he's trying to get out, but he also has been more willing to let me hold him. In fact, every time that I have opened the cage while he was climbing the walls he walks right into my hand and seems content.  **January 4, 2001**, I went out to the cages this morning to find that Spot had had her babies! And they're alive! I'm so excited. It's hard to tell how many there are because all the other girls are up in the space needle with them. I think there must be 5- 7. The babies, called pinkies, have no hair. Their ears and eyes are closed and they make a high pitched squeaking noise that sounds like baby birds. All the other girls are helping Spot take care of them. They take turns sitting on them to keep harm and grooming them. I've seen both Raccoon and Swiss pick one and rotate it in their paws as they groom it. Spot doesn't seem to mind. The other girls actually seem to be fighting over whose turn it is to watch them for Spot. They seem to be good aunts.  **January 5, 2001**, Today I cleaned out the cages. I cleaned out the males' cage like normal, but I only scooped out the old bedding in the girls' cage. I didn't want to disturb the babies. I saw Spot go down the tube with a baby still connected to her. It fell to the bottom and neither Spot nor Cheddar seemed to care or noticed. So I rubbed my hands in bedding to that they would smell like it and picked it up to put it back in the space needle. I was surprised at how warm it was. I put it back with the others, and the girls started taking care of it like before. I then saw this happen again, but this time two feel out. Spot then went down and picked them up one at a time by the scruff of their neck. It was just like what a cat would do to her kittens. I was glad to see Spot do this.  Spot will take time away from her babies. She goes down to the bottom of the cage to eat, drink, and run of the wheel. I've looked at her belly while she's out and about and I can't see any nipples, but I know they're there. It's interesting watching the babies with the other girls. They will nestle their noises into their fur, looking for nipples I assume. They will 'look' all over for them; one their backs, their heads.  I read on the internet that mice like cereal so I put some in both cages. The girls seemed to really love it. Fanny, who is doing fine, brought up a cluster of it up to the space needle and the other girls fought over it. The boys are also eating theirs, but not as quickly as the girls. This may be good bait to put in the maze when I'm ready to run them. I figure that I will use one of the babies, if it's a girl, to replace Mouse.  Here's some baby mouse facts that I've found:  - in 3 days pigment cells will come to the surface of their skin and you'll be able to see dark marks  - hair starts to grow at about 1 week  - In 10 days they start to eat some solid foods. At this time they also have fur, open ears, and open eyes.  - 10 days to 3.5 weeks = "flee stage"- babies literally jump around like flees  - mice are mostly weaned at 3 weeks  - completely weaned at 4 weeks  - 5 weeks = males and females should be separated  I can't wait to see what they're fur looks like. I wonder who the dad is.  **January 6, 2002**, I saw the nest today and I think I saw 7 babies. They seem to be growing very fast. The girls have stopped their unusual behaviors of mounting each other and Raccoon no longer bites Spot. The only thing that is unusual is that Raccoon, Swiss, and Cheddar will bit each other's privates. I know it must hurt because the one being bitten will start squeaking and trying to run away. However, they never leave the area that the one biting it is in and they never attack any other part of the body.  **January 7, 2002**, The baby mice are so fascinating! Their pigment cells are now on their skin's surface and it looks like they are mostly black and white (just like their mom). Their ears are no longer stuck to the side of their heads. Instead they stick out a little. I can't believe how fast they are growing. They have also started to scratch themselves now. Their hands and feet and more defined and their whiskers are longer. Spot has blocked the entrance to the space needle with bedding. I suppose she's afraid I may crawl up into it. I wish I could tell her to stop worrying about it. All the girls seem exhausted. They have been sleeping so much lately. The babies must be wearing them out.  **February 2, 2001**, After I cleaned out the cages I separated the baby mice. There are four girls and three males, which is perfect because now there are nine mice in each cage. The boys seem to be getting along fine with the other males. They sleep away from them, but there has been no fighting. Pepper Jack has taken an interest in them. Shortly after I had put the babies in there, he went over to them and sat/ sniffed them for a while. Next weekend I plan on starting the testing. I'm going to replace Got Milk with one of the babies. He still has yet to get back to normal from Christmas vacation.  **The Actual Experiment Starts Here:**  Date: 2- 13- 02  Weigh- In # 1  Control Weight (in grams)  A. Little 17. 25  B. Chip 33.6  C. Pepper Jack 42.55  D. Swiss 35.65  E. Sam 26.7  F. Smoky 28.85  Tester Group Weight (in grams)  G. Harbie 29.1  H. Bear 30  I. Baby gray 22.05  J. Old Man 30.8  baby white 22.9  Dusty 34.6  average control : 30.27  average test: 28.24  overall average: 29.25  Maze trial # 1  Control Time (in seconds)  A. Little 99  B. Chip 250  C. Pepper Jack 281  D. Swiss 104  E. Sam 115  F. Smoky 311  Tester Group Time (in seconds)  G. Harbie 453  H. Bear 174  I. Baby gray 300  J. Old Man 166  baby white 188  Dusty 149  avg. time control: 193 seconds  avg. time tester: 238 s  overall avg.: 215 s  The mice did not seem interested in the bait at the end of the maze (cheese for small, granola for taste). They all eventually found it, but never once did they seem to really care. I'm either going to use more potent bait next time or remove the food from their cages several hours before the run. That way they will be hungry.  I tried to feed Bear the medicine through the dropper but I could not get him to hold still long enough. I felt like I was going to break his neck. So what I did instead was put enough solution in their water bottle for a week. That way they'll be forced to drink the solution when they go to drink water.  Date: 2- 16- 02  Maze Trial # 2  Control Time (in seconds)  A. Little 70  B. Chip 200  C. Pepper Jack 170  D. Swiss 29  E. Sam 14  F. Smoky 430  Tester Group Time (in seconds)  G. Harbie 104  H. Bear 113  I. Baby gray 310  J. Old Man 15  baby white 17  Dusty 93  avg. control: 152  avg. test: 108  overall avg.: 130  After I cleaned out the cages today I did not replace the food. That way, the mice would actually want the bait at the end of the maze. I waited 2 1/2 hours after cleaning the cages before I started the maze trials. This time I used peanut butter and granola as bait because it was more potent. All the mice did better, except for Smoky who was not interested in the food even after he found it.  The tester mice had the fastest average time. They appeared to be much more hungry than the controls, which is interesting because both cages have unlimited amounts of food. Once they found the bait they would sit and eat it for a while (until I took them out). The gray baby, however, got out of the maze before he finished it. He was going crazy. He was running extremely fast with his noise up in the air.  The control mice did not show as much interest in the bait as the testers. Some of them didn't even eat any of it once they found it. This leads me to believe that the medication is increasing the metabolism of the tester mice; increasing their activity level and making them hungrier.  Date: 2- 20- 02  Weigh- In # 2  Control weight (in grams)  A. Little 19.35  B. Chip 34.7  C. Pepper Jack 44.25  D. Swiss 35.65  E. Sam 28.65  F. Smoky 29.85  Tester Group weight (in grams)  G. Harbie 26.9  H. Bear 26.35  I. Baby gray 21.5  J. Old Man 31.1  baby white 23.7  Dusty 34.2  avg. control: 32.04  avg. test: 27.29  overall avg.: 29.67  Maze Trial # 3  Control time (in seconds)  A. Little 71  B. Chip 77  C. Pepper Jack 86  D. Swiss 50  E. Sam 129  F. Smoky 251  Tester Group time (in seconds)  G. Harbie 94  H. Bear 176  I. Baby gray 309  J. Old Man 36  baby white 49  Dusty 115  avg. control: 110  avg. test: 130  avg. overall: 120  The mice were not as interested in the bait as they were last time. I think it's because there were still bits of food in the bedding that they could munch on. When I was examining the mice's bodies today I was appalled by the condition of the testers. Dusty has really been chewing them up. Their coats are ragged, patches of fur are missing, and there are bite marks all over them. I separated Dusty for a while, but when he almost got away I put him back in with the others. Bear and Harbie were both limping through the maze. I don't want Dusty's actions to interfere with my experiment. I've seen Dusty fight will the others many times. The two will rise up on their hind legs, then Dusty will attach. Sometimes when he's on his hind legs he shakes his tail like a rattle snakes.  Date: 2- 23- 02  Maze Trial # 4  Control time (in seconds)  A. Little 27  B. Chip 181  C. Pepper Jack 248  D. Swiss 13  E. Sam 18  F. Smoky 277  Tester Group time (in seconds)  G. Harbie X  H. Bear 60  I. Baby gray \* 693  J. Old Man 67  baby white 114  Dusty 75  X= lasted over 15 minutes  \* = jumped over the dividers  avg. control: 132  avg. test: 216  avg. overall: 189  The baby gray mouse and Harbie were both going crazy in the maze today. They were sticking their noises out of the cracks and biting on the wood. Neither one of them showed any interest in the bait. It seemed like they only wanted to get out. Harbie was in the maze for 15 minutes without ever finding the food. The baby gray mouse did find it, but he jumped over the dividers while doing it.  The tester mice have not been nearly as active as the control has. They also are not as excited when I refill their food bowels. The testers spend most of their time in the space needle sleeping.  Date: 2- 27- 02  Weigh- in # 3  Control weight (in grams)  A. Little 19.65  B. Chip 32.35  C. Pepper Jack 43.55  D. Swiss 34.25  E. Sam 27.8  F. Smoky 29.2  Tester Group weight (in grams)  G. Harbie 25.2  H. Bear  I. Baby gray 23.75  J. Old Man 32.75  baby white 23.45  Dusty 33.75  avg. control: 31.13  avg. test: 27.76  overall avg.: 29.6  Maze Trial # 5  Control Time (in seconds)  A. Little 222  B. Chip 107  C. Pepper Jack 119  D. Swiss 12  E. Sam 8  F. Smoky 541  Tester Group Time (in seconds)  G. Harbie 343  H. Bear  I. Baby gray 57  J. Old Man 29  baby white 14  Dusty 8  avg. control: 299  avg. test: 110  overall avg.: 141  There's one less mouse in the tester group. Bear died yesterday. It was pretty sad, but he hadn't been looking very good recently. Harbie is also in bad shape. I put him in his own cage so that he'd be away from Dusty. The tester group did amazingly well today. It's odd, the testers are quick to find the food in the maze and yet when I return their normal food to their cage it takes a while for them to show interest. Whereas, the control group doesn't seem too excited over the bait, but pig out when I replace their food.  The weather is getting warmer and so is the garage. I'm a bit worried about the mice over heating during the day. Today they were all sleeping by themselves instead of as a group, like they usually do.  S Is the drug frying the mice's brain? Maybe it's not a coincidence that all the trouble is happening with the tester group. It has made some very aggressive and others very passive.  Date: 3- 6- 02  Weigh- In # 4  Control Weight (in grams)  A. Little 20  B. Chip 34.25  C. Pepper Jack 42.9  D. Swiss 37.35  E. Sam 30.45  F. Smoky 29.75  Tester Group Weight (in grams)  G. Harbie  H. Bear  I. Baby gray 22.2  J. Old Man 33  baby white 23.6  Dusty 35.55  avg. control: 32.45  avg. test: 28.59  overall avg.: 30.9  Maze Trial # 6  Control Time (in seconds)  A. Little 42  B. Chip 99  C. Pepper Jack 325  D. Swiss 17  E. Sam 41  F. Smoky 23  Tester Group Time (in seconds)  G. Harbie  H. Bear  I. Baby gray 252  J. Old Man 14  baby white 15  Dusty 13  avg. control: 112  avg. test: 83  overall avg.: 100  Harbie died the other day. Both Bear and Harbie were extremely skinny when they died. It's as if they stopped eating. The remaining four testers have been getting along better recently. Although, I do not think Harbie and Bear were the problems. The testers are still very lazy and not as friendly as the control group. The control group also spends more time awake grooming themselves.  Date: 3- 13- 02  Weigh- In # 5  Control Weight (in grams)  A. Little 21.9  B. Chip 33.5  C. Pepper Jack 38.45  D. Swiss 36.7  E. Sam 28.9  F. Smoky 28.8  Tester Group Weight (in grams)  G. Harbie  H. Bear  I. Baby gray 21.75  J. Old Man 32.2  baby white 23.8  Dusty 36.5  avg. control: 31.38  avg. test: 28.56  overall avg.: 30.25  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2002 Projects](http://docs.google.com/AP2002/index.html)][[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |