Appendix B
Mislabeled Variables Task For Mathematics Teacher Educators

Part I
Have students complete the personal information survey on paper or using an online survey. Students should complete the survey a couple days prior to completing the task in class. We suggest doing the survey on a school day where the response to item 2 would reflect their typical pattern for sleep habits in preparation for school the next day. Place the survey results into a spreadsheet software. If you will be using the animation after the task rearrange the data as shown below to correspond with the animation. Import the data into your favorite technology tool and name the variables with the letters A – P.

A – #4   E – #11   I – #10   M – #9
B – #7   F – #12   J – #16   N – #14
C – #6   G – #5   K – #1    O – #2
D – #13  H – #8   L – #15   P – #3

Part II
Students should work in pairs to investigate the data for two letter variables. Choose enough variables for students to explore so at least two groups are investigating the data for the same letter. Make sure to assign at least two groups the following variables: C, F, I, J, O, and P. This allows for different approaches and claims to emerge in the class and for the preservice teachers to explore the same variables as in the animation. If a pair of students finishes early, challenge students to investigate additional data for another letter variable.

After all pairs present their finding for each letter, the class needs to come to consensus about if they are convinced by the evidence provided.

Their task is not to necessarily get the right answer, but to make a claim about the data and provide evidence to support their claim. Issues of variable types and measurements will naturally be brought to the fore as students consider the context for each question to make sense for possible values in the data.

Animation: https://youtu.be/fWI1Ht0NPLE
Personal Information Survey for Preservice Teachers

1. How many pets do you have in your family? _________________
2. What time did you go to bed last night? _________________
3. How many hours of sleep did you get last night? _________________
   (Round to nearest half hour, record with decimals such as 8.5)
4. How many letters are in your first and last name combined? _________________
5. How many books have you read total this school year? _________________
6. What is your gender? Answer 1 = Male and 0 = Female _________________
7. How many siblings do you have? (include half and step) _________________
8. How many movies did you watch in the theater last month? _________________
9. How many times did you buy something for lunch on campus last week? _________________
10. What time did you wake up on last Saturday morning? _________________
11. How many glasses of milk do you drink daily? _________________
12. Do you wear glasses? Answer 1 for Yes and 0 for No. _________________
13. On what day of the month were you born? _________________
14. How many letters are in your first name? _________________
15. In what month were you born? _________________
   (Answer as a number, January = 1 and December = 12)
16. What is your shoe size? _________________
   (Use whole or half shoe sizes such as 6.5)