

PIG LAB Pt 2 - EXTERNAL EXAMINATION

Study of Mammalian Anatomy**Through the Dissection of The Fetal Pig****LAB PART 1 - THE FETAL PIG -The External Examination****--Be sure to Number all questions & answers**

Procedure 1 Examine the feet of the fetal pig. In contrast to humans, the pig walks on the tips of its toes. Pigs are closely related to deer, sheep, and cows; all are hoofed animals having an even number of toes. Examine the toes of your fetal pig.

Observation 1 Does the fetal pig have an even number of toes?

Observation 2 How many toes per foot does the fetal pig have?

Observation 3 Would it appear that the pig walks on all of its toes? **Explain your answer.**

Procedure 2 Open the mouth and find the tongue and teeth.

Observation 4 How many teeth do you find?

Procedure 3 Locate the umbilical cord. With a razor blade make a cross sectional cut of the umbilical cord but **DO NOT** cut it close to the body; make the cut further down the umbilical cord.

Procedure 4 Examine the umbilical cord very closely in cross section and see if you can find 4 tube-like structures found within the umbilical cord. (Ask Mr. C if you can not find these)

Observation 5 Name the 4 structures that are found within the umbilical cord that allow it to carry out its function. (Answer in Modern Biology, page 634)

Observation 6 Make a drawing of the umbilical cord in cross section showing the 4 structures. **TITLE and LABEL YOUR DRAWING**

Procedure 5 Determine the sex of your specimen. The *males* are identified by the presence of two sac-like swellings situated posterior to the hind legs. These are the scrotal sacs containing the testes. The urogenital opening is just posterior to the umbilical cord. It is also possible to feel the penis, a long muscular tube lying under the skin and passing from the urogenital opening posteriorly between the hind legs.

In the *female*, the urogenital opening is located just below the anus and is further identified by a small, fleshy pointed projection, the genital papilla.

Observation 7 What is the sex of your specimen?

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Procedure 6 The period of internal development before the fetal pig is born is 115 to 120 days. (There are approximately 7-12 pigs in a litter.) The number of days of development can be determined by measuring the length of the body in centimeters. NOTE: Measure from the nose to the rump - DO NOT measure to the end of the tail.

1 cm - 21 days of development

4 cm - 56 days

10 cm - 70 days

22 cm - 100 days

24 cm - 105 days

26 cm - 110 days

28 cm - 115 days

30 cm - 120 days (full term)

Observation 8 What is the length of your fetal pig in cm?

Observation 9 How many days of development for your fetal pig? **Answer Carefully and Accurately**

Answer the following questions in your lab under Questions

Number all Answers (Write in full sentences)

Questions:

- 1 Earlier in the lab you should have noticed that the pig has 4 toes and that the 2 outside toes do not touch the ground, thus they are vestigial organs. Explain what a vestigial structure is. (p 165 Modern Biology)
- 2 What is the most common vestigial structure in humans that often requires surgical removal? (P 165 Modern Biology)
- 3 Is the fetal pig's circulatory system a part of or separate from that of its mother? (p. 664 Heath Biology)
- 4 Explain what no longer occurs when the umbilical cord is cut. (P 667 Heath Biology)
- 5 Explain what materials and in what direction they pass as they travel through the umbilical cord (the connecting link between the placenta and the unborn mammal) (see page 522 Heath Biology) Give a complete answer
- 6 List some of the more important characteristics of mammals. (Consult Modern Biology page 501)

References - Consult Your lab partner(s), the lab reading/Hand Outs and/or Mr. C