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MATRIC NO. : 18/mhs03/017

DEPARTMENT: HUMAN ANATOMY

LEVEL: 300

COURSE TITLE : ANIMAL HANDLING AND COMPARATIVE MAMMALIAN GROSS ANATOMY

WHAT IS COMPARATIVE ANATOMY?

Comparative anatomy is the study of similarities and differences in the anatomy of different species. It is closely related to evolutionary biology. it indicates that organisms share a common ancestor.

It also assists scientists in classifying organisms based on similar characteristics of their anatomical structures. A common example of comparative anatomy is the similar bone structures in forelimbs of cats, whales, bats, and humans. All of these appendages consist of the same basic parts; yet, they serve completely different functions.

CRITERIA FOR CARING FOR LABORATORY ANIMALS

VENTILATION :
Optimum air quality in laboratory animal facilities is essential for the general health and well-being of researchers, animal caregivers, and the animals, as well as for the integrity of the studies.

TEMPERATURE AND HUMIDITY :
Maintenance of body temperature within normal circadian variation is necessary for animal well-being. Animals should be housed within temperature and humidity ranges appropriate for the species, to which

they can adapt with minimal stress and physiologic alteration.

ILLUMINATING AND LIGHT SCHEDULE :

Light can affect the physiology, morphology, and behavior of various animals. Potential photo stressors include inappropriate photoperiod, photo-intensity, and spectral quality of the light . For practical considerations due to common work hours , researchers should be aware of lighting schedules used in the rodent housing rooms (commonly 12 hours light :12 hours dark or 14 hours light : 10 hours dark) . If researchers turn on the light during the animals dark period the disruption of the light schedule may cause animals to be perturbed , which may have effects on the breeding performance and on circadian rhythms .

NOISE MODERATION : Because changes in patterns of sound exposure have different effects on different animals, personnel should try to minimize the production of unnecessary noise. Excessive and intermittent noise can be minimized by training personnel in alternatives to noisy practices, the use of cushioned casters and bumpers on carts, trucks, and racks, and proper equipment maintenance (e.g., castor lubrication). Radios, alarms, and other sound generators should not be used in animal rooms unless they are part of an approved protocol or enrichment program. Any radios or sound generators used should be switched off at the end of the working day minimize to associated adverse physiologic changes

3. SIMILARITIES BETWEEN AMPHIBIANS (FROG) AND MAN

1. They both have mouth
2. The presence of esophagus in both
3. The presence of the tongue in both
4. The presence of the teeth in in both
5. Presence of the small intestine in both
6. Presence of the liver in both
7. Presence of gallbladder in both
8. The presence of the large intestine both

DIFFERENCES BETWEEN THE DIGESTIVE SYSYTEM OF AMPHIBIAN (FROG) AND MAN

FROG	MAN
1. The tongue is very sticky	The tongue is not sticky
2. It has shorter intestines and the two parts of the intestine are the duodenum and the ileum .	Man has a longer small intestine and the three parts of the intestine are the duodenum , jejunum, and the ileum
3.The frog swallow their prey without chewing	Chewing is a mechanism of digestion in humans
4.Frogs have two sets of theeth;maxillary teeth and	Man has one set of teeth in their oral cavity

the vomerine teeth	
5.During deglutition frogs do not blink or close their eyes	This mechanism is not seen in humans
6.The absorption of nutrient in frogs occurs in the ileum	The absorption of nutrients of man occurs in the jejunum
7.Elimination of indigested food occurs in the cloaca	Elimination of indigested food occurs through the rectum