



2019 Eisenhower College Scholarship Contest

Please choose one of the five topics to address. Your submission may be in any of the following formats:

- Essay of at least 500 words
- PowerPoint presentation
- Mult-media presentation
- YouTube video
- Artistic rendering (visual art)
- Musical composition
- Working model (*appropriately labeled*)

Topic One: “Shark Tank”

Inspired by “Finding His Calling” by Jon Cohen, American History Magazine, August 2018

You have discovered or invented something you believe will simplify and/or improve life as we know it and are ready to begin production. However, you lack the necessary capital either to launch an independent business or buy into an existing franchise to produce and market it. Hoping to attain the necessary funds to move forward, you apply to become a contestant on “Shark Tank.” What is your pitch to the celebrity panel? **Outline your business plan, being certain to include the following:**

1. Details regarding your idea/invention: What is it? How does it work? Why do you think it will simplify and/or improve life? What is the potential social, political, economic impact of your idea/invention?
2. What type of business will you engage in? For-profit or not-for-profit? Is this a start-up or “add-on” to an existing franchise? Why are you choosing to proceed in this manner?
3. Market analysis: Who are your prospective buyers? Who are your prospective competitors? What will make you/your product stand out?
4. How much of an investment do you need and for what purpose(s)? What will you offer the investor in exchange for an influx of capital?
5. Financial projections: How will you determine product pricing? At what point do you expect to break even? How much do you expect to gross in the first year? How might gross income grow going forward?

(continued on next page)



Topic Two: The Colonization of Mars

Among others, entrepreneur Elon Musk has advocated for the need to colonize Mars (<https://www.theguardian.com/technology/2018/mar/11/elon-musk-colonise-mars-third-world-war>). A Google search reveals dozens of articles on the subject, pro and con, including this article from PBS's "Nova" website: <https://www.pbs.org/wgbh/nova/article/want-to-live-in-a-treehouse-on-mars/> regarding the reality of such an endeavor.

There appear to be a host of issues and concerns—financial, technological, ethical, cultural, political—surrounding the potential establishment of a human outpost on the Red Planet. **In your presentation, be sure to detail the following:**

1. The rationale behind and importance/relevance of colonization of other planets within our solar system—science or science fiction? What are the benefits? What are the obstacles? What makes Mars a good/poor choice? And why now?
2. How will/might a determination be made about who will live there?
3. What colonists' needs should be taken into consideration/addressed in order to build a prosperous Martian colony?
4. What might the economic, social, political, and cultural impacts be of dividing humanity between two planets? What are the benefits and drawbacks?
5. What will/might be needed to sustain a Mars colony once it is established, both in the short and long term?

Also include details regarding the following:

1. Your perception of the future of space travel (*for your generation and generations to come*).
2. What do you think planet Earth may be like in 50-100 years? How does Earth's "future forecast" foretell the need for colonization of another planet?

Topic Three: The "Last of the Rhinos"

Our living environment is dying—one species at a time. Almost monthly, there is news of another species on the precipice of extinction. Most recently, the last of the Northern Male White Rhinos, Sudan, died in the Ol Pejeta Conservancy, Kenya, on March 19, 2018 (<https://news.nationalgeographic.com/2018/03/sudan-last-male-northern-white-rhino-extinct-spd/>). In anticipation of this occurrence, scientists devised a plan that, it is fervently hoped, in the near future can rejuvenate the population. **Detail the following:**

1. The specifics of the scientists' plan.
2. Why is it worthwhile—indeed *paramount*—to the survival of the planet to halt or redress the extinction of certain species? Make a sound argument intended to sway those who doubt the validity/importance of this effort. Pay special attention to how this effort impacts our ability to "save our planet."
3. What are the expected/potential implications if we choose to do nothing—and continue to allow species to go extinct?

(continued on next page)



Topic Four: So You Think You Want a Career in Mathematics

The first female to make the U.S. International Mathematical Olympiad Team, Professor of Mathematics Melanie Wood, Ph.D., has just introduced you to another great woman of mathematics, the late Maryam Mirzakhani. It is reported in *Strong, The Magazine for Girls (Winter Issue 18/19)* that Ms. Mirzakhani “worked by laying huge sheets of paper out on the floor and doodling, connecting ideas and theories in new ways.... [Her] daughter called her work her ‘painting.’”

You find yourself inspired and, in your excitement and enthusiasm to get girls to choose careers in mathematics and/or science, you decide to take on the challenge of convincing a group of middle and/or high school girls to do just that.

Define and detail the following:

1. The age group you have chosen to address and why you chose this group over another.
2. Why you think a career in math and/or science might be a good choice for these young students? Be sure to talk about both the opportunities and the challenges.
3. What motivational tools might be employed to convince them?
4. What stories can you share either from your own experiences or from those of others in the areas of mathematics and/or science to provide further inspiration? What specific subject matter did entrepreneurial mathematicians or scientists study to further their careers in math and/or science?
5. What do you believe is the value and impact of mathematics and/or science on social, political, and cultural changes/advancements?
6. What do you hope to accomplish as a mathematician/scientist—and how do you hope to inspire others, especially young women, in their pursuits?

Topic Five: “Taking on Hollywood”

You are a budding filmmaker who’s decided to make a movie to enter into a major film festival (contest). While you believe you have a great idea, you lack the necessary capital to get the movie made. An opportunity presents itself to pitch your idea to a major producer who has the resources to fund your project. How do you go about convincing this individual that your idea is a sound business proposition? **In your pitch to this potential investor, be sure to detail the following:**

1. What is your idea or subject for the film you want to make? The topic you choose can be an original idea or be based on a book you enjoyed reading (fiction, non-fiction, memoir, etc.). Similarly, the finished product can be any type of production, including a documentary.
2. Why do you believe this particular subject will make a great/important movie?
3. What is the relevance of the person or subject or time in history on which your movie will be based? Why do you think this particular story must be told? What will make people want to see your movie?
4. Who is your target audience?
5. What implications for the present or the future do you want to highlight/feature in the movie?
6. What is the one thing about this subject or story that **compels** you to make this movie for the world to see?