

Zoo Exhibit Budget Project



Ms. Hett's 7th Grade Class

Driving Question: What does it take to design and build an animal zoo exhibit?

Have you ever been to a zoo? If so, what was your favorite animal to watch? If not, what kind of animal would you want to see if you had the opportunity to go? Do you know what goes into designing and constructing the proper habitat for that animal?

Well, in this project we are going to investigate the last question. To do this, it is important to know that the places where the animals are kept in a zoo are called animal exhibits.

The Situation:

The local zoo is trying to increase ticket sales by renovating their exhibits to attract guests. They have hired a professional zoo exhibit designer, Frank, to create a new exhibit for the Monkeys. Frank did a great job! In fact, the zoo administrators liked his zoo exhibit model so much that they wanted the same design to be used for the elephant and tiger exhibits. Due to Frank's expensive service charges, however, they were not able to hire him to design the last two exhibits. This is where you come in...

Your Tasks:

Your first task is to help the zoo to adapt Frank's monkey zoo exhibit design to be suitable for the elephant and tiger exhibits.

Your second task is to help the zoo determine the most cost efficient and appropriate way to construct a zoo exhibit enclosure for one of the three new animal exhibits being built given three options:



1: Plexi-glass



2: Wood



3: Metal Fencing

Your Report:

Task 1

For your first task, using Frank's design, you will need to determine how the exhibits should be adapted specifically for the elephants and the tigers. Should Frank's design be larger? Smaller? Then you will need to re-scale his original exhibit accordingly. As a bonus, because you are offering your services, the zoo executive board has decided to let you add one or two items to the design, provided you justify why you think those additions are necessary. Accompanying your two modified zoo exhibit designs, you must present a write-up of the steps you took and the mathematics and science concepts you used to re-scale the exhibits, along with your justifications of the additions you made.

Task 2

For task two, you will present your findings by creating a cost proposal that can be given to the Zoo Executive Board. You will need to take into consideration:

1. The costs of materials
2. Delivery and installation charges
3. Taxes and sales prices
4. The dimensions of the exhibit
5. The appropriateness of the materials for that particular exhibit.

You should create a cost proposal highlighting what you found to be the most cost efficient and appropriate way to enclose the exhibit. You should include in your cost proposal the steps you took to determine which materials were the most cost efficient and appropriate.

Finally, when all is said and done, you will present your modified exhibit designs along with a summary of your findings in the form of a presentation, using PowerPoint, a Video, or a Poster. You will be given the opportunity to explain the math and science you used in the completion of these two tasks and to justify why you used the procedures you used.

Getting Started:

You will be working in groups of two or three for this project, so once you are assigned to your group be sure to write down your group members names and contact information.

Group Member's Name:	Phone Number:	e-mail Address:

You will also need to determine which animal exhibit you want to develop your cost proposal for. Once in your group take a moment to discuss which animal you want to work with; monkeys, elephants, or tigers.

The animal my group is going to create a cost proposal for is the...	
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You will find Frank's monkey exhibit design on the accompanying handout, as well as a table highlighting delivery and installation charges, taxes, and sales prices for businesses the zoo currently works with.

(These documents will help you to complete your tasks, so make sure you do not lose them.)

Let me end by saying...

While these tasks may seem daunting at first, rest assured that you will be working in groups of two and three to complete the tasks and as a class we will learn the mathematics and science concepts required to accomplish these tasks. Additionally, upon the completion of these two tasks, you and your group members will get a glimpse of what goes into designing and constructing the proper habitat for an animal in the zoo, so that next time you go to the zoo you will have a new appreciation for the exhibits you see!

Happy Planning!