



**NAME** \_\_\_\_\_

**Directions: Answer the following questions using the information provided. Show your work. If additional space is needed, please attach a separate piece of paper and correctly identify the problem it correlates to. If you are creating a table or graph, be sure to include titles and labels.**

**IMAGINE YOU ARE REDESIGNING THE TROPICS TRAIL. KEEPING THE EXHIBIT NATURAL LOOKING IS VERY IMPORTANT IN CREATING REALISTIC ANIMAL HABITATS.**

1) You are designing a habitat for an animal. What are two variables or factors that will determine the size of the exhibit?

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2) In a few exhibits, different species of animals can be grouped together.

a) Why do you think different species can be grouped together? \_\_\_\_\_

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b) Given the following list, which two animals would you group together? (lemurs, crocodiles, colobus monkey, red river hogs, komodo dragon, white cheek gibbon, small clawed otters, tapir, red panda)

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c) Give at least two reasons for your decision.

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- 3) The White cheek gibbons need about 5 acres in the wild. The Zoo exhibit can only be  $\frac{1}{2}$  of an acre or 0.5 acre.
- a) Show the difference between the zoo area and their natural habitat.
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- 4) Imagine you are redesigning the Minnesota Trail. You are helping to create a stream and pond life exhibit. It needs to be designed to hold a volume of 12,000 liters (3,000 gallons) of water. The beaver exhibit requires 10 times that amount of water.
- a) How much more water does the beaver exhibit require, in liters and gallons, than this exhibit you are creating? Show your work.
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- 5) Blue jays need at least 10 meters (10.9 yd.) for good swooping space to maintain strong wing muscles and tendons. Their exhibit is 12 meters long.
- a) The blue jay exhibit is in the shape of a rectangle. The width of the exhibit is exactly one third of the length. What is the width in meters? \_\_\_\_\_
- b) Make a drawing or diagram to show your design. Put in important habitat fixtures, such as trees, rocks, vines, etc.