THE SKELETAL SYSTEM

INTRODUCTION

The skeletal system consists of bone and cartilage, and functions in: support for soft tissues while providing the general frame for your body, protection of internal organs, movement of your entire body or specific body parts, storage of minerals such as calcium and phosphorus, production of blood cells, and energy storage in the form of lipid in yellow bone marrow of long bones.

The skeletal system can be divided into two main components for ease of description and discussion; the **AXIAL SKELETON** and the **APPENDICULAR SKELETON**. A "typical" human skeleton is comprised of 206 bones, although that number can vary usually as a result of incomplete fusion of the bones in the axial skeleton during development.

PROCEDURE

Identify the bones and their structures listed in the axial skeleton and appendicular skeleton sections below. Use the articulated, full skeletons in the lab as a reference for bone orientation and articulations. You will need to know all bones from the disarticulated skeleton. Images on the website are of either right side bones or left side bones; thus you will need to apply these examples to all the bones viewed in the lab. Identify the bones from the articulated skulls.

It will be a tremendous help to you if you understand what certain types of bone structures (bone markings) are called. Know these terms listed in TABLE 5.1 and TABLE 5.2

CARE AND USE OF LAB MATERIALS

1) Only examine the bones on your bench. If you want to view other bones you must move tone of the other benches.

2) There will be real human and model human bones for you to examine. The real human bones are fragile. Do not drop the bones, or hit them on any surface. Some of the real bones have already been damaged from improper handling.

3) Do not point at structures on the bones using pencils or pens. Many of the bones are already marked with ink or pencil lead. Avoid this mistreatment of the bones.

THE AXIAL SKELETON

The axial skeleton minimally consists of 80 bones, but this number can increase if an individual has sutural (wormian) bones or if the metopic suture persists resulting in two frontal bones. Components of the axial skeleton include the skull, vertebrae, sternum, ribs, and hyoid. The middle ear bones are really not part of the axial skeleton, but are often included for convenience.

Identify the bones of the axial skeleton and their markings from TABLES 5.3 - 5.8. You will not need to know the ribs, hyoid, or the middle ear bones for this section.

THE APPENDICULAR SKELETON

The appendicular skeleton is composed of the pectoral girdle, upper extremity bones, pelvic girdle, and lower extremity bones. This component of the skeletal system consist of 126 bones; 63 bones are one each side of your body. Identify the bones of the appendicular skeleton and their markings from TABLES 5.9 – 5.12.