Student Project Sheet

Project Title: Supply and Demand

Your class has agreed to sell ice cream at a school function. In order to make the most profit, you need to supply the most popular flavors at a price that students and their families are willing to pay. Because you want to make a profit on the ice cream sale, it is important for you to gather accurate information by taking a survey of people who will attend the function. Tell participants that you need thoughtful answers, not quick, hurried, “get out of my face” types of responses.

When you finish this process, you will write a recommendation for what flavors of ice cream and quantities for each that you will supply. You will also use the cost of goods and the price people from your survey are willing to pay to determine the price you will charge per serving.

The Project
Read the entire assignment before you begin. Discuss and clarify questions for how you will proceed.
Create a chart that you can use to record individual responses in step 1.
1. Survey the student body to learn these two pieces of information from each individual:
   - Favorite ice cream flavor
   - Price that he or she is willing to pay for one 1-cup serving

2. Graph your results to show the top 5 ice cream flavors.

3. Contribute your results to class cumulative totals.

Develop a logical process to predict that number of participants who will attend the school function.
Some ideas to consider are:
- How many have attended similar functions in the past?
- How many members in the sponsoring organization?
- Are friends and family invited? If so, what might be an average number of additional guests?

Discuss your thoughts and reach an agreement with your class for a reasonable prediction.
- Using your attendance prediction, estimate the number of ice cream servings that you will want to supply.
- Using the results from step 3 above, decide the quantity of each flavor of ice cream that you think you should supply.

Gather information to determine the exact cost of ice cream, cups, cones, spoons, etc. Use this information and the price from your survey to determine how much you will charge for each serving of ice cream.

Also research logistics including:
- The equipment and staff needed for your ice cream stand and any costs involved
- Time needed to set up, serve, tear down and clean up
- Any equipment transportation needed
- System for handling, controlling and depositing money

Write your recommendation that includes the following:
- Ice cream flavors and quantity of each
- Total cost of ice cream and supplies
- Proposed price per serving
- Number of servings to break even
- Event logistics
A basic economic concept for any successful business to manage is the relationship of supply and demand for a product or service. In simplest terms, the supply relates to how much of the product or service is available. Demand is how much of that product or service people want. Putting these two ideas together in a business plan requires gathering information and making decisions about the price of the “something” – the product or the service.

Your students will have had experience with the concept and you may want to give them an opportunity to share some of their own examples: When a particular brand of shoes or clothing is “hot,” the price goes up because consumers are willing to pay. Stores may not be able to stock enough of the product to meet the demand. When the next hot design comes on the market, retailers may have a large supply of the first product on their shelves because no one wants it anymore.

Demand usually consists of three elements: the person wants the product or service, the person has the money to pay, and the person accepts the cost. Many factors play into the demand for a product/service like the buyer’s income, the competition of other businesses or the buyer's desire for the product or service. Under free market conditions the following pattern usually applies: the higher the cost, the lower the demand for the product or service. Assuming that the product or service is attractive to a number of consumers, the reverse is also true: at a lower cost, demand will be higher.

Successful businesses need to make a profit, so their costs have to be considered. You may want to introduce or review supply and demand curves that include an equilibrium price to give students a graphic understanding of the fact that these relationships are dynamic and frequently change.

Before you assign this project, determine if it’s feasible to do the actual project or just the planning phase. Also determine how you want students to proceed – as individuals, in teams with special assignments or a combination. Also decide how you want to compile findings into a proposal to present to event management.

**Project Overview**

1. In this project, students will gather information to determine how much of a product – ice cream flavors – to sell at a school function. They will take a survey that will help them predict demand so that they can have an appropriate supply. After students gather the information, you will want to discuss and reach an agreement for how many flavors to include, perhaps eliminating the one or two less popular flavors.

2. Discuss and clarify serving size. We’re suggesting 1-cup servings, but get input from students to keep or adjust that suggestion. Organize a process so that every student has an opportunity to conduct the survey and analyze the results, while avoiding duplicate participants.
3. If students conduct a sale, make arrangements for cash to buy the ice cream. One of your local store managers may be willing to donate the ice cream or sell it at a discounted price. Students will also need to decide how to keep the ice cream frozen – identify freezer space, use ice chests, etc. You may want to assign individuals or groups to determine costs in addition to the ice cream – serving cups, spoons, etc.

4. Also discuss project logistics. Indoor and outdoor events have different requirements related to food storage; equipment delivery, set up and clean up; transportation of products and equipment; number of tables and chairs needed and arrangement; number of staff needed and staff scheduling, etc.

**INTEGRATED STANDARDS AND SKILLS**

**English Language Arts**
- Use the general skills and strategies of the writing process.
- Gather and use information for research purposes.
- Use the general skills and strategies of the reading process.
- Use listening and speaking strategies for different purposes.

**Mathematics**
- Use a variety of strategies in the problem-solving process
- Understand and apply basic and advanced properties of the concepts of numbers.
- Use basic and advanced procedures while performing the processes of computation.
- Understand and apply basic and advanced properties of the concept of measurement.
- Understand and apply basic and advanced concepts of statistics and data analysis.
- Understand and apply basic and advanced concepts of probability.
- Understand and apply basic and advanced properties of functions and algebra.
- Understand the general nature and uses of mathematics.

**Science**
- Understand the scientific enterprise.

**Social Studies**
- Understand that scarcity of productive resources requires choices that generate opportunity costs.
- Understand characteristics of different economic systems, economic institutions and economic incentives.
- Understand the concept of prices and the interaction of supply and demand in a market economy.

**Technology**
- Develop an understanding of the relationships among technologies and the connections between technology and other fields of study.
- Develop an understanding of the cultural, social, economic, and political effects of technology.
- Develop abilities to assess the impact of products and systems.

**ASCA NATIONAL STANDARDS**

- Understand the relationship of academics to the world of work, and to life at home and in the community.
- Understand the relationship between personal qualities, education and training, and the world of work.
- Acquire the attitudes, knowledge, and interpersonal skills to help them understand and respect self and others.