Names of group members:

Planning Experimental Inquiry

Dependent or Response Variable: The thing you choose to test in an experiment. Its value will vary or change depending on something else.

Independent Variable: The factor that you vary or change in the experiment or that varies naturally. You will choose one independent variable to test in your experiment.

Step 1: List at least three characteristics of the seeds that you might be interested in studying.
1.
2.
3.

Step 2: List up to 3 factors that might affect the characteristic you have chosen. These factors are all possible independent variables. Note: you should be able to vary or change these factors experimentally or measure natural variation in these factors.

1.
2.
3.

Step 3: Choose one independent variable to study in your experiment and list that here.

Step 4: What will respond to your independent variable? This will be the dependent or response variable of your experiment. Write this here.

Step 5: Research question: Write the question that you will try to answer in your experiment. Use this format if you can:
How does _____ (independent variable) affect _____ (dependent or response variable)?

Step 6: Building Hypotheses: List two to three possible outcomes (hypotheses) for your question, including the hypothesis that there is no effect of the factor that you are varying. Use the hypothesis notation of H_{A1}, H_{A2}, and H_0.

Turn the question into a statement:
H_{A1}:

Other possible answers to your question (continue until there are no more possible answers?
H_{A2}:
How about the case where there is no difference?
H_O*:*

Step 7: Design your experiment
List all the steps you will carry out to test your hypotheses.

Step 8. Plan Controls and Sample Size.
List the things you need to hold constant in this experiment. Also describe how you will ensure that all data collectors (i.e. people in your group) will collect data using EXACTLY the same methods.

Step 9 Collect, analyze and interpret data. Make a sample of the data collection table that you will use to collect data. Make sure that it is neat, and has a space for everything you need to write down. Draw an example data table that you will

Names of group members:

use.

Step 10: Materials.
List all of the materials you will need to do this experiment.

Step 11: Working together
Explain how you will work together.