**Shark Tank Project Overview**

**PURPOSE/GOAL**

1. Design and create your own polymer product from a “starchy” food.
2. Convince a panel of investors to invest in your product, a plastic made from a starchy food source.

**PART 1 - PRODUCT DEVELOPMENT**

* Research – (at least 5 credible sources, specifically cite)
  + You have to have a reason for why you make decisions in your design
  + keep detailed track of articles/cites you use to inform your decisions
* Procedure – based on your research and the potato polymer create your own procedure for your product
* Peer Evaluation – Review other groups procedures and get feedback on yours to make revisions
* Create product – synthesize your polymer
  + Note changes in procedure as you go
  + Take pictures
  + Observations
* Test properties of product – Record results
* Improve design/Remake
  + Explain changes and why (refer to sources)

**PART 2 - SCIENTIFIC ARTICLE (short)**

* **Basic Info/Format:** Title, authors, date, 12 pt., simple font, double spaced, heading for each section
* **Research** (this will be evident throughout the article) – at least 5 credible sources, specifically cite what information came from these sites.
  + Example: As stated in Roger Thames’ article…
* **Introduction (6-8 sentences) This is more broad scope** 
  + Grab interest with facts, statistics
  + Why is this topic important/significant
  + What are polymers
  + What are the current practices/understandings
* **Background (6-8 sentences) This is more specific to what you are doing**
  + Why are you doing this (not because it is an assignment), what is your goal?
  + Define terms the reader should know
  + Explain any processes the reader should know
    - Include potato polymer info
  + How will this work, what reactions, interactions, etc. are taking place?
* **Procedure – EXPLAIN/SUMMARIZE (6-8 sentences)**
  + Only include the major aspects/steps in the process and explain their purpose/importance.
  + What changes did you make from the potato polymer and why? (cite sources)
    - Type of food used
    - Amount of glycerol used
  + Procedure revision – after the peer review what improvements did you make to your procedure
* **Discuss Results/Conclusions (6-8 sentences)**
  + Any statement claimed must be *supported* by the data
  + Provide at least 1 table or graph, refer to it in the text
  + Was your goal achieved?
* **Identify possible applications and future work ideas (4-6 sentences)**
  + How could this be used, what products, companies, etc.
  + If you had a $1,000,000 investment how would change it? Types of equipment, quality of starting material, etc.?

**Bibliography – properly cite sources and indicate in the article where cited sources were used.**

* + At least 5 sources
    - 3 of the 5 must be from .edu, .gov, or .org domains. (more than 3 is ok)
  + If you did not use a source to influence your decisions, do not cite!
  + JOURNALS: Author(s). Date. Article title. Journal title. Volume(issue):location.
    - Ex: Mazan MR, Hoffman AM. 2001. Effects of aerosolized albuterol on physiologic responses to exercise in standardbreds. Am J Vet Res. 62(11):1812–1817.
  + BOOK: Author(s). Date. Title. Edition. Place of publication: publisher. Extent. Notes.
    - Ex: Leboffe MJ, Pierce BE. 2010. Microbiology: laboratory theory and application. Englewood (CO): Morton Publishing Company.
  + ONLINE JOURNAL: Author(s) of article. Date of publication. Title of article. Title of journal (edition). [date updated; date accessed];Volume(issue):location. Notes.
    - Ex: Savage E, Ramsay M, White J, Beard S, Lawson H, Hunjan R, Brown D. 2005. Mumps outbreaks across England and Wales in 2004: observational study. BMJ. [accessed 2005 May 31];330(7500):1119–1120. http://bmj.bmjjournals.com/cgi/reprint/330/7500/1119. doi:10.1136/bmj.330.7500.1119.
  + WEBSITE: Title of Homepage. Date of publication. Edition. Place of publication: publisher; [date updated; date accessed]. Notes.
    - Ex: APSnet: plant pathology online. c1994–2005. St Paul (MN): American Phytopathological Association; [accessed 2005 Jun 20]. http://www.apsnet.org/.

**PART 3 - PITCH**

* PowerPoint
  + No more than 7 slides
  + No more than 6 bullet points on a slide
  + No more than 4 sentences on a slide
  + No more than 2 pictures on a slide
  + No more than 3 different colors on a slide (in terms of font, background, etc. excludes pictures of course)
  + No transitions or special effects
  + At least 1 graph or table (clearly and properly) labeled)
* ONE Additional Visual or Artistic Aid
  + Poster, pamphlet, video, jingle, etc.
  + Must add some value to your product
* Presenting
  + DO NOT read directly from the slide
  + Provide only necessary detail about production, research, and data.
    - We don’t need to know every single detail
    - But we need to know enough to understand and see the worth
  + You are SELLING your product, not giving a traditional classroom presentation!
    - Make it appealing, interesting, engaging
    - Why would/should we invest in your product?
    - What makes it more useful, cheaper, better than others?

**PROJECT TIMELINE:**

* 1. Finalize & Turn in Procedure you will follow, get peer evaluated before.
  2. Have done your procedure at least twice and collected data on properties.
  3. Completed & have practice pitch and finished science article.
  4. Give pitch to panel of judges (make sure you watch an episode of shark tank!)