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**Section:** 9 - Adenine

Week 5: **Activity 1: Conducting a Guided Experiment**

Choose 1 of the sample problems in the attached **Design an Experiment Worksheet**

**Title:**

The effect of amount of light (Independent Variable) on bean plants.(Dependent Variable).

Hypothesis:

If there is exposure of light (planned change in IV), then the bean plants will grow faster(planned change in DV)

Independent Variables:

Amount of light/exposure of light.

Controlled Experiment: Levels of IV and Numbers of repeated Trials: (You may design your own experimental set-up)

Levels	Trial 1	Trial 2	Trial 3	Average
100-watts	2.5 feet	2.71 feet	2.65 feet	2.62 feet
125-watts	3 feet	3.1 feet	3.05 feet	3.05 feet
150-watts	3.19 feet	3.45 feet	3.24 feet	3.30 feet
175-watts	3.50 feet	3.14 feet	3.56 feet	3.40 feet
200-watts	3.25 feet	3.24 feet	3.30 feet	3.27 feet
225-watts	3.10 feet	3.10 feet	3 feet	3.07 feet

Dependent Variable: Growth of Bean plants per month.

Constant Variables: same type of light use(incandescent, LED, CFL), same environment that the beans are planted into, same type of bean seeds.

Is the hypothesis accepted or rejected? Explain Yes, it is accepted that the bean plant will grow faster depending on the amount of light, however it also not true because after a certain amount of light (200 watts) It will decrease the growth.

Conclusion: If the amount of sunlight is higher then the growth of the bean plant is faster. But if the amount of light reaches more than 200-watts, then the growth of plant is slower.

# Design an Experiment Worksheet

1. You are a doctor working at Kaiser. You want to test a new drug for cancer patients who are being treated in your hospital. You have a good feeling that this drug will work. You have 100 patients on which to test your drug.
2. You are on the CHS football team. You want to know if drinking water or drinking Gatorade during a game is more hydrating. The team has agreed to help you test your hypothesis during the next 6 games.
3. You have heard that chewing gum during a test can help a student get a higher score. Your spiffy teacher has said that you can test your hypothesis during the next exam.
4. You want to test the effect that amount of light has on growing bean plants. You have 20 plants and the ability to adjust the amount of light.
5. You want to know if feeding rabbits corn is better for their growth than the normal feed pellets that they eat. You have 20 rabbits on which to perform your experiment.
6. You have heard that listening to Mozart while studying will help a student do better on the exam. Your class at school (about 100 students) has agreed to participate in your experiment. (Hint: you also need to consider the affect that the amount of studying will have).