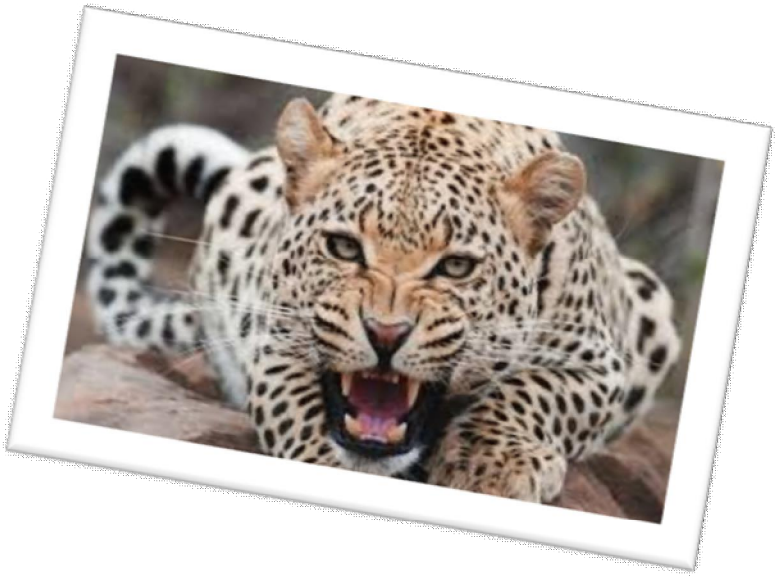
Big Cat Information & Awareness

At the ABQ BioPark Zoo

A K-12 Teacher Resource Guide



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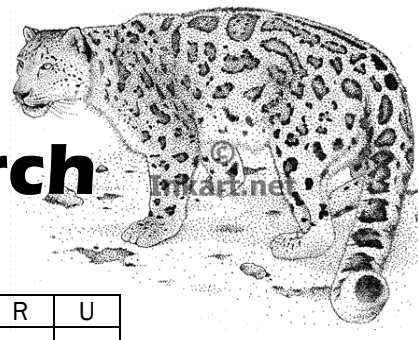
Snow Leopard Word Search



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Agile
Crepuscular
Ecosystem
Fur
Ibex
Paws
Spots

Asia
Cubs
Elusive
Habitat
Leap
Predator
Tail

Climb
Deer
Endangered
Himalayas
Mountains
Solitary

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Explore The Cat Walk
Grades 2-5

- How are the markings different on a jaguar from a leopard?
  Jaguar looks like this:

Snow Leopard looks like this:

Who Am I? Observe and read the animals signs along the Cat Walk to find the animal that matches its description.

1. I am the fastest cat on the Cat Walk.

2. My ears are big to help keep me cool in the hot environment.

3. Sometimes I'm white and sometimes I'm gray. It depends on what time of year it is.

Draw a picture of your favorite animal on the Cat Walk, and then write two facts about it.

- _____

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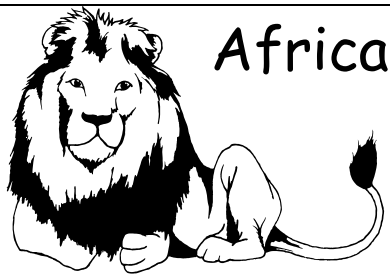
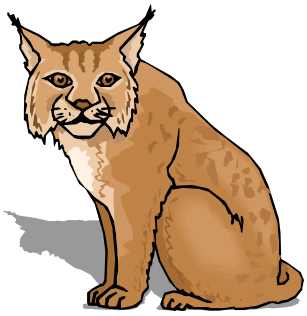
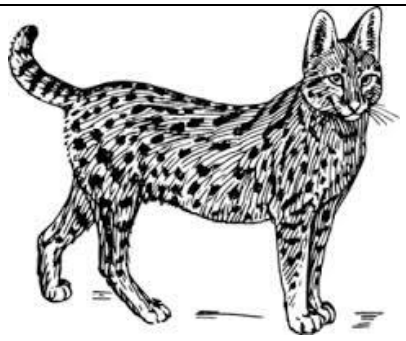
Big Cats BINGO - Gr. K-2

Cross out the animal when you find it. When you have found them all yell out BINGO!

 African lion	 Bengal tiger	 B
 Jaguar	 Serval	 Mountain

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	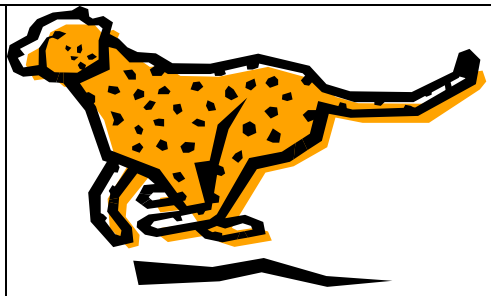	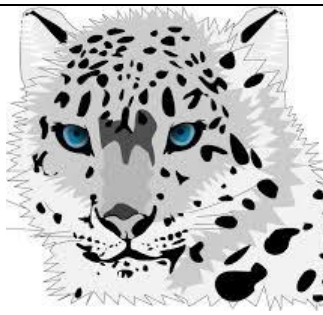
Ocelot	Cheetah	Snow Leop

National Geographic "Big Cats Quiz" Gr. 6-12

Take Quiz online (there are more questions) here:

http://animals.nationalgeographic.com/animals/big-cats-quiz/

1. All lionesses in a pride are related.

True or False

2. Cheetah paws have a distinguishing feature.

What is it?

A. They have a sixth toe

B. Their claws are semiretractable

C. They have an extra dewclaw

D. Their claws are covered with a sheath of skin

3. Which big cat is the largest: African lion, Snow leopard, Siberian tiger, or King cheetah?

4. How do jaguars usually kill their prey?

A. By piercing its skull

B. By piercing its neck

C. By grabbing it by the nose and suffocating it

D. By grabbing it by the neck and strangling it

5. Members of the genus *Panthera* are the only cats that can roar.

True or False

6. Are Ligers fact or fiction?

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Big Cats Quiz Answer Sheet

All information from

http://animals.nationalgeographic.com/animals/big-cats-quiz/

1. True : Females stick together in prides of 2-18, and are all related. One male may stay in the pride, but the rest go off on their own by age 4. Females remain in the pride for life.
2. B. The cheetah is the only cat that does NOT have fully retractable claws. Cheeta's claws act like running spikes, which gives them traction while sprinting as fast as 60 miles (100 kilometers) an hour.
3. Siberian tiger, which can grow up to 11 feet (3.5 meters) long and weigh up to 660 pounds (300 kilograms).
4. By piercing the animal's skull through the temporal bones between the ears. All other big cats kill by suffocation.
5. True. Lions, tigers, jaguars, and leopards are the only cats with thick vocal cords and a flexible larynx, which give them the ability to roar.
6. FACT. Napoleon Dynamite did not create them from his imagination! They are a cross between a male lion and a female tiger. They do not exist in the wild and are captive bred.

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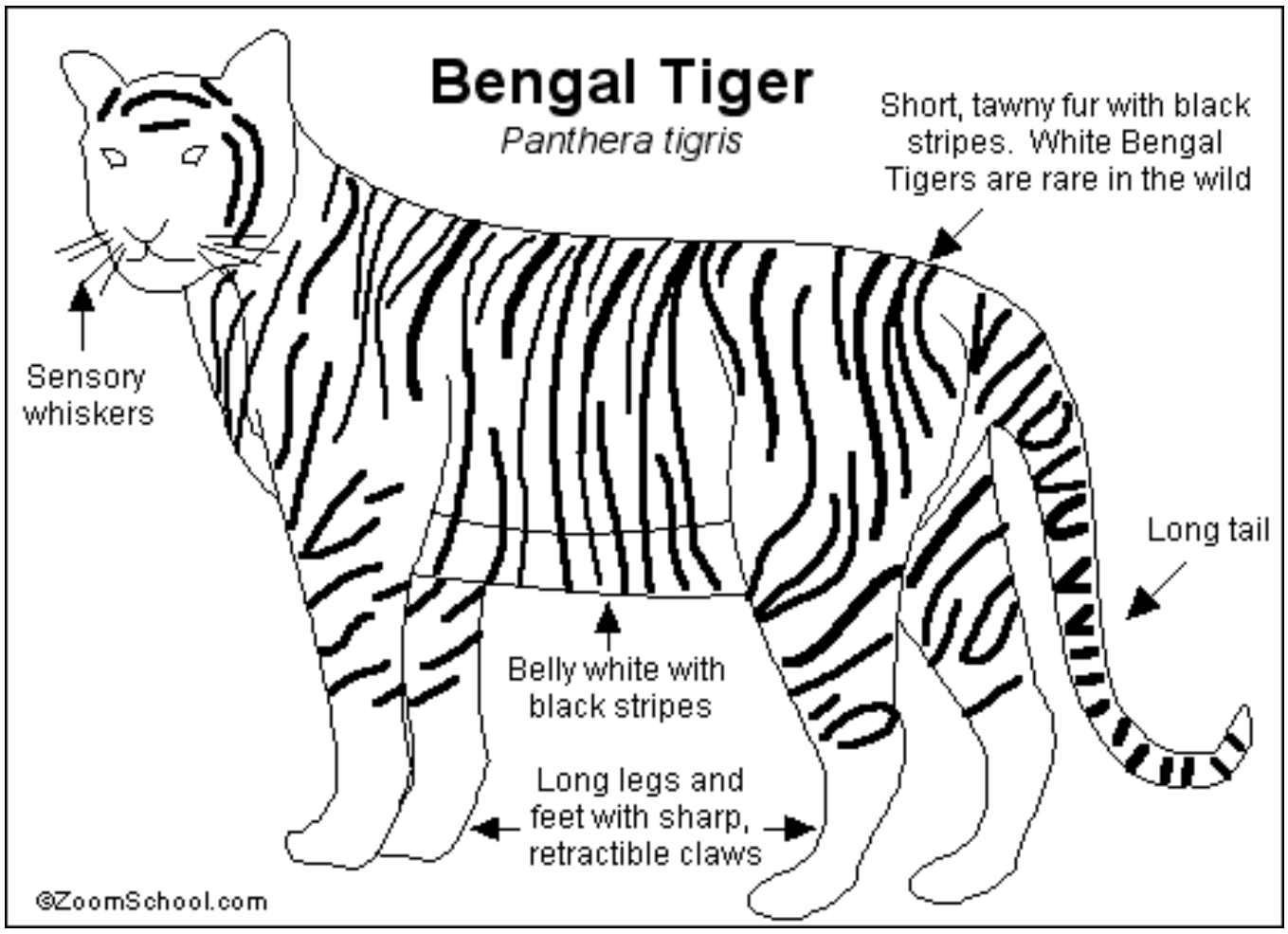
Bengal Tiger

http://www.enchantedlearning.com/subjects/mammals/tiger/Bengaltigerprintout.shtml



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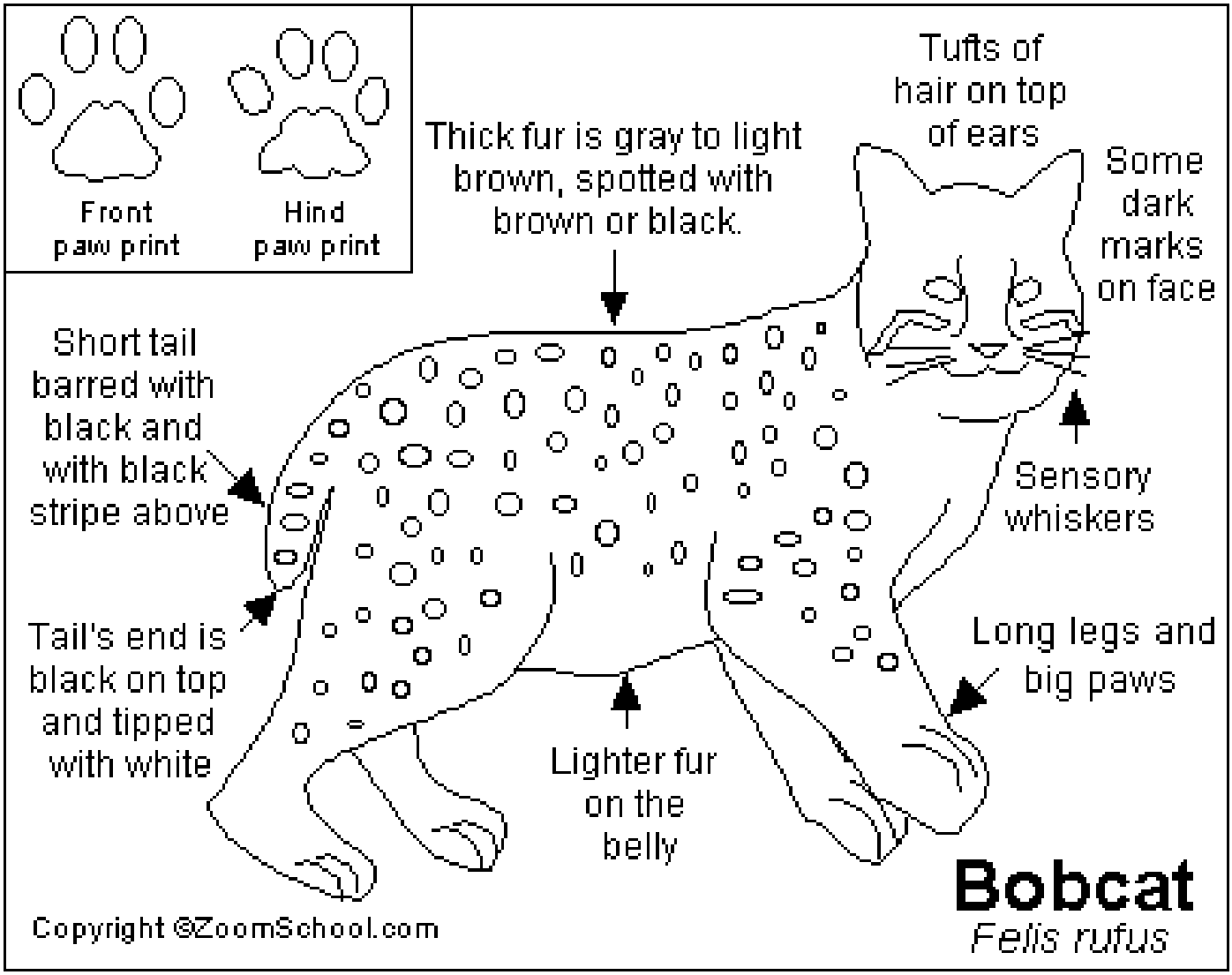
Bobcat

http://www.enchantedlearning.com/subjects/mammals/cats/bobcat/Bobcatprintout.shtml



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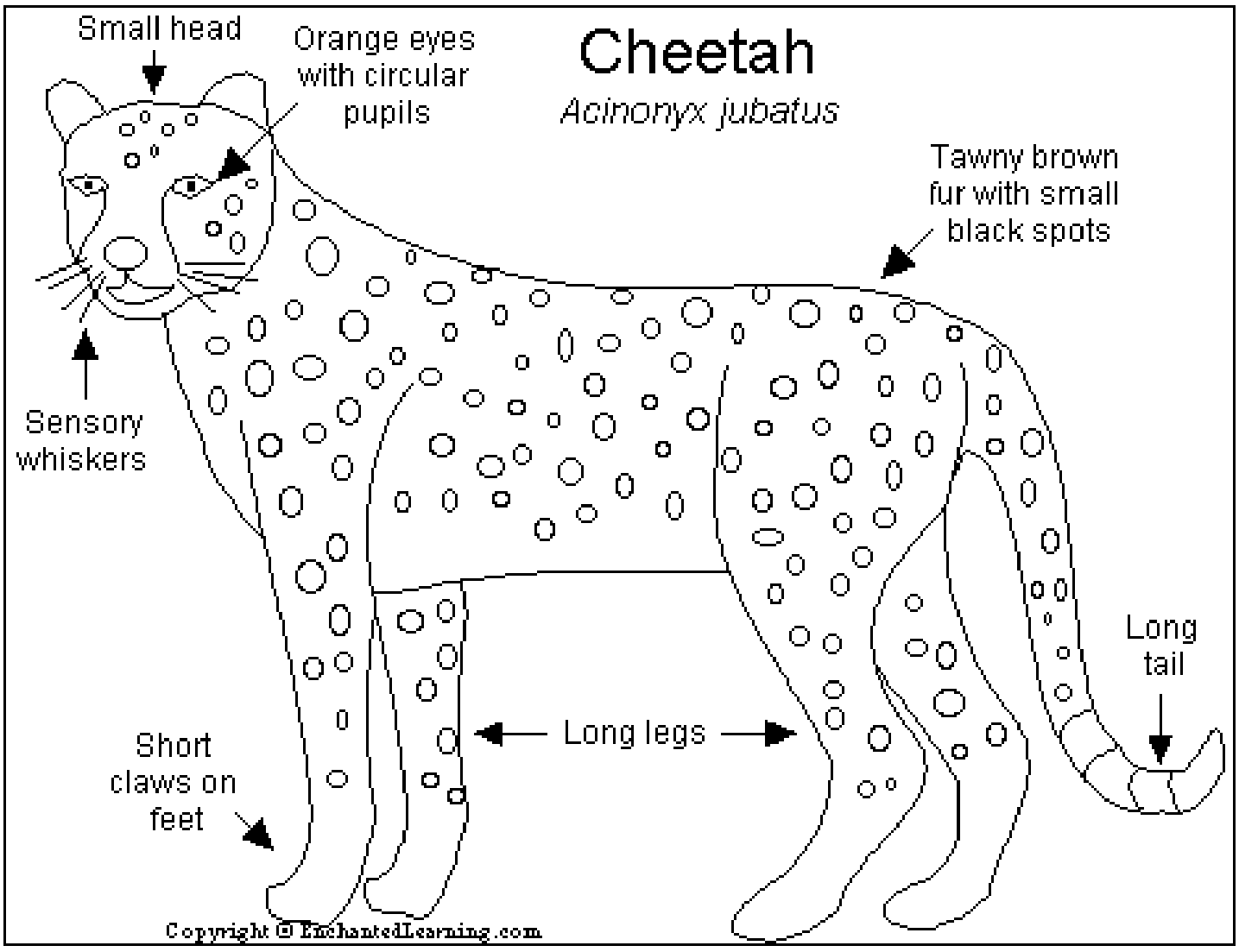
Cheetah

http://www.enchantedlearning.com/subjects/mammals/cheetah/coloring.shtml



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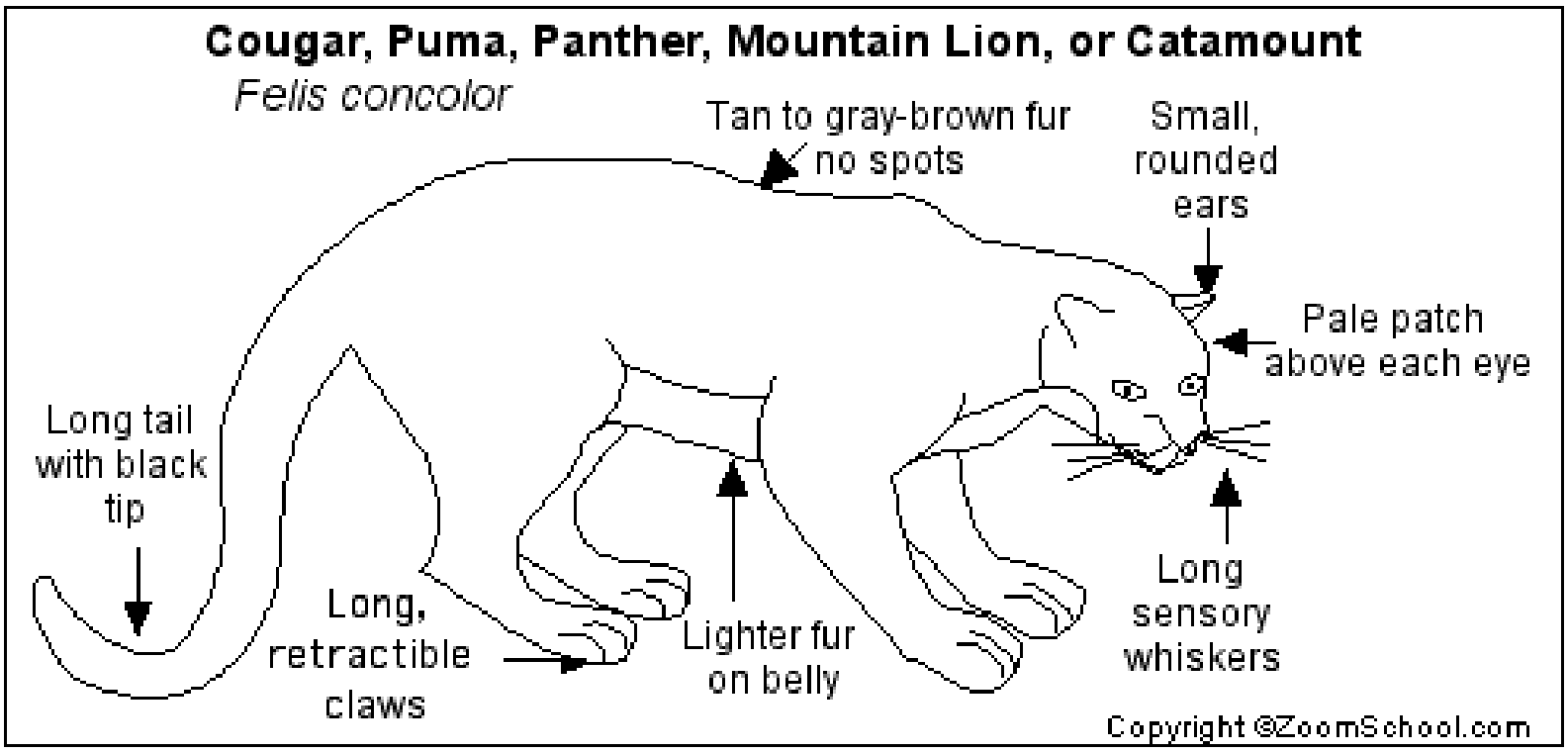
Mountain lion (Cougar)

http://www.enchantedlearning.com/subjects/mammals/cats/cougar/Cougarprintout.shtml



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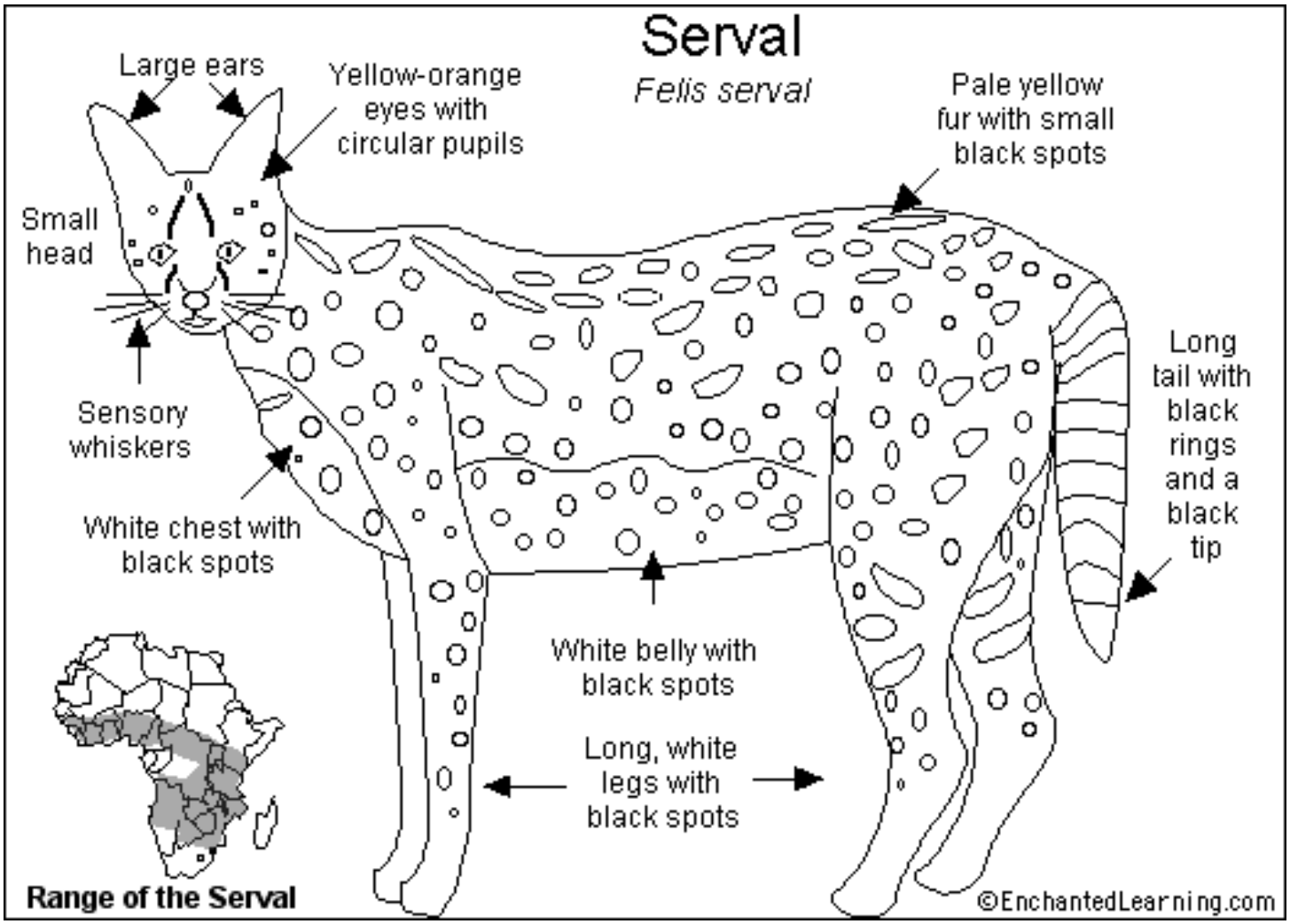
Serval

http://www.enchantedlearning.com/subjects/mammals/cats/serval/printout.shtml



Big Cat Ethogram: Grade 6-12

Big Cat Observation

Researchers and scientists often study the behavior of animals both in the wild and captivity in a systematic way by filling out an *ethogram* or observation sheet. The information is used to help better understand the animalôs needs. Choose *one* big cat to observe for 5 minutes. Every thirty seconds, record that catôs (and only that catôs) behavior. If the cat goes to a place where you cannot see it, just record it as ñout of view.ò Donôt switch cats midway through your observation period. (Idea: to compare behavior of two different Felidae species, complete two separate 5 min. observations, each on a different animal. Record each on a separate observation sheet).

Catôs location in exhibit:_____Date:_____

Species of cat you are observing: _____

Time of first observation:_____

Time	Behavior Observed
Example 30 sec.	*Running along the edge of the exhibit*
Example 1 min.	*Stopped running to sniff a log*
30 sec.	
1 min.	
1 min. 30 sec.	
2 min.	
2 min. 30 sec.	
3 min.	
3 min. 30 sec.	
4 min.	
4 min. 30 sec.	

5 min.	

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Enriching the Lives of Big Cats in Captivity

A 5E Lesson Plan that can be adapted for Grades 6-12

Estimated Time:

½ to 1 day in class the day before zoo visit, 10-30 min. of observation of multiple big cat species on the "Cat Walk" at the ABQ BioPark Zoo, then 1-3 days in class following zoo visit (Note to teachers: time may be adjusted as needed).

CCSS Suggested Benchmarks

6th-8th Gr

- CCSS.ELA-Literacy.RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- CCSS.ELA-Literacy.RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6ï 8 text complexity band independently and proficiently.

9th-10th Gr

- CCSS.ELA-Literacy.RST.9-10.9 Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
- CCSS.ELA-Literacy.RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9ï 10 text complexity band independently and proficiently.

11th-12th Gr

- CCSS.ELA-Literacy.RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
- CCSS.ELA-Literacy.RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
- CCSS.ELA-Literacy.RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11ï CCR text complexity band independently and proficiently.

Essential Questions

- What are the physiological and psychological needs of a big cat in captivity?
- What kind of enrichment apparatus or addition to their enclosure would increase natural big cat behaviors?

Objectives for Students

- First, students will define the term "environmental enrichment" and be able to categorize different types of enrichment.

- Next, students will use the "Big Cat Ethogram" and systematically observe one of the big cats for 5 minute intervals.

- Finally, students will synthesize the data from their big cat observation notes in the form of a graph/chart. Through evaluating the data, students will determine the needs of the species and create a proposal and/or prototype of a suitable enrichment device or a special feature to add to a cat enclosure to reinforce natural animal behaviors in captivity.

- The teacher may then submit one student or group's proposal for review to the ABQ Biopark Education Department.

ENGAGE:

Background Information for Students/Teachers-

It is essential that students bring background knowledge on enrichment and big cat behaviors with them to the zoo.

What is Enrichment?

The following article is from http://www.aza.org/enrichment/ and can be used as a starting point for dialogue about:

- What enrichment is
- Different types of enrichment
- Why it's essential for animals in a captive setting to be enriched?

What are Some Natural Big Cat Behaviors?

Resources the students can use to gather information on big cat behaviors:

http://nationalzoo.si.edu/animals/greatcats/catfacts.cfm Big cat fact sheets

http://animals.nationalgeographic.com/animals/big-cats/ General big cat facts

http://www.aza.org/uploadedFiles/Animal_Care_and_Management/Animal_Programs/Animal_Programs_Database/Animal_Care_Manuals/Lion%20Care%20Manual%202012(1).pdf an AZA manual that zoos use a reference guide for lion husbandry (Reading level 11-12th grade).

EXPLORE:

What Behaviors do We Expect to See?

Have students hypothesize what behaviors they think they will see the big cats exhibit at the zoo. Ask them to cite specific evidence within the text they've used for research to explain why they expect those behaviors.

On the day of the zoo visit, hand out 3-4 "Big Cat Ethogram" sheets to each student. You may want to group students by cat species that are living at the Rio Grande Zoo (tiger, lion, serval, etc.) so there aren't too many students trying to observe one species. Then, each individual in the group will pick an animal within that enclosure, and conduct an individual observation on a single animal (if there is only one animal in the enclosure, then all students in that group will be observing the same animal). Be sure to emphasize that each student should be observing the same animal for each 5 min. observation period.

EXPLAIN:

Compiling the Data

One way for students to compile their data together would be to look at each individual's observation sheet in the group and loosely categorize types of behavior observations together (Example: Out of view, eating/feeding, playing, sleeping, interacting with cage mate, etc.). Next, come up with a code for each behavior (Example: Out of View= O, Feeding=F). Using the information, students can then plug the data into Excel or a similar program to generate a bar chart or table to depict the percentage of time that species of animal spent on each behavioral activity.

What Does the Data Mean?

Have each group write a summary paragraph explaining what their species spent the most/least amount of time doing in their enclosure. Ask students to answer:

- Is there a behavior that the animal/animals are not exhibiting that you would like to try and *increase* through enrichment?
- Is there a behavior that the animal/animals are exhibiting that you would like to try and *decrease* through enrichment?

EXTEND:

Real-Life Application

In their groups, aid students in drafting a blue print, materials list and constructing a prototype of their enrichment device (if the enrichment is a modification to the animal enclosure, have the group build a model of what the modified enclosure would look like).

Going Further

Students could then vote for which group's proposal they would like to submit to ABQ Biopark Education for evaluation and feedback.

EVALUATE

Create a presentation rubric and evaluate what the students have learned by having them create a Power Point or tri-fold poster board presentation.

Why Save Big Cat Populations?

Suggested Grades: 8-12