



## **SKELETAL SYSTEM OF THE HORSE**

The horse's skeleton is composed of approximately 210 individual bones (excluding those in the tail). The skeleton gives support for the muscles, protection for the internal organs, and possesses the necessary mobility of its parts for the horse to move at various speeds or lie down or graze.

Varying degrees of mobility are provided by differing types of joints; for example, that between the femur and tibia, forming the 'stifle', gives great mobility, while those between two vertebrae in the backbone allow restricted movement only.

The bones forming all joints are capped with cartilage, which is softer than bone and can make good the effects of wear and tear at the surface. The joint is completed by a capsule which produces synovia ( joint oil) to lubricate the joint surfaces, and it is strengthened by ligaments, ie fibrous bands connecting the bones on either side of the joint.

The way in which a joint can move is controlled by the shape of the joint surface and the position of the ligaments and other supporting structures which pass over it. The fetlock for example can be flexed further than it can be extended; the 'knee' can only be flexed whereas the stifle joint can be moved, to some extent, in several directions.

The skeleton has several examples of nature's way of adapting structure to meet particular requirements or function. The broad flat surface of the scapula or shoulder blade and transverse processes of the lumbar vertebrae, provide ample space for the attachment of the powerful muscles required to move the fore and hind limbs. The special features of the skull are the relatively elongated face providing space for the teeth and their roots; and the orbits housing the eyes which are placed well above ground level when the horse is grazing. These provide it with a greater area of vision to look out for impending danger.

## ANSWER KEY FOR SKELETON OF THE HORSE

1) Poll. (2) Atlas.(1st cervical vertebra) (3) Axis. (4) 7th (last) cervical vertebra. (5) Scapular Cartilage. (6) 18th (last) Thoracic vertebra. (7) 6th (last) lumbar vertebra. (8) Sacrum. (9) 1st coccygeal vertebra. (10) Pelvis. (11) Femur. (12) Fibula. (13) Tibia. (14) Calcaneus. (one of the tarsal bones forming the point of the hock) (15) Hind splint bone. (16) Hind cannon (metatarsal 3) (17) Sesamoids. (18) Navicular. (19) 3rd phalanx (pedal or coffin bone) (20) 2nd phalanx (short pastern) (21) 1st phalanx (long pastern) (22) Tarsal bones (hock or ankle) (23) Patella. (24) 18th (last) rib. (25) Costal cartilage. (26) Xiphoid cartilage. (27) Ulna. (28) Fore splint bone. (29) Sesamoids. (30) Navicular. (31) Fore cannon (metacarpal 3) (32) Carpal bones. (technically the wrist but always called the knee) (33) Radius. (34) Humerus. (35) Sternum. (36) Scapula. (37) Mandible. (38) Diastema. (bar) (39) Canine. (40) Incisors. (41) Cheek teeth. (42) Facial crest. (43) Orbit. (44) Cranium.