



STEM Field Trip Scavenger Hunt

Directions: Explore the zoo and the listed animal habitats below. At the habitat you will be tasked with a STEM challenge for you and your group to solve!

1. **Giraffe Habitat:** Every day from 9:30am to 2:30pm we have a giraffe feeding session where guests can get eye to eye with the world's tallest animal! In the wild, giraffe eat all day long, consuming up to 75 pounds of acacia leaves a day! Here at the zoo in addition to their normal diet of hay, grain and produce, they get carrots during the public feedings. Solve the following problem:

Hesabu, our tallest male giraffe, eats 6 carrots a minute, Dadisi, one of our mother giraffes, eats 4 carrots a minute and Shellie, our newest baby, eats 2 carrots a minute. How many carrots do all three giraffe eat in two hours? (1 hour = 60 minutes) **Grade 3 (3.OA.7, 3.MD.1)**

2. Petting Kraal/ Ankole Cattle Exhibit: The Ankole Cattle are a breed of cow from Africa who traditionally are valued not for their meat or milk but as a symbol of status, wealth and power. Think of it like having a nice car in your garage! It's no surprise because of their huge horns that can grow 4 to 5 feet in each direction! Today, farmers are importing Holstein cows because they produce more milk than Ankole cattle even though they are not well adapted for the hot climate. Answer the following question.

A female Ankole cow makes 500 milliliters of milk a day, a Holstein cow makes 4.25 liters a day. If a farmer has 15 Ankole cows and 5 Holstein cows, how much milk in liters will the farmer have in a week? (1 week = 7 days, 1000 milliliters = 1 liter) **Grade 5 (5.NF.1, 5.MD.1)**



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3. Meerkat Habitat: Meerkats make up some of nature’s best teams! By working together, meerkats can build new homes, find food and watch out for predators. Help our zookeepers learn more about our meerkats behaviors so they can give them the happiest and healthiest lives! Follow the instructions below:

You are going to create an ethogram. An ethogram is a graph that charts an animal’s behavior over time. Pick 1 meerkat to observe and you will watch him/her for 10 minutes and record their behavior on the table below for every minute on the minute. Before you begin recording their behavior, give the meerkats time to adjust to you being there. Once you have recorded the meerkat’s behavior in the table, create a bar graph showing how often the meerkat was doing each behavior. **Grade 3 (3.MD.4)**

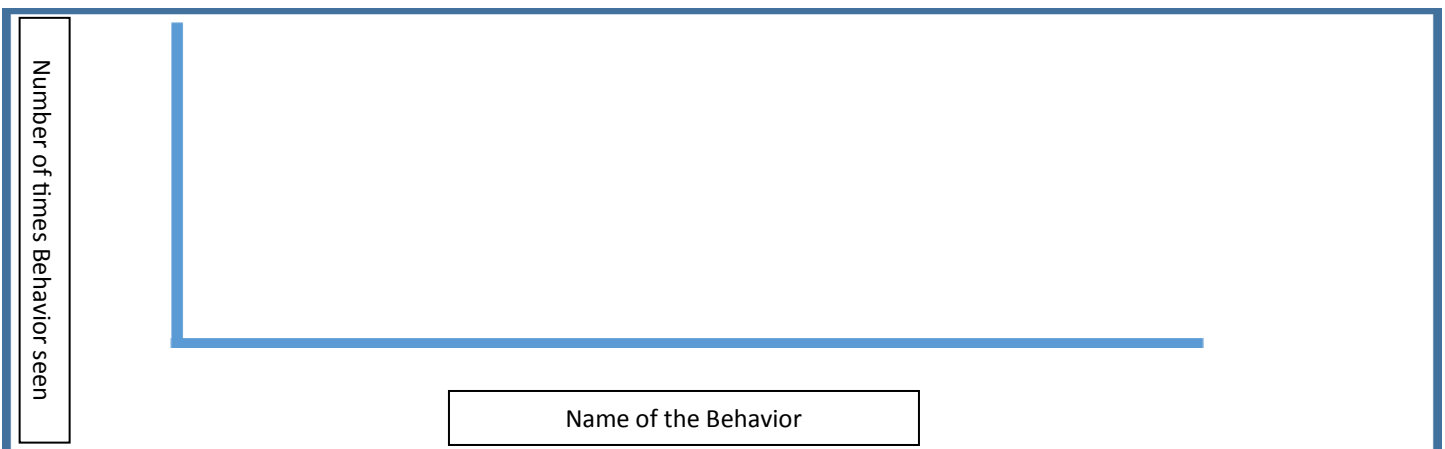
Which bird are you observing?: _____

What time are you observing the bird?: _____

What is the weather like?: _____

When recording behavior, use one word like standing, sitting, walking, eating, drinking, grooming and etc.)

Minute	Behavior
0:00	
1:00	
2:00	
3:00	
4:00	
5:00	
6:00	
7:00	
8:00	
9:00	
10:00	



How many different behaviors did you see?: _____

What was the most common and least common behaviors?: _____

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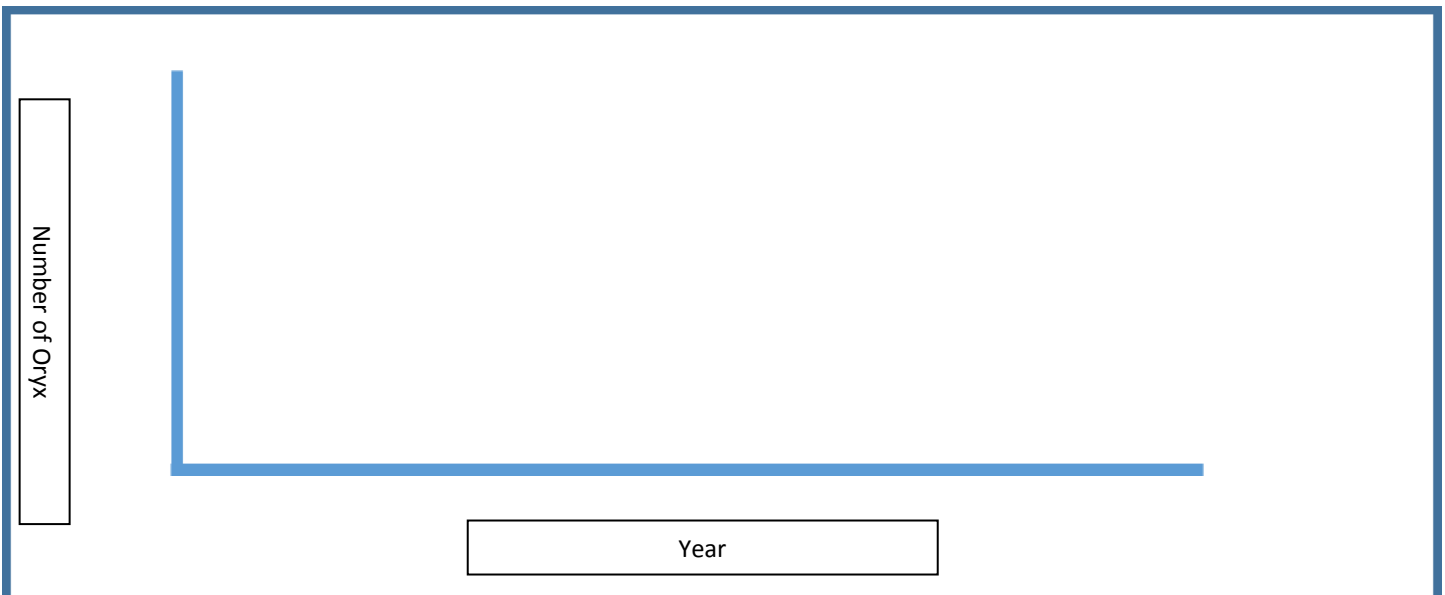
4. Fennec Fox Habitat: The Fennec Fox is one of the smallest species of fox in the world and they happen to live in some of the hottest places like the Sahara Desert of Northern Africa. Despite being so small, their bodies are well suited for the hot and dry habitat. Animals have adaptations that allow them to better survive and reproduce in their habitat. Read the sign at the habitat and answer the following question.

Draw a picture of a fennec fox and label its adaptations to survive in desert habitats. By each label, describe how the adaptation helps the Fennec Fox survive. **Grade 4 (4-LS-1., SL.4.5)**



5. Arabian Oryx Habitat: The Arabian Oryx is an example of a conservation success story! They used to be extinct in the wild but thanks to some very concerned people like you and zoos like the Living Desert that the oryx was able to make a recovery and they are no longer considered extinct in the wild. Answer the following question.

Today, there are 1,000 oryx left in the wild. Let's say that every year there are 425 oryx born and 300 die from old age and predators. If the rate of birth and death are constant, how many oryx will there be in 5 years? Make a graph of their population from now to ten years in the future. **Grade 4 (4.NBT.5)**

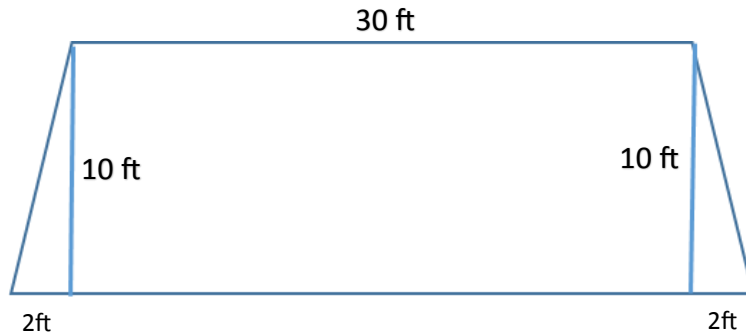


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6. Jaguar Habitat: The Jaguars once ranged from the Southern United States through to most of South America; believe it or not, you could have had a jaguar in your backyard! Today, habitat loss has forced jaguars into a smaller part of their range but there is still hope! At the Living Desert, we have Magia our female (lighter) and Memo our male (darker) who are ambassadors for their wild cousins. They help save their species through conservation breeding and educating people like you about how amazing these animals are. Answer the following question.

Find the total area of the Jaguar habitat using the picture below:

(Area of a square = length x width, area of a triangle = $\frac{1}{2}$ height x width) Grade 6 (6.G.1)



7. Frilled Dragon (Eagle Canyon): A real life dragon, the Frilled Dragon does not breathe fire but still has some amazing adaptations to keep itself safe from predators! When scared, the Frilled Dragon can open its mouth and expand its frill that is usually hanging from its cheeks and neck. The frill opens like an umbrella with lines of cartilage and can be a foot wide! The lizard looks twice as big and will charge at its threat. When push comes to shove, the lizard will turn tail and run on its back legs up a tree and vanish using its camouflage. Read the signage and answer the following question.

Draw the Frilled Dragon and label its adaptations to keep it safe from predators. By each adaptation, describe how it keeps the lizard safe. Grade 4 (4-LS-1., SL.4.5)

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8. Eagle Canyon Aviary: An important job for wildlife biologists is to take a census of a habitat. A census is a count of all the different species of animals and how many of each species there are. In the Eagle Canyon Aviary, there are several different species of birds as well as a reptile and mammal that live together which would be naturally found in and around desert canyons.

As a wildlife biologist, find and list all the species of animals of the Eagle Canyon Aviary in the table below. Then count the number of each species that you find there. Last, find the average number of birds per species. To find the average, add up all the birds from all the species then divide that number by the total number of species that you found. **Grade 4 (4.OA.2)**

Species Name	Number of Animals

Total Number of Species (X): _____ Total number of birds (Y): _____

Average number of birds per species ($Y \div X$) = _____

Which species had the most and the least individuals?: _____