LESSON 1: BE YOUR BEST SELF

- How do timelines aid scientists in making decisions or collecting data?
  - > What are some data-driven timelines that are used in the sciences today?
  - > How have these driven scientific thought or decisions?
- What is data?
  - > How do scientists use data to bring about positive change?

LESSON 2: BUILD A TEAM OF AVID LEARNERS

- Many of the world's greatest challenges are beyond the ability of any one nation to solve by itself. Research at least one of these global challenges and discuss how countries may have to work together to solve it.
  - > Why would it be important for these countries to come together to solve these issues?
  - > What are some coalitions or groups that are already in place to tackle these challenges?
- Discuss: How is the global challenge you researched related to your issue?
  - > Are there correlations?
- Research: Are there other global challenges related to your issue?

LESSON 3: BUILD A TEAM STRUCTURE AND CULTURE

- After generating ideas about the project goal, take into consideration habitat, populations, and environmental effects or limitations of your goal.
- Examine what people have done to overcome their environmental obstacles (i.e. LA Green Grounds–Parkway Gardens)
- Did you know that there is a science behind logo design? For example, certain colors elicit specific emotions in people. The color blue reflects secure and calm feelings and can be found in the Ford and Visa logos. Research the science (psychology) of a logo's design and take this into account as you design your own.

LESSON 4: YOU HAVE TO BELIEVE IT CAN BE DONE

- When programming a computer or a robot, you must apply computational thinking to come up with a logical path that will allow you to reach your goal. Someone not connected to your group should be able to understand and follow your thinking. Apply computational thinking to devise a linear, logical plan to reach your Big Goal. Share your plan with another group to see if they can find holes or find it confusing.
- Discuss or research the following question in a small group:
  - > What scientific content should you share with the people in your people map? For example, you may need to understand the nutritional value of your food, if there are genetic modifications in the food you plan to provide, and if it is ethical to provide food that has genetic modification.
- Examine how scientists organize people, animals, insects and other creatures—by classification, by the roles they play, etc.
  - > Why is that kind of organization/classification necessary and how does that relate to your People Map and Big Goal?
- Discuss the following in your group:
  - > Can scientific reports be persuasive?
  - > How can they be made to be more persuasive?
  - > Use some of these strategies in writing your elevator speech.

LESSON 5: MARKET AND BE THE CHANGE

- Just as there is a science to designing a "just right" logo, slogans can also elicit certain feelings in those that view them. Use this information, along with what you learned about the psychology of color to make your advertisement.
- The engineering design process involves planning, creating, testing, and redesigning if necessary. With your group, discuss the areas your action plan could be improved with redesign.
- Discuss and/or research the following question in a small group:
  > What are barriers that can be found in nature and how have people crossed or overcome them? For instance, how have people dealt with high mountain ranges or wide rivers?
- Quantify the information from each project.
  > Create graphs representing the data.
  > Use statistical formulas to make projections about your data.

LESSON 6: SHARE YOUR STORY, THE CHANGE IS NEVER OVER

- When conducting a scientific investigation, it's important to understand the variables that could affect the overall outcome. Identify the independent, dependent, and control variables in your project. Use these variables to write an if/then hypothesis statement about the future outcomes of your project.
- No lab report is complete without a well written conclusion. Conclusions will include:
  1. A restatement of the problem (The Big Goal)
  2. A summary of the process followed (action plan)
  3. A summary of your results
  4. A comment on whether your hypothesis was supported (Was the Big Goal met?)
  5. Areas of future study (How can the project be extended in the future?)
- Use these steps to write a conclusion to your project. Discuss how conducting a community service project is similar to conducting a science investigation.