SHARK TANK WITH MR. RICH 2016

To finish the year in Algebra 2, my students will be working in teams to start up your own (pretend) business. Be as creative as you want to be! You will have tasks to solve and ideas to generate which will lead up to each group of students giving a 5-10 minute presentation where they will try to get me to invest in their new promising business!

Here are the main elements to the project that you will present upon:
1. ***The Product*** (Company name? Product Name? What is it? What does it do? What problem does it solve? Who will buy it? Why will they buy it? Etc.)
2. ***The Marketing*** (How will you advertise this product? What would a sample commercial look like? Future commercials?)
3. ***The Investment*** (How much are you asking for? Why that number? How much can you promise me back on my investment over the next 5 years? 10 years? 15 years?)
4. ***The Building*** (How will you use my property? Where do you want to build it? What shape is the building on the property? Why the location? Etc.)

The Product
You are to create your own company that makes a signature product. You are to present to me the name of the company, a logo, and you need a product that you actually physically create to sell. Defend them well, these are your babies!
Here is a checklist of things you need for:
- Company name and logo.
- The product for class to see/taste/touch/smell/hear.
- Purpose of the company, and everyday problems the product solves.

The Marketing
How will you advertise this product? You have to shoot or perform a 30-second commercial to present to your investor, Mr. Rich, that you feel is ready to send out to the public. You can act it out in class, sing the jingle or song, show us a video, or however you want to be creative to present it to us. Basics of marketing tells us that you make commercials that appeal to your target audience, and you use your brand heavily in the commercial!

The Investment
This is where you convince me why I should invest into your company. You should have a nice diagram or image that explains and describes my return on my investment into your company at 3 different points of your choice (i.e. you could show me how much I would make on my investment after 5 years, 10 years, and then 15 years). Some things that add to some incentive in me investing would be my rate of return, and how fast it would take me to make the money back I invested into your company. When will I start making money on my investment? These are things you need to tell me here. You can be creative in how you present to the class this information. Be realistic in these interest rates, and be ready with an answer on how you're going to afford to give me that interest rate and still pay for your labor to run your company.

HINT:
The future value of an investment is given by the formula below, where P is the amount invested, r is the rate of interest, t is the number of years invested, and m is the number of times per year the money is compounded.

$$S = P(1 + \frac{r}{t})^{mt}$$

The Building
Create a work space, and design a building you will use for your factory that will produce your product (this needs to be incorporated into how much you're asking for me to invest).

The building has to be a 3-dimensional shape (sphere, rectangular prism, square prism, pyramid, triangular prism, etc.). It must be just one, not a composite figure. What shape and why? How is this building property going to help your production and the company? Show me a visual to help me see your vision for the property; however you choose, be creative.

With my investment I am going to give you a property to build your office building and your factory for production. I also want you to show me that you know how to problem solve!

Find how many acres the property is, and be able to explain what that means, using the details from the following scenario (you must explain your calculations for your presentation).

Scenario: The property that your factory office will be built on measures 1200 meters by 1600 meters and should have a street that includes a large-enough walkway/track installed all around it (for trucks to make deliveries and healthy living employees). This will increase the total area to 2,850,000 square meters. What will be the width of the pathway? You should have a visual representation here, doesn't have to be a van Gogh piece, or a Leonardo da Vinci piece, but it needs to be your best, most creative effort. Play on your team's strength!

ADDITIONAL INFO:
You will have time in the afternoon every day this week except Tuesday, to work with your team.

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