

Name \_\_\_\_\_

## Measure the *Apatosaurus* Femurs

Dear Students,

One way to measure dinosaur growth is to compare fossil bones of the same type of dinosaur at different ages, for example, the femurs of an adult and a baby or juvenile *Apatosaurus*. As you measure the femurs at the Science Museum, fill in the chart. The chart will help you compare lengths and circumferences.

Good luck with your measurements, we will need them when you get back to your classroom.

Thanks for your hard work,

Kristi Curry Rogers, Curator of Paleontology

### **ADULT**

Before you start this activity, use the map in this bag to help you find the adult *Apatosaurus* femur in the Dinosaurs and Fossils Gallery. The femur is against a wall and does NOT have a fence around it. It's OK to touch the *Apatosaurus* femur.

### **BABY**

Before you start this activity, find a large open space to sit on the floor. Inside your backpack, you will find a bone. This bone is the femur of a baby *Apatosaurus*. Measure the baby femur's length in **centimeters**.

<b>RECORD</b>		Measurement	Check
<b>Adult Femur</b>	Length	cm	cm
	Circumference	cm	cm
<b>Baby Femur</b>	Length	cm	cm
	Circumference	cm	cm



### **COMPARE THE FEMURS**

CALCULATE how many times longer the adult femur is than the baby femur.

How many times longer is the adult femur length than the baby femur length?

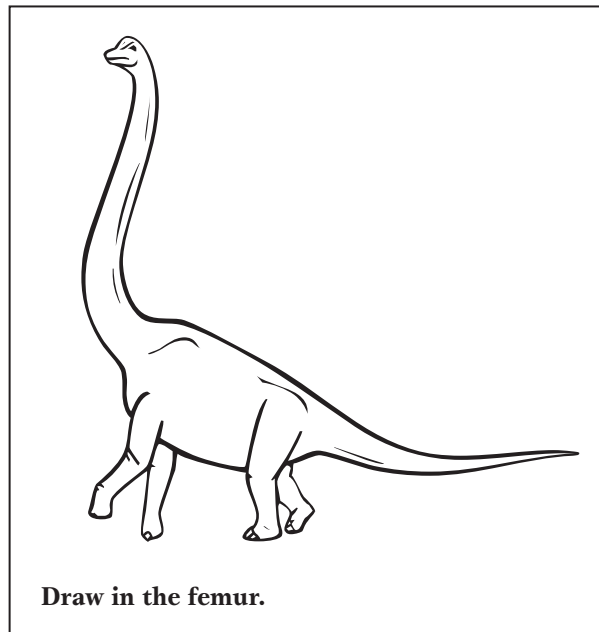
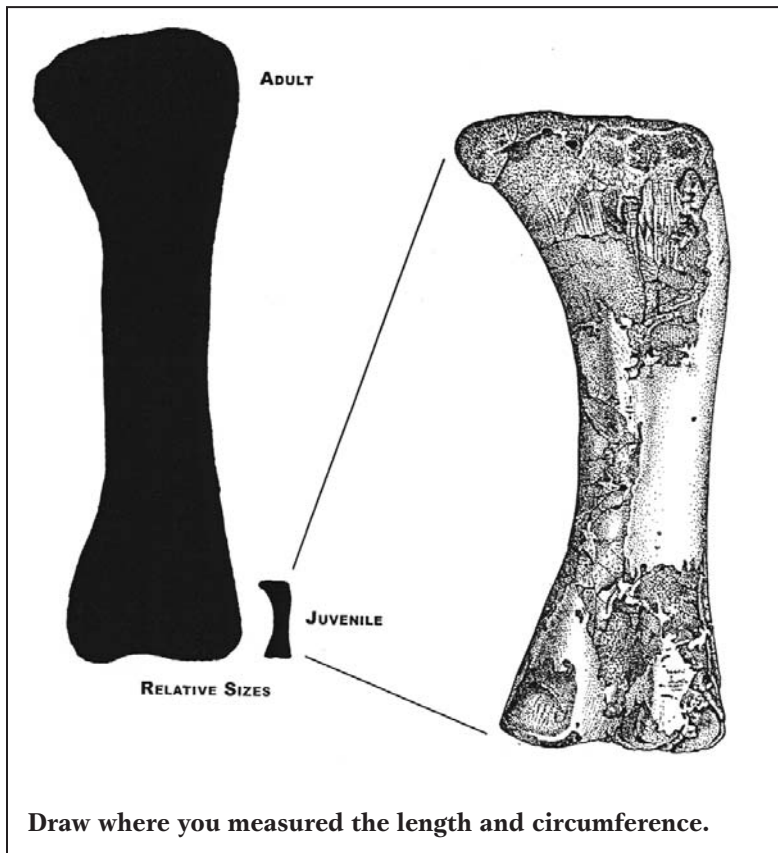
$$\frac{\text{Adult length}}{\text{Baby length}} = \text{How many times longer?}$$

CALCULATE how many times bigger the circumference of the adult femur is than the circumference of the baby femur.

How many times bigger is the circumference of the adult femur than the circumference of the baby femur?

$$\frac{\text{Adult femur circumference}}{\text{Baby femur circumference}} = \text{How many times bigger?}$$

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A femur is the upper bone in any back leg—for animals with bones! (Remember: you measured your femur at school.) Draw the femur inside the *Apatosaurus* outline. Be sure to draw it in the correct place!

**Check your measurements in another way:**

1. Use the baby *Apatosaurus* femur to measure the adult *Apatosaurus* femur.
  
2. How many times bigger is the adult *Apatosaurus*' circumference than the baby's circumference?

**HINT:** Use a string to compare the circumferences of the adult *Apatosaurus* to the baby. Wrap a string around the adult femur, then see how many times that same string wraps around the baby femur.