Name_____ Date_____ Period_____

EXPERIMENT WORKSHEET #3

Mrs. Goodmore wants to know if doing homework actually helps students do better on their unit exams.

1. Describe how Mrs. Goodmore could carry out a survey to determine if homework actually helps. Explain the role of randomization in your design.

2. Describe how Mrs. Goodmore could carry out an observational study to determine if homework helps test scores.

3. Describe how Mrs. Goodmore could carry out an experiment to determine if homework helps test scores. Explain how you will use randomization in your design and how you will use a control. Design the diagram below with a diagram or paragraph form. There are 30 students in the class.

4. If Mrs. Goodmore wants to determine if homework causes test scores to rise, which method would be best? Why?

5. An equipment firm is trying out three new types of grease in the transmissions of its front-end loaders. The maintenance manager is interested in whether any of the greases reduce the time before the transmissions have to be repaired. The company has 30 identical new front-end loaders to use in the test. How would you design the experiment and in what way would you assign the front-end loaders? Be specific with a diagram or paragraph form and discuss your randomization. Would you use a CRD or block design? How many factors are there? Treatments?

6. The Henderson Police Department is presently using three different makes of police cars. The department is interested in determining whether one of the four possible brands of gasoline gets better mileage than the rest. How should you design the experiment? Will it be completely randomized or a block design? How many factors are there? Treatments? Diagram or describe the experimental design below and make sure to include how you would perform your randomization.