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ADAPTATION

1. Animal neck bones are called vertebrae. Find the animal famous for its long neck. Count the number of vertebrae.

   Giraffes have _____ vertebrae in their necks.

   Now, find the human skeleton. Count the number of neck vertebrae. (Remember: the neck bones start at the bottom of the skull and end at the shoulders.)

   Humans have _____ vertebrae in their necks.

   How many more vertebrae do giraffes have than humans? _____

   Why are human and giraffe necks different?

2. Features that help an animal to survive in a particular environment are called adaptations. Find the following animal skulls or skeletons. Match the animals with a feature of their skull or skeleton. Then match the feature with how it helps that animal survive in its environment.

Ram	long arms	chewing on tough grasses
Crocodile	strong, grasping fingers	propel itself forward and up
Zebra	eyes on top of skull	withstand fighting blows
Snow leopard	long hind limbs	deals with stress of leaping
Bullfrog	thick forehead bone	climbing trees to get fruit
Kangaroo Rat	wide, flat teeth	helps to see in the dark
Chimpanzee	short spine	see while body is underwater
Lemur	large eyes	swinging in trees

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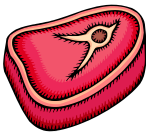
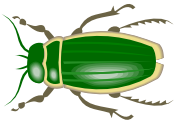
BIRDS

1. Birds have beaks that are made for eating specific things. Find the bird beak display case. Look at the different foods on the table below. Which bird or birds do you think eats each type of food? (Hint: Look carefully at each beak. How do you think it was used?)



Meat



Insects

Fruit

Fish

2. Find the display case with the Ivory Billed Woodpecker and the case with the Goshawk. Fill in the T chart below with three ways that the Ivory Billed Woodpecker and Goshawk are different.

Ivory Billed Woodpecker	Goshawk

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SMALL WORLDS

1. Using the porthole stations, look at each image of the flea and describe how it looks.

   Janssen Microscope:

   Hooke Microscope:

   Chevalier Microscope:

   Spencer Microscope:

   Scanning Electron Microscope:

   Did the images of the flea improve with new innovation? How?

2. Look through the different microscopes in this part of the exhibits. Why might it be important for scientists to see something that is very small?

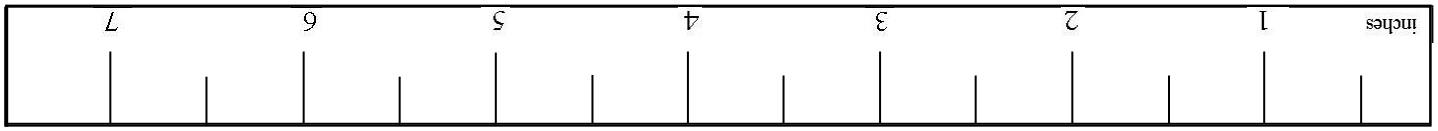
INSECT ZOO

1. Find the Asian Butterfly and Moth display case. Using the ruler at the bottom of this page, find and measure three male and female moths from wing tip to wing tip, rounding to the nearest half-inch. Make sure that the male and female moths you compare are the same species. (Hint: species names and genders are written under the moths.)

   Use the table below to record your measurements.

	Moth #1	Moth #2	Moth #3
Male length	inches	inches	inches
Female length	inches	inches	inches

   Look at your data table. Which is bigger: males or females?



2. Look in all three cases of butterflies and moths. Some moths have large dark spots with lighter rings around them. What do these spots look like to you? How might these spots help the butterfly or moth?

3. Find and explore the Frankstown Slab.

   Name four or five fossils you can easily find.

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MAMMALS OF THE MID-SOUTH

1. Mammals can have four different types of teeth. Find the teeth types in the chart below and identify the actions each of these teeth types performs when eating food.

Teeth type	Kinds of food
Incisors	
Canines	
Premolars	
Molars	

2. Several animals in the main diorama have the word eliminated on their image.
What does eliminated mean?

Why do you think the black bear was eliminated from this area?

GEOLOGY

1. There are many display cases here with various minerals and crystals. Pick one mineral or crystal and answer the questions below to describe it. Make sure you are specific.

Color or Colors:
_____

Is it shiny or dull? Is it as shiny as aluminum foil? Is it as dull as plastic?

_____

2. How big do you think it is? Is it basketball-sized? Is it penny-sized? Is it coke-bottle-sized?

_____

Imagine how it would feel. Would it be sharp? Would it be smooth? Would it be rough?

_____

Where is it from? (Hint: Read the exhibit label.) _____

Do you have any other words to describe it? _____

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3. Find the display case with the stone spheres. Do you think these spheres are natural or man-made?

   Why?

DINOSAURS AND FOSSILS

1. Explain two ways fossils are made.
   1.
   2.

   If you were to put something in the ground today, would it become a fossil in your lifetime? Why or why not?

2. Find the Apatosaurus model. Some dinosaurs swallowed stones to digest food that scientists call gastroliths. Would a meat-eating or plant-eating dinosaur need to swallow gastroliths?

   Why?

4. Take a look at the Mastodon skeleton and other fossils near it. How are mastodons and mammoths alike and different?