1) List and describe the 3 principles of experimental design.

2) 90 students in a PE class were randomly divided into groups. One group had loud music playing when they ran a mile. Another group was allowed to listen to their own music through their headphones. Times were compared.

a) What is the treatment(s)?

b) Identify the subjects, explanatory and response variables?

c) Should there be a control group? Why or why not?

d) Was this experiment double-blind? Why or why not?

e) Use a diagram like the ones outlined in the book to outline the experimental design. Make sure to include all treatments groups and a control group if necessary.

f) Using the following line from the table of random digits, assign the first 2 subjects to each group.

62568 70206 40325 03699 71080 22553 11486 11776

2) An experimenter wants to test the effects of a new dog food on the dog’s fur shininess. There are 60 dogs that are available for this study. She first separates these dogs by hair type: thick or thin. From there she assigns each group the different types of dog food. One group will continue eating their current food while the others will be given the new dog food.

a) What is the treatment(s)?

b) Identify the subjects, explanatory and response variables?

c) Is there a control group? If so, what is the placebo?

d) Was this experiment double-blind? Why or why not?

e) Separating the dogs based on hair type is considered what type of experimental design?

f) Use a diagram like the ones outlined in the book to outline the experimental design. Make sure to include all treatments groups and a control group if necessary.