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?

> **ANSWERS WILL VARY. SOME POSSIBLE ONES ARE SIZE OF ANIMALS, IF THEY USE HORIZONTAL SPACE OR VERTICAL SPACE, HOW BIG IS THEIR NATURAL TERRITORY, ETC.**

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

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

> **ANSWERS WILL VARY. SOME POSSIBLE ONES ARE UTILIZING DIFFERENT SPACES OF THE EXHIBIT (NO COMPETITION FOR SPACE), THEIR RELATIONSHIP IS NOT PREDATOR/PREY, NOT TERRITORIAL OR AGGRESSIVE BY NATURE, ETC**

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)

> **ANSWERS MAY VARY. SOME EXAMPLES COULD BE--LEMURS-RED RIVER HOGS; LEMURS-SMALL CLAWED OTTERS; LEMURS-TAPIR; COLOBUS MONKEY-RED RIVER HOGS; TAPIR-RED PANDA; TAPIR-COLOBUS MONKEY**

c) Give at least two reasons for your decision.

> **ANSWERS WILL VARY. SOME POSSIBLE ONES ARE ONE LIVES IN THE TREES THE OTHER ON THE GROUND, BOTH ARE NON-AGGRESSIVE ANIMALS, THEY ARE NOT PREDATOR/ PREY, ETC.**

NAME_____

3)   The White cheek gibbons need about 5 acres in the wild. The Zoo exhibit can only be 1/2 of an acre or 0.5 acre.

a) Show the difference between the zoo area and their natural habitat.

**5 ACRES – 0.5 ACRES = 4.5 ACRES DIFFERENCE BETWEEN WILD AND ZOO EXHIBIT OR
5 ACRES / 0.5 = THE WILD HABITAT IS 10TIMES LARGER THAN THE ZOO'S EXHIBIT.**

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.

**12,000 LITERS X 10 = 120,000 LITERS FOR BEAVER EXHIBIT.
THIS IS 120,000 – 12,000 =108,000 MORE LITERS.**

**3000 GALLONS X 10 = 30,000 GALLONS FOR BEAVER EXHIBIT
THIS IS 30,000 – 3000 = 27,000 MORE GALLONS.**

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? _____

**L X W
12 METERS X 1/3 = 4 METERS**

1/3 X 12 = 4M

12

b) Make a drawing or diagram to show your design. Put in important habitat fixtures, such as trees,
rocks, vines, etc.

ANSWERS WILL VARY.