Exercise: Treatment of Lead-Exposed Children trial (Fitzmaurize 5.4 Case Study).

The TLC trial was a placebo-controlled, randomized trial of an orally administered chelating agent, succimer, in children with confirmed blood levels of 20 t0 44 µg/dl. The children in the trial were aged 12 to 33 months and lived in deteriorating inner city housing. Blood lead levels were measured at baseline (week 0), week 1, week 4 and week 6.

1. Use proc sgscatter to make a matrix plot of lead levels at week 0, 1, 4 and 6 for each treatment. Make also a matix plot of baseline, and change from baseline.
2. Transform the data to long format and use proc sgpanel to make a spaghetti plot of lead level for each treatment. Make a spaghetti plot of change from baseline.
3. Treat the baseline value as covariate and write a model with effects of occasion, treatment(occasion), baseline(occasion). Are the treatment profiles significantly different?
4. Use lsmestimate to estimate the treatment difference at week 6 with a 95% confidence interval. Use lsmeans with slice option to test for treatment effects at weeks 1, 4 and 6.
5. Invoke graphics (ods graphics on), and residual plots (proc mixed data = xxx plots = all) and do simple model checks. Does this suggest modifications to the applied model? or any sensitivity analyses? If so, make the relevant changes.