For the experiment below:
1. draw a picture of the experiment as described
2. show the treatment combinations assigned on one bench
3. state the independent variable(s)
4. state the dependent variable(s)
5. state the goal of the experiment
6. describe an experimental unit
7. count the total number of experimental units
8. count the number of replicates
9. name the experiment type

An experiment was set up on benches in a greenhouse. Pots were arranged on each of four benches. Each pot contained 5 plants of the same species. On each bench there were pots organized in 6 rows and 4 columns. All pots were given 12 hours of light and 12 hours of dark for the duration of the experiment.

One treatment for this experiment was light type. Pots were lit with either fluorescent lights or with fluorescent UV (ultraviolet) lights. The second treatment for this experiment was amount of watering. The flooded water treatment pots were watered daily. The high water treatment pots were watered every three days. The medium water treatment pots were watered weekly. The low water treatment pots were watered every 3 weeks.

Treatment combinations were assigned randomly to each bench. At the end of 6 weeks, five leaves from each of the plants were chosen randomly. The amount of leaf spotting on each of these leaves was estimated and a mean was calculated for the pot. The number of flowers on each plant was also counted and the mean # flowers per plant per pot was calculated.

Answers to questions 3 - 9
3. The independent variables were type of light and amount of water given.
4. The dependent variables were amount of leaf spotting per plant and # flowers per plant.
5. The goal of the experiment is to determine the impact of light type and amount of watering on leaf damage and flower production.
6. The experimental unit is a pot of five plants.
7. There are 96 experimental units.
8. There are 4 replicates.
9. This is a randomized, factorial experimental design.