

THE SKELETON

The skeleton of the fetal pig has not yet fully *ossified*, or hardened, to bone. Much of the skeleton is still composed of cartilage. It is therefore best to obtain an actual mounted skeleton for study. It is also possible to obtain adult bones or joints of adult pigs from a local butcher shop. In addition, diagrams of the adult pig skeleton are here included. Study these carefully.

The human skeleton, fully mounted, should also be provided. A fully labeled diagram is included. Throughout the study of the pig, compare its structures to those of man. You will note that the bones are named identically. Generally, it is only the number of bones that differ. Their arrangement in the various mammals is determined by differences in the method of support and locomotion.

Feet

Observe the position of the *feet* in the diagram of the adult pig. While man walks on the sole of the foot: *plantigrade* locomotion, the pig walks on his toes: *digitigrade* locomotion.

The pig belongs to the order Artiodactyla, or even-toed hoofed (ungulate) mammals. Note that the feet are narrow and the foot bones are separate, not fused. The first digit is absent. The middle two are flattened (they are the third and fourth digits) and have hooves. The lateral (side) toes represent the second and fifth digits.

Raise your fetal pig to the walking position. Orient one of the feet of the pig in the walking position. Which toes touch the ground? Explain by noting the position of the foot and the digit number.

Teeth

An animal's diet is revealed by its *dentition* pattern. This refers to the types of teeth the animal possesses, their number, and arrangement.

Sharp and pointy *incisors*, *canines*, and *pre-molars* predominate in *carnivorous* animals such as the dog, cat, tiger, and others. *Herbivorous* animals such as horses and cows, possess incisors for shearing grass and other vegetable matter. These are followed by rows of large flattened *molars* with broad grinding surfaces toward the rear of the mouth.

The pig and human are *omnivorous*, this diet consisting of both animal and plant matter. It combines sharp pointy incisors with grinding pre-molars and molars.

The dental formulas of the adult pig and man are compared below:

$$\text{Pig} - \quad I \frac{3}{3}, C \frac{1}{1}, P \frac{4}{4}, M \frac{3}{4}$$

$$\text{Man} - \quad I \frac{2}{2}, C \frac{1}{1}, P \frac{2}{2}, M \frac{3}{3}$$

The letters refer to the types of teeth:

I — Incisor, C — Canine, P — Premolar, M — Molar