# Wildin' Wild Animals 

Jong Ju Park \& Jackson Chen

Topic: Algebra and Patterns

## Curricular Competencies:

- Develop mental math strategies and abilities to make sense of quantities
- Visualize to explore mathematical concepts


## Content Objectives:

- Numerical proportional reasoning
- Systems of linear equations


## Materials Required:

- Clay to "glue" pictures of animals onto the activity sheet/map
- Scissors
- Paper \& Pencils


## Grade Levels: 4-6

## Description:

The animals of the Madagascar zoo in New York City have escaped, except Alex the lion!
Students are asked to track the animals down and place them back into their exhibits. However, depending on the scenario, the zoo has strict rules about which animals go where. Also, animals have different sizes (see chart on the following page), and exhibits actually have a SIZE LIMIT, so the students cannot squeeze all animals into one exhibit and leave them there.

Maps (on posters or paper) of the Madagascar zoo will be provided (as shown in the attached document) for students to experiment and place the figures/cut-offs of animals in.

Note: The idea is for students to eventually figure out what numerical each animal can represent and use them in a 'balancing linear equation" type of exercise. (i.e. in the additional problems, each row of exhibits is simply an equation)

## Suggested variations:

- Modify the sizes of animals

Animal Size Chart



## Map 1

| Exhibit 2: Hippo | Exhibit 1: Lion |
| :--- | :--- |
| Exhibit 4: Lemur | Exhibit 3: Giraffe |

# Wildin' Wild Animals Activity 

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You are a zookeeper. Your job is to round up the escaped animals.
Using map 1, place each species of animals back into their labelled exhibits AND have the correct number of animals in each exhibit. What we know:

- Alex stayed where he is - he is the only lion in the zoo
- The total size of all animals in each exhibit must be the same (so that each visitor get to see enough animals in each exhibit)


## Additional Problems (refer to map 2):

1. The animals have escaped again, except Alex! But now the zoo has been so destroyed that exhibits have to be rebuilt.

Only the following animals were retrieved:

- ONE lion, hippo, zebra, giraffe, and leopard
- FOUR penguins
- SIX lemurs
- SIX aye ayes

How can we place the rest of animals if:

- Penguins HAVE TO STAY TOGETHER
- Neither the six lemurs or six ayes ayes can stay together
- The sizes of all three rows of exhibits have to be the same

A map (see second map in attachment) will be provided (see attached) for students to place animals around and "balance" the equation.
2. Same question as above, but an exhibit cannot have both lemurs and aye ayes.
3. Your teacher may pose something completely different, so stay tuned!

Map 2


