

Homework # 1 – Getting a grip on scale and geologic time

You may have already noticed that most technical books on dinosaurs, including your textbook, talk about height and weight in terms of meters and tons. To most Americans these terms do little to illuminate the actual size of the animals in question. So for this assignment you will be converting dinosaur sizes into alternate units of measurement.

1) Approximately how tall are you ? \_\_\_\_\_ feet \_\_\_\_\_ inches

Convert this into meters. First, determine your height in inches. \_\_\_\_\_ inches

Next turn inches into meters by multiplying by 0.0254  
(i.e. there are 0.0254 meters in an inch). \_\_\_\_\_ meters.

Now say that the average human is 5 feet 9 inches. Convert this into meters.

\_\_\_\_\_ meters. Are you taller or shorter ? Keep this in mind.

2) Say the average American weighs 150 pounds. Convert that into metric tons by multiplying the number of pounds by 0.0004536 (there are 2205 lbs. in a metric ton) \_\_\_\_\_ tons.

3) A *Tyrannosaurus rex* is about 14 meters long (head to tail) on average. How many average humans would have to line up head to toe to equal this height ? \_\_\_\_\_ humans. Go ahead and round up, sectional humans are very messy.

4) If the height (head to toe) of a *T. rex* is about 11 meters, how many average humans would have to stand on each others shoulders to see a *T. rex* eye to eye ( subtract 9 inches for each persons head). \_\_\_\_\_ humans.

5) If the average story in a building is 10 feet high, and a Brachiosaurus is 13 meters tall, the Brachiosaurus would be able to look over the top of a \_\_\_\_\_ story building.

6) An average *T. rex* weights about 7.5 tons. How many average humans would you have to pile up to equal the weight of a *T. rex* ? \_\_\_\_\_ humans.

- 7) A large African bull elephant weights ~5.6 tons or \_\_\_\_\_ average humans or \_\_\_\_\_ of a *T. rex*.
- 8) An Apatosaurus (“Brontosaurus”) weighs 28 tons. How many elephants would you have to pile together to equal the weight of an Apatosaurus ? \_\_\_\_\_ elephants.
- 9) Say your car weights 1500 pounds. This is equal to \_\_\_\_\_ tons. How many cars would you need to pile on top of each other to equal the weight of an elephant ? \_\_\_\_\_ cars.
- 10) How many cars would you need to pile up to equal the weight of
- A *Tyrannosaurus rex* (7.5 tons) \_\_\_\_\_ cars
- An Apatosaurus ( 28 tons) \_\_\_\_\_ cars
- A Stegosaurus (3.0 tons) \_\_\_\_\_ cars

Finally – fill in the following Geologic Time Scale (Label the three Eras and the four Periods) and put a big star next to the Era of the Dinosaurs.

EON	ERA	PERIOD	MILLIONS OF YEARS AGO
Phanerozoic	_____	Quaternary	1.6
		Tertiary	66
	_____	Cretaceous	138
		_____	205
		Triassic	240
		_____	290
	_____	Pennsylvanian	330
		Mississippian	360
		_____	410
		Silurian	435
		Ordovician	500
		_____	570
Proterozoic	Late Proterozoic Middle Proterozoic Early Proterozoic		2500
Archean	Late Archean Middle Archean Early Archean		3800?
Pre-Archean			