

**A Year at the Zoo - Artifact Rubric**

**Student Name:** \_\_\_\_\_

**Task 1:**

*Choose the appropriate description of student work.*

<b>Model Objectives:</b>	Not Demonstrated 0	Beginning 1	Accomplished 3	Exemplary 4	SCORE
1. Discusses the mathematics and science concepts used in developing the scaled model.					
2. Calculates equivalent ratios using a common factor to scale a given ratio up or down.					
3. Demonstrates fluency in calculating area, surface area, and volume.					
a. Calculates the dimensions of a zoo exhibit model using scaling.					
b. Chooses appropriate dimensions for re-scaling given animal care factors.					
c. Draws geometric shapes given the conditions in "Frank's Design."					
4. Demonstrates their knowledge of different types of land forms and weather/climate.					
a. Discusses the make-up of the zoo exhibit regarding the varying land forms.					
b. Explains the difference between weather and climate and how they relate to the animals' exhibits.					
5. Use unit rates effectively to make unit conversions.					

<b>Model Objectives (Continued):</b>	Not Demonstrated 0	Beginning 1	Accomplished 3	Exemplary 4	SCORE
6. Demonstrates understanding of proportional relationships by calculating and discussing percent increase and decrease.					
7. Add, subtract, multiply, and divide with fluency and accuracy.					
8. Defends and provides reasoning for the decisions made in the construction of their budget, both orally and in writing.					
9. Practices decision making skills in determining mathematical processes to be used.					

Total for Model Objectives section: \_\_\_\_\_

Bonus: (Max of 5 points)

Creates a model of a zoo exhibit, either physically or using technology.

Total for Bonus: \_\_\_\_\_

**Task 2:**

*Check the appropriate box.*

<b>Cost Proposal Discussion Write-up Components:</b>	Not Included 0	Partially Included 1	Included 2	SCORE
1. Appropriateness of the construction materials charges				
2. Material delivery and installation charges				
3. Construction materials' costs, taxes, and sales				
4. Dimensions of the enclosure				

Total for Cost Proposal Components section: \_\_\_\_\_

Choose the appropriate description of student work.

<b>Cost Proposal Objectives:</b>	Not Demonstrated 0	Beginning 1	Accomplished 3	Exemplary 4	SCORE
1. Discusses the mathematics and science concepts used in developing the scaled model.					
2. Demonstrates understanding of proportional relationships by calculating interest rates, fees, and percent increase and decrease in expenditures for their cost proposal.					
3. Adds, subtracts, multiplies, and divides with fluency and accuracy when calculating values for their cost proposal.					
4. Uses variables in simple equations.					
5. Explains the real-world meanings of variables used in expressions to represent real-world situations.					
6. Defends and provides reasoning for the decisions made in the construction of their budget, both orally and in writing.					
7. Practices decision making skills in determining mathematical processes to be used.					
8. Uses technology, such as PowerPoint and Excel, to summarize a budget.					

Total for Cost Proposal Objectives section: \_\_\_\_\_

Project Total: \_\_\_\_\_

Grade: \_\_\_\_\_