Review guide: Test 1, Earth Science with Bartonius Maximus.

The student can expect roughly 15-20 multiple choice questions and 4 "short answer/show me" questions.

Note: The multiple choice section will be administered on Monday, Sept 22 and the short answer questions will be administered on Tuesday, Sept 23. The short answer questions will be weighted at 5 pts. Each.

The student may prepare a set of prepared notes for extra credit. NOT TO USE DURING THE TEST, but instead do demonstrate that they have studied for the test (they must be handed in before the test begins). These notes will be worth UP TO 8 pts of test credit, depending on how detailed and organized they are.

Topics to expect include:

Measurement: The student will be presented with several objects to measure. Skills being testing include: Using the triple-beam balance, using the cm ruler and determining an objects density.

Energy: The student should be able to calculate an object's kinetic energy based on its mass and velocity. The student should be able to calculate how much work was done on an object (such as throwing a tennis ball) given the applied force and the distance over which is was thrown.

Heat: The student should be able to determine how much heat, measured in joules of a sample of water based on the change in temperature and the volume/mass of water. The student should be able to convert from Calories to calories to joules.

Temperature scales. The student should be able to describe the relationships between the three temperature scales described in class including the Farenheit Scale, the Celsius Scale and the Kelvin Scale.

Given a set of values (either measured or calculated) the student should be able to calculate the AVERAGE value.

The student should know the formulas for calculating the area and/or volume for squares, circles and cubes and cylinders.

Conversions between grams to kilograms, kilograms to pounds and pounds to newtons.

Space: what properties does empty Space have that we can measure?

How the concept of something's temperature relates to the motion of the particles within that system. Why it is that a gas mixture containing two different gasses (light and heavy) has such different average velocities for the two types of gasses?

Given a sample set of data from the Burning Corn Chip lab, **be able to determine the 'energy density'** of the corn chip.