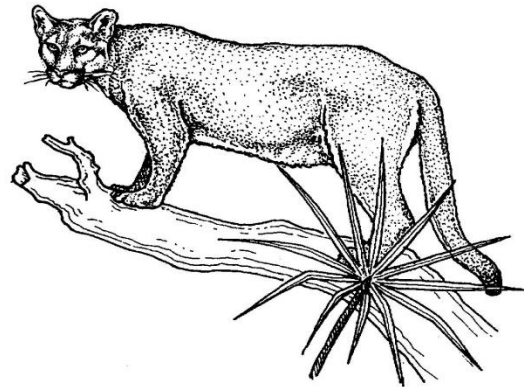
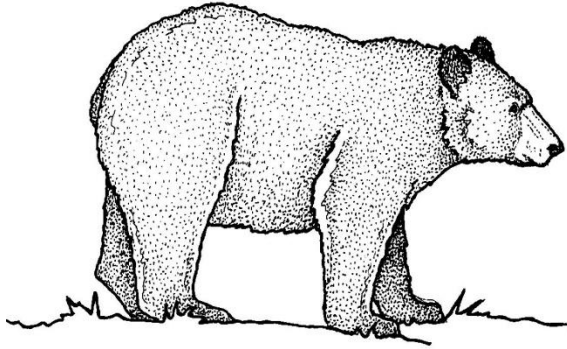


## What Makes a Bear a Bear?



### Key question

How are bears different from other animals?

#### Conceptual frameworks topics

- I.A. Distinguishing anatomical features of bears
- I.B. Distinguishing behaviors/activities of bears
- I.C. Evolutionary history of bears
- IV.A. Florida black bear anatomy and physiology

#### Subjects

Science, Language Arts

#### Time estimates

45-60 minutes per day for one to two days

#### Key vocabulary

Plantigrade, digitigrade, omnivore, carnivore

### Objectives

As part of this activity, students will:

1. Complete a writing exercise to identify what they already know and what they would like to know about bears.
2. Observe and describe similarities and differences in the anatomy of the Florida black bear and the Florida panther.
3. Identify major distinguishing characteristics of bears.

### Materials

#### Essential:

Per class:

- One “The World of Bears” Poster (Follow [hyperlink](#) on [Lesson One’s webpage](#))
- One set of digital displays, large charts, or student copies of “What Makes a Bear a Bear?” [Data Sheets](#)

## Lesson One \_\_\_\_\_ What Makes a Bear a Bear?

Per group of two to three students:

- One copy of “What Makes a Bear a Bear?” [Worksheet One](#)
- One copy of “What Makes a Bear a Bear?” [Worksheet Two](#)

### Supplemental:

Per Class:

- Color pictures of Florida black bears and Florida panthers
- Replicas of black bear skull, canine tooth, and/or claw

Per Student:

- One copy of sample [K-W-L format](#)
- One copy of the “What Makes a Bear a Bear?” [Skull Model](#)
- One file folder or 8.5 x 11-inch piece of construction paper or poster board
- One pair of scissors
- Glue
- One brass paper fastener

### Background

The Florida black bear (*Ursus americanus floridanus*) is the only subspecies of bear native to Florida. The first black bear was described in Florida in 1896 and was called the “Everglades bear.” Florida black bears are a subspecies of the American black bear, and differ genetically and physically from their other American black bear relatives such as the Louisiana black bear and the Eastern black bear. Before European settlement of Florida, an estimated 11,000 black bears roamed the state and today at least 4,000 can be found throughout the state. In 1974, the Florida black bear was listed as a state

threatened species, but in 2012 it was removed from the state’s threatened species list. However, the Florida black bear is still protected by Florida Rule [68A-4.009](#).

As is the case with most species of bears, many misconceptions exist about the Florida black bear. Although black bears are descended from meat-eating (**carnivore**) dog relatives, 80 percent of the Florida black bear’s diet actually consists of plant matter, especially fruits, nuts, and berries. Thus, Florida black bears are true **omnivores**. Florida black bears are also generally shy and non-aggressive. While uncommon, incidents of humans being harmed by Florida black bears have occurred.

The first bears appeared in Europe about four to five million years ago. Unlike their toe-walking (**digitigrade**) canine relatives, bears walk on the flat soles of their feet like humans (**plantigrade**). Rather than tearing and shredding food like their canine relatives, bears crush and grind their food. Although many large mammals that once thrived in Florida, such as the plains bison and the Florida red wolf, are now extinct in the state, the Florida black bear and the Florida panther still survive. In southwest Florida, the Florida panther and the Florida black bear share portions of the same habitat.

With extensive, long-term conservation efforts, these two unique and magnificent mammals are success stories.



## Lesson One \_\_\_\_\_ What Makes a Bear a Bear?

### Advance preparation

1. Prepare copies of the "What Makes a Bear a Bear?" worksheets. **To help focus the attention of younger or ESE/ESOL students, draw arrows on the pictures and diagrams on Worksheet One indicating specific traits you want students to compare.** Be sure to print Worksheet Two double-sided so students can see the internal anatomy of the Florida black bear superimposed on the body outline when the sheet is held up to the light.

2. Make digital displays, large chart displays, or student copies of the "What Makes a Bear a Bear?" Data Sheets. **Depending on the time available and the age and ability levels of your students, you may want to eliminate some of the bear-panther comparisons provided.**

3. Make sure students are familiar with the K-W-L writing process before beginning the lesson.

### Procedure and discussion questions

1. Introduce the lesson by asking students to complete a K-W-L writing exercise identifying what they already know about bears in the "K" column and what they want to know about bears in the "W" column. Students can complete the K-W-L using the sample format provided. Have student volunteers share some of their "K" and "W" column responses.

2. Next, ask students what makes bears different from other animals. You may provide some Florida-specific examples

for comparison, such as our state marine mammal the West Indian manatee, our state bird the mockingbird, our state butterfly the zebra longwing, our state reptile the American alligator, and our state animal the Florida panther.

3. Develop the idea that Florida is home to a unique kind of bear called the Florida black bear. Display "The World of Bears" Poster and point out the Florida black bear. Ask students if they have ever seen a Florida black bear.

4. Explain that during this lesson, students will be working in small groups to learn more about the special features of the Florida black bear and how it differs from our state animal the Florida panther.

5. Divide students into groups of two to three and distribute copies of "What Makes a Bear a Bear?" Worksheet One to each group. Refer to Part One of the worksheet and ask students to closely examine the drawings of the Florida black bear and the Florida panther and record similarities and differences between the two animals in the spaces provided. If possible, show students color pictures of Florida black bears and Florida panthers.

6. Next, refer to Part Two of the worksheet and ask students to take a closer look at the skulls, teeth (molars), and feet of the Florida black bear and Florida panther. Have them record their



observed similarities and differences in the spaces provided.

7. Ask groups to share their observations with the rest of the class. Then, use digital displays, prepared charts, or student copies of the "What Makes a Bear a Bear?" Data Sheets and review key distinguishing anatomical characteristics of the two animals, including differences in size, weight, body shape, leg and foot shape, head shape, teeth, coloration, and tail length. If possible, let students examine replicas of black bear artifacts, such as a skull, canine tooth, and/or claw and have them share some of their observations.

8. Use pertinent background information and the data sheets to introduce other significant differences between Florida black bears and Florida panthers, including their walking style and diet. Define key vocabulary terms, including **digitigrade**, **plantigrade**, **omnivore**, and **carnivore**.

9. Next, ask students if they have ever wondered what the inside of a large animal like a bear looks like. Distribute copies of "What Makes a Bear a Bear?" Worksheet Two and let them hold their worksheets up to the light. Ask them if the skeleton of the Florida black bear reminds them of the skeleton of any other familiar animal. Make sure students realize that bears are related to dogs, wolves, and other canines. Their skeletons are very similar, but since bears

are so much larger, their bones are thicker and heavier.

10. Conclude the lesson with a brief discussion of the status of the Florida black bear and the Florida panther. Make sure students realize that both the Florida black bear and the Florida panther are subspecies and that the Florida black bear is the largest land mammal in the state. Students should also understand that the Florida panther is starting to increase in numbers, but is still an endangered species.

11. Conclude the lesson by asking students to write down at least five new things they learned about bears in the "L" column of their K-W-L.

### **Modifications for younger or ESE/ESOL students**

1. Eliminate Part Two of the "What Makes a Bear a Bear?" Worksheet, and only have students complete Part One of the worksheet comparing the general external anatomy of the Florida black bear and the Florida panther.

2. Select only five to six traits out of the 16 traits listed on the "What Makes a Bear a Bear?" Data Sheets when discussing similarities and differences between the Florida black bear and the Florida panther.



## Lesson One \_\_\_\_\_ What Makes a Bear a Bear?

3. Have students share their observations of similarities and differences between the Florida black bear and the Florida panther orally instead of writing them down on the worksheet.

### **Assessment suggestions**

1. Collect completed student K-W-L sheets and use them to identify any key misconceptions your students have about bears. The "W" columns of completed student K-W-L sheets can also be used to determine which other bear-related lessons would be of most interest to your students.

2. Collect completed copies of Worksheet One to determine if students accurately identified key similarities and differences in the anatomy of the Florida black bear and the Florida panther.

3. Provide a writing prompt such as the following: "You see an animal in the woods. Explain how you know it is a bear." Have students write a short paragraph describing the distinguishing features of bears.

### **Art extension**

Provide each student with a copy of the "What Makes a Bear a Bear?" Skull Model, a pair of scissors, glue, a brass paper fastener, and a file folder, piece of construction paper, or poster board. Have students follow the instructions on the Skull Model sheet to prepare their own life-size working model of a black bear skull.



**K**

This is what I know about bears...

**W**

This is what I want to know about bears...

**L**

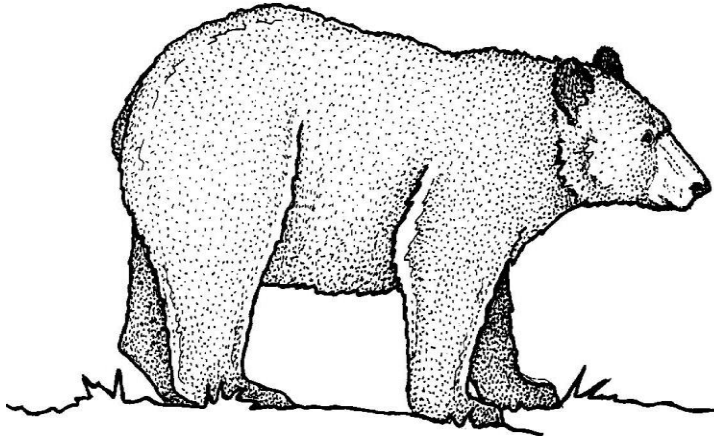
This is what I learned about bears...

Worksheet One

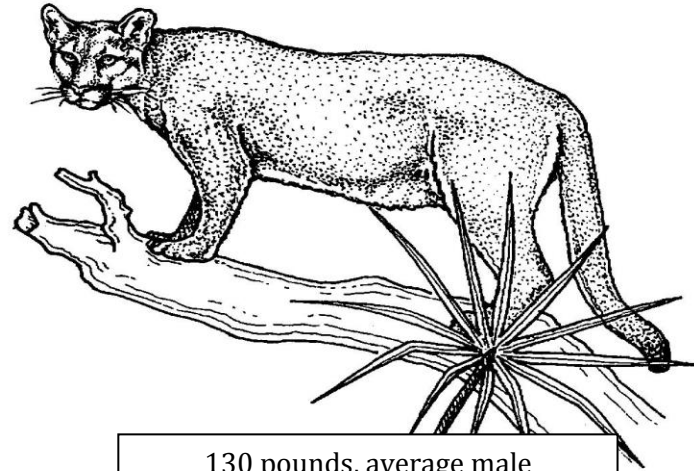
Part 1

Names \_\_\_\_\_

Directions: Look at the pictures of the Florida black bear and the Florida panther. How are these two animals alike? How are they different? Write down some of your ideas in the spaces below the pictures.



250 pounds, average male  
2.8 feet tall  
5.5 feet long



130 pounds, average male  
2.4 feet tall  
4.5 feet long

Ways the Florida black bear and the Florida panther are alike: \_\_\_\_\_  
\_\_\_\_\_

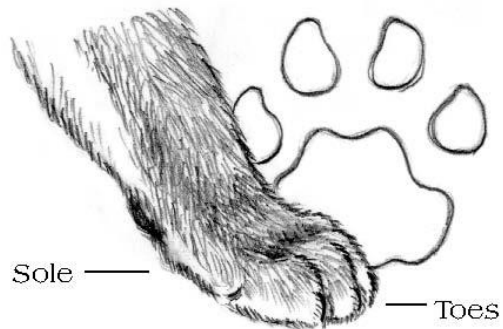
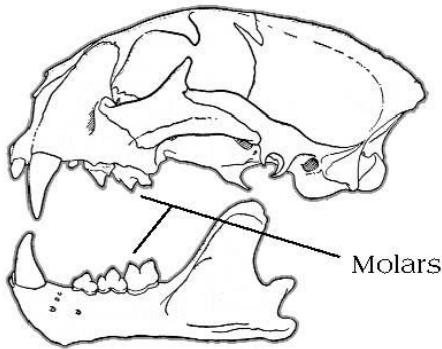
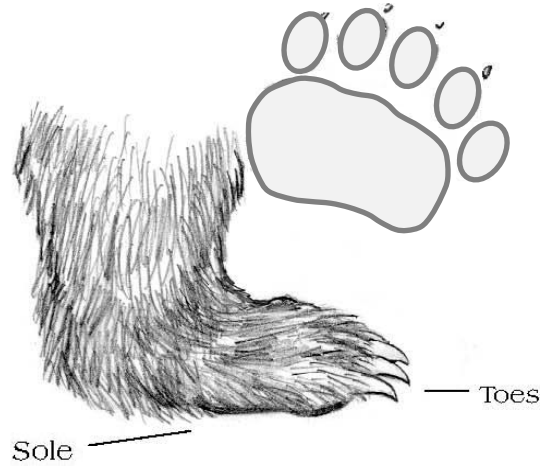
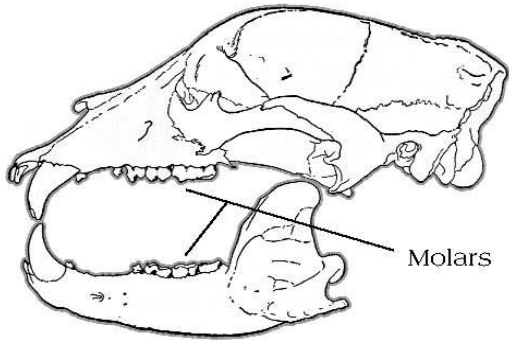
Ways the Florida black bear and the Florida panther are different: \_\_\_\_\_  
\_\_\_\_\_



Worksheet One

Part 2

Directions: Look at the skulls, teeth and feet of the Florida black bear and the Florida panther. How are they alike? How are they different? Write down some of your ideas in the spaces below the pictures.



Ways Florida black bear and Florida panther skulls, teeth, and feet are alike:

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Ways Florida black bear and Florida panther skulls, teeth, and feet are different:

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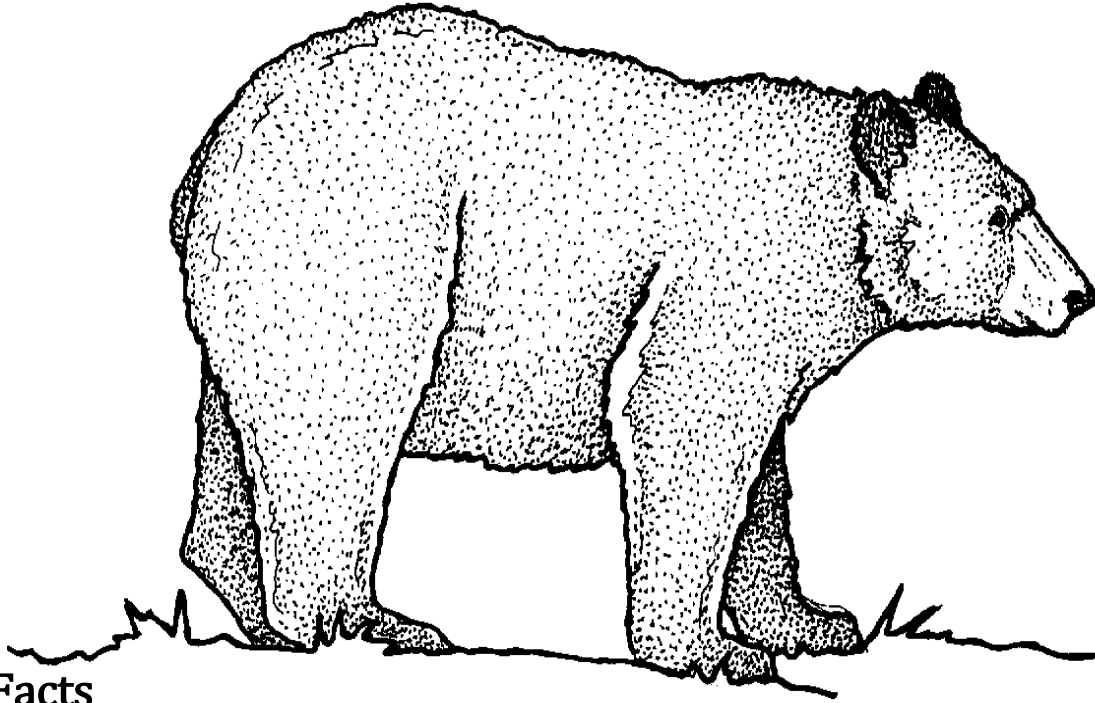
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## Worksheet Two

Now that we know what a Florida black bear looks like on the “outside”, let’s find out what it looks like on the “inside”. Hold this page up to the light to see the skeleton of a Florida black bear. What other animal does this skeleton remind you of?

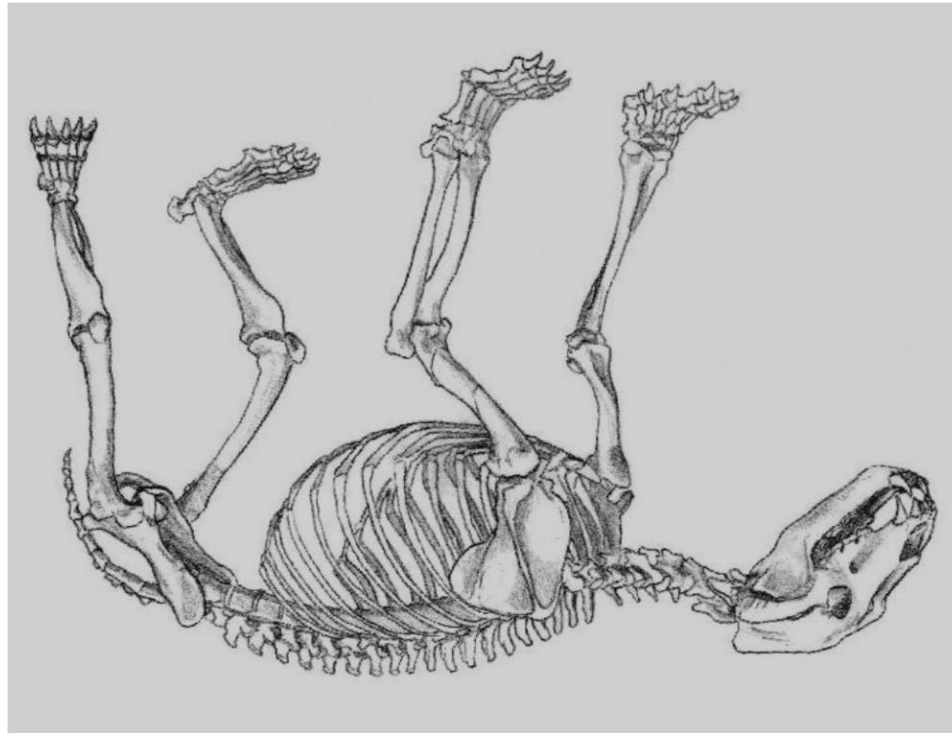


### The Bear Facts

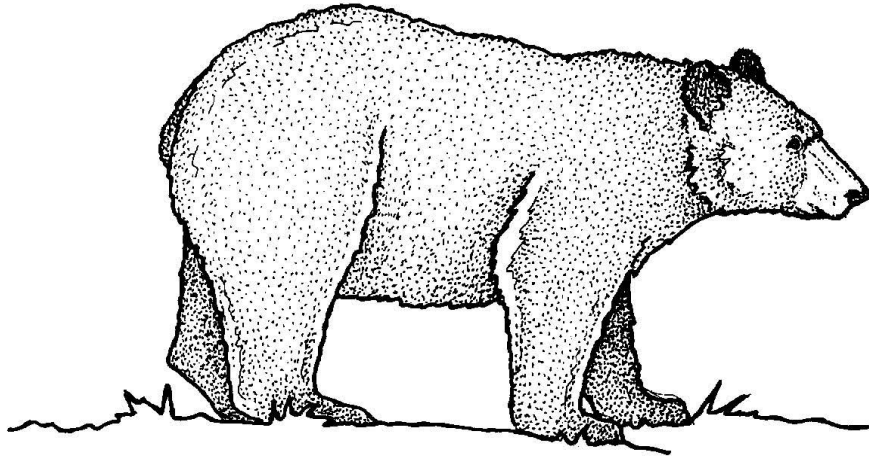
- Bears are related to dogs, wolves, and foxes. Their skeletons look very similar, but the bones of bears are much larger.
- The scientific name for the Florida black bear is *Ursus americanus floridanus*.
- There are at least 4,000 wild black bears in Florida.



## Worksheet Two



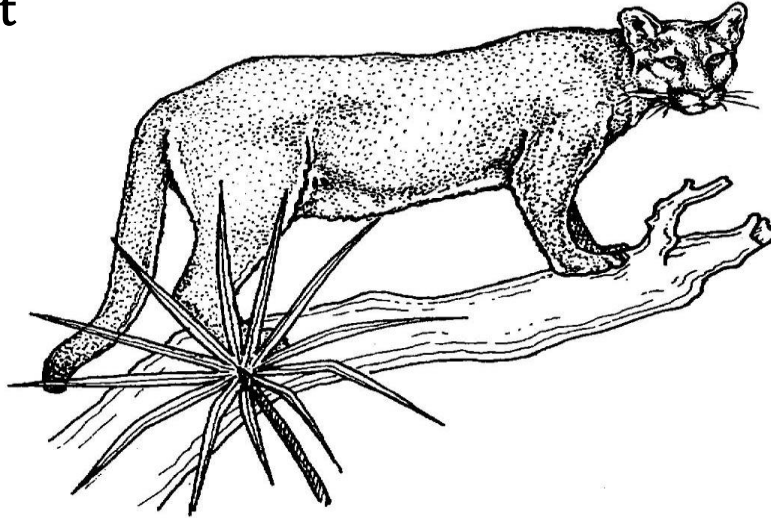
## Data Sheet



### Florida Black Bear

- The average adult male Florida black bear weighs about 250 pounds.
- Florida black bears have round, stout bodies.
- Florida black bears have short, thick, powerful legs.
- Like people, Florida black bears walk with their feet flat on the ground. This flat-footed walk is called plantigrade.
- Florida black bears have thick, curved claws. The claws on their front feet are longer than the claws on their back feet. They use their claws mostly for climbing trees, breaking up logs, and digging up plants, insects, and other foods.
- Florida black bears walk with their front feet turned inward (pigeon-toed).
- Florida black bears have five toes on each foot.
- Florida black bears do not have long whiskers on their faces.
- Florida black bears have long skulls and long, broad snouts.
- Florida black bears have small eyes. They sometimes stand on their hind legs to see their surroundings better.
- Florida black bears have a total of 42 teeth.
- Florida black bears have 10 molars. Their molars are broad and flat to grind up leaves, stems, nuts, and other plant parts.
- Florida black bears eat mostly berries, nuts, and insects and are omnivores.
- Most Florida black bears have shiny black fur with brown snouts, but some are woolly brown.
- Florida black bears have short, stubby tails.
- Florida black bears have soft tongues with many large taste buds.

## Data Sheet



### Florida Panther

- The average adult male Florida panther weighs 130 pounds.
- Florida panthers have long, sleek bodies.
- Florida panthers have long, muscular legs. Their back legs are more powerful than their front legs.
- Like wolves, horses and most other large land animals, Florida panthers walk and run on their toes. This toe-footed walking is called digitigrade.
- Florida panthers have sharp retractable claws. Like other cats, they only extend their claws when they are trying to grab something. They use their claws to capture the animals they eat.
- Florida panthers walk and run with their toes facing forward.
- Florida panthers have five toes on their front feet and four toes on their back feet.
- Florida panthers have long, sensitive whiskers on their faces.
- Florida panthers have rounded skulls with short snouts.
- Florida panthers have large eyes that are adapted for night vision.
- Florida panthers have a total of 30 teeth.
- Florida panthers have 12 molars. Their molars are sharp and help slice meat into pieces that are swallowed whole.
- Florida panthers eat meat and are carnivores.
- Florida panthers have tawny-colored fur on their backs and off-white fur on their undersides.
- Florida panthers have long tails. They use them for balance when they run.
- Like other members of the cat family, Florida panthers have rough tongues with many sharp projections to lick the meat off the bones of their prey.



## Skull Model

Make a life size model of a Florida black bear skull. Glue this sheet to a file folder, poster board, or a piece of construction paper. Cut out the skull and lower jaw along the thick lines. Connect the lower jaw to the skull by matching up the two (X) areas and attaching them with a paper fastener. Open and close the jaws to see how they work.

