**Introduction:** In our experiment, we examined certain traits of different bones to determine certain characteristics about the person who the bones belonged to. We looked at a skull, pelvis, humerus, and a tibia, to determine the gender, race, height range, and age.

**Summary of Findings:** Based on our findings, we determined that the person was most likely a female. The Pelvis was circular and wide, and had a sub-pubic angle greater than 115 degrees. The skull also showed results, such as a round frontal bone, that supported that the bones were from a woman. The race of the person was determined to be Asian. This determination came from results from the skull. Although the nasal index correlated more with a black person, almost every other part of the skull correlated with the Asian category. So, although the bones could have been from a black person, it was more likely to be from an Asian. Using the formulas for the tibia and humerus, the person’s height was determined to be between 4ft. 8in and 4ft. 11in. These results were determined by using the maximum length of both the humerus and tibia. These results show that the person was probably not fully grown because they are so short. However, they may be the correct height since Asians are usually shorter, in general. The final determination was on age. The age was difficult to determine since the bones were not real. Since they weren’t real, the fusion of different bones was difficult to determine and the age was hard to determine. However, based on the height, the person was most likely in their teens to young adult years.

**Further Analysis:** The bones could also be further analyzed using various tests. One test that could be performed would be facial reconstruction. In this test, a face is reconstructed based on the bone type and structure. Once a face is created, it can be compared to missing person’s faces to see if the bones could have possibly belonged to them. Another test that could be done is bone densitometry. In this test, bone density is measured. By using the bone density, comparisons can be made to missing person’s densities to see if they match. Finally, a DNA test could be run to see who the bones actually belonged to. By using gel electrophoresis, different restriction length polymorphisms can be compared and the person could be found.

**Conclusion:** Based on the information we found, we determined that the bones were from an Asian woman who was about 4 ft. 9in. We used different characteristics from the skull, pelvis, tibia, and humerus to determine this. From here, several tests could be run to further confirm what we found. Both a bone density test and gel electrophoresis could be done to confirm our findings.

**DNA Analysis:** After trying to determine the missing person solely on the bones, we decided to run gel electrophoresis using The DNA found from the bones at the crime scene and the DNA that was a possible match for the bones. After running the gel electrophoresis, we determined that person two was the missing person. This was true because the first person’s genes when cut by the two different enzymes did not match the DNA found on the bones. When cut by the second enzyme, the first person’s DNA had two cuts producing three different bands in the electrophoresis. This did not match the bone’s DNA because when cut by the second enzyme, the bone only had one cut made instead of two. The second person’s DNA matched the bones DNA when cut by both enzymes. The lengths and number of cuts of the DNA from the second person matched the bone’s DNA.

**Final Conclusion:** Based on the information gathered it was determined that the missing person’s bones were from an Asian woman, who was about 4ft 8in to 4ft 11in. and was probably in their teens or early twenties. We used information and calculations from several different bones to determine a rough estimate of what the person could have looked like. The person was determined to be the second match that was found. This was discovered by matching the bands on a gel electrophoresis.

**Sources:**

*Bone density test*. (2013). Retrieved from http://www.mayoclinic.com/health/bone-density-test/MY00304

Phillips, V. (2000). *Skeletal remains identification by facial reconstruction*. Retrieved from http://www.fbi.gov/about-us/lab/forensic-science-communications/fsc/jan2001/phillips.htm/