Name: _____ **Date:** _____ **Class:** _____

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!)