Name _____ Period _____

Practice using the Scientific Method!!!

Smithers thinks that a special juice will increase the productivity of workers. He creates two workers each and assigns each group the same task (in this case, they're supposed to staple a set of papers). Group A is given the special juice to drink while they work. Group B is not given the special juice. After an hour, Smithers counts how many stacks of papers each group has made. Group A made 1,587 stacks, Group B made 2,113 stacks.

1. Identify the:
    a. Independent Variable: **(DRINKING THE) SPECIAL JUICE**
    b. Dependent Variable: **NUMBER OF STACKS OF PAPER or AMOUNT OF PAPER STAPLED TOGETHER**
    c. Constants: **SAME TASK, ONE HOUR (TIME FRAME)**
    d. Control Group: **GROUP B (DOES NOT HAVE SPECIAL JUICE)**
    e. Experimental Group (s): **GROUP A (HAS SPECIAL JUICE)**

Bart believes that mice exposed to microwaves will become extra strong (maybe he's been reading too much Radioactive Man). He decides to perform this experiment by placing 10 mice in a microwave for 10 seconds. He compared these 10 mice to another 10 mice that had not been exposed. His test consisted of a heavy block of wood that blocked the mouse food. He found that 8 out of 10 of the microwaved mice were able to push the block away. 7 out of 10 of the non-microwaved mice were able to do the same.

2. Identify the:
    a. Independent Variable: **EXPOSURE TO RADIOACTIVITY**
    b. Dependent Variable: **STRENGTH OF MICE**
    c. Constants: **10 SECONDS, SAME TASK (MOVING BLOCK OF WOOD)**
    d. Control Group: **NON-MICROWAVED MICE**
    e. Experimental Group (s): **MICROWAVED MICE**

Marge is frustrated with her peaches always going moldy. Her sisters tell her that if she put them in the fridge, where it is cooler, mold will not grow as quickly. Interested to save her peaches and see if her sisters are right, she goes to the market and buys 10 peaches that were all freshly picked. Once home, she leaves 5 peaches on the counter and put 5 peaches in the fridge. After 3 days, she notices that 4 of the 5 peaches on the counter have mold forming on them and all 5 of the refrigerated peaches didn't have mold for 10 days.

3. Identify the:
    a. Independent Variable: **COLDER TEMPERATURE**
    b. Dependent Variable: **(SPEED OF) MOLD GROWTH**
    c. Constants: **# OF PEACHES, 3 DAYS**
    d. Control Group: **PEACHES ON THE COUNTER**
    e. Experimental Group (s): **PEACHES IN THE FRIDGE**

Lisa has heard that Rogooti hair product increases the speed hair of hair growth. Anxious to have longer hair, she wants to invest in the product but the academic side of her needs to be sure of the product before buying a case of it. She decides to test it on her family first. She measures 10 strands of hair from 10 designated sections on Bart, Marge and Maggie's head. For 30 days, they clean their hair with shampoo and water only. At the end of the 30 days, she measures the 10 strands of hair from the same 10 designated sections on Bart, Marge and Maggie's head. She then calculates the change in length for 30 days (= speed of growth).
For the next 30 days, they continue to clean their hair with the same shampoo and water only, but this time Lisa adds 10 ml of Rogooti hair product to their heads daily. At the end of 30 days, she measure 10 strands of hair from the same 10 designated sections on Bart, Marge and Maggie's head and calculate the change in length for 30 days (= speed of growth).

4. Identify the:
    a. Independent Variable: **TYPE OF HAIR PRODUCT**
    b. Dependent Variable: **(SPEED OF) HAIR GROWTH**
    c. Constants: **10 STRANDS, 10 SECTIONS, SAME 3 PEOPLE, 30 DAYS, 10ML**
    d. Control Group: **FIRST 30 DAYS - SAME SHAMPOO (DOES NOT HAVE THE ROGOOTI)**
    e. Experimental Group (s): **LAST 30 DAYS – ADDS ROGOOTI**