

Name: _____ ID#: _____

NORTH CENTRAL HIGH SCHOOL NOTE & STUDY GUIDE

X Biology II

FETAL PIG DISSECTION MANUAL

Additional resources available at
www.mrdocsonlinelab.com

Grade Chart: (For Teacher Use Only)

Module	Assignment	Score	Points (Out of)
1	ACT: Anatomical Reference Sheet		20
2	DISSECTION: External Anatomy		20
3	DISSECTION: Respiratory System		20
4	DISSECTION: Circulatory System		20
5	DISSECTION: Digestive System		20
6	DISSECTION: Excretory & Reproductive Systems		20
7	DISSECTION: Nervous System		20
8	Exploratory Dissection & Review		

ACT: Anatomical Cheat Sheet

Objective: The purpose of this activity is to help you understand the orientation of mammalian anatomy. This will also be of great help when conducting dissections (**SO DON'T LOOSE IT!**) (Indiana State Academic Standards: Biology, 1.15)

Instructions: Fill in each section of the chart below with the correct information as shown in the first example. In the "Biped" and "Quadruped" boxes, use either arrows or shading to show the direction of the term.

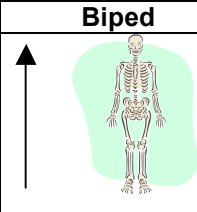
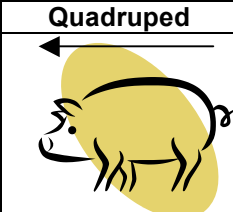
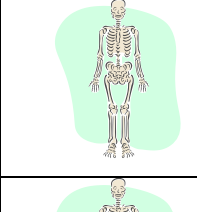
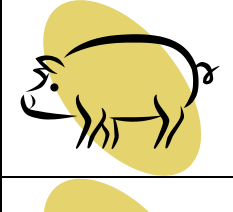
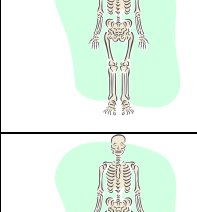
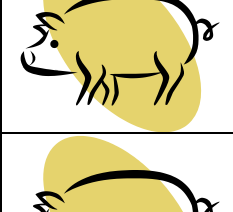
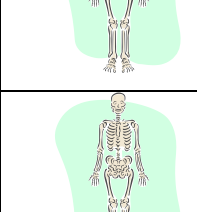
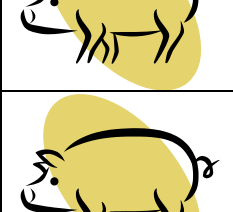
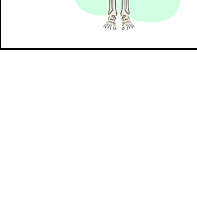

Define: (Define the following terms.)

Anatomical Position:

Transverse Plane:

Sagittal Plane (Lateral Plane):

Coronal Plane (Frontal Plane):

Term	Definition	Biped	Quadruped	Example (Sentence)
Superior (Cranial)	Toward the head, or upper part of the body.			The neck is superior to the shoulders.
Inferior (Caudal)				
Anterior				
Posterior				
Ventral				

Dorsal					
Medial					
Lateral					
Proximal					
Distal					
Superficial					
Deep					

Disclaimer: (Must be signed for credit of this assignment.)

The purpose of doing the fetal pig dissection is to provide for you a greater understanding of how the mammalian, and more specifically, the human body functions. It is very important that all dissection labs be conducted in a professional manner. My signing below, you acknowledge your responsibilities in the lab during the dissection procedures. Furthermore, your signature serves as a promise that you will follow all written and verbal instructions from the teacher, refrain from disruptive or potentially dangerous behavior, adequately maintain and clean the lab space, and treat the specimens with care and respect.

_____ **Student Signature**

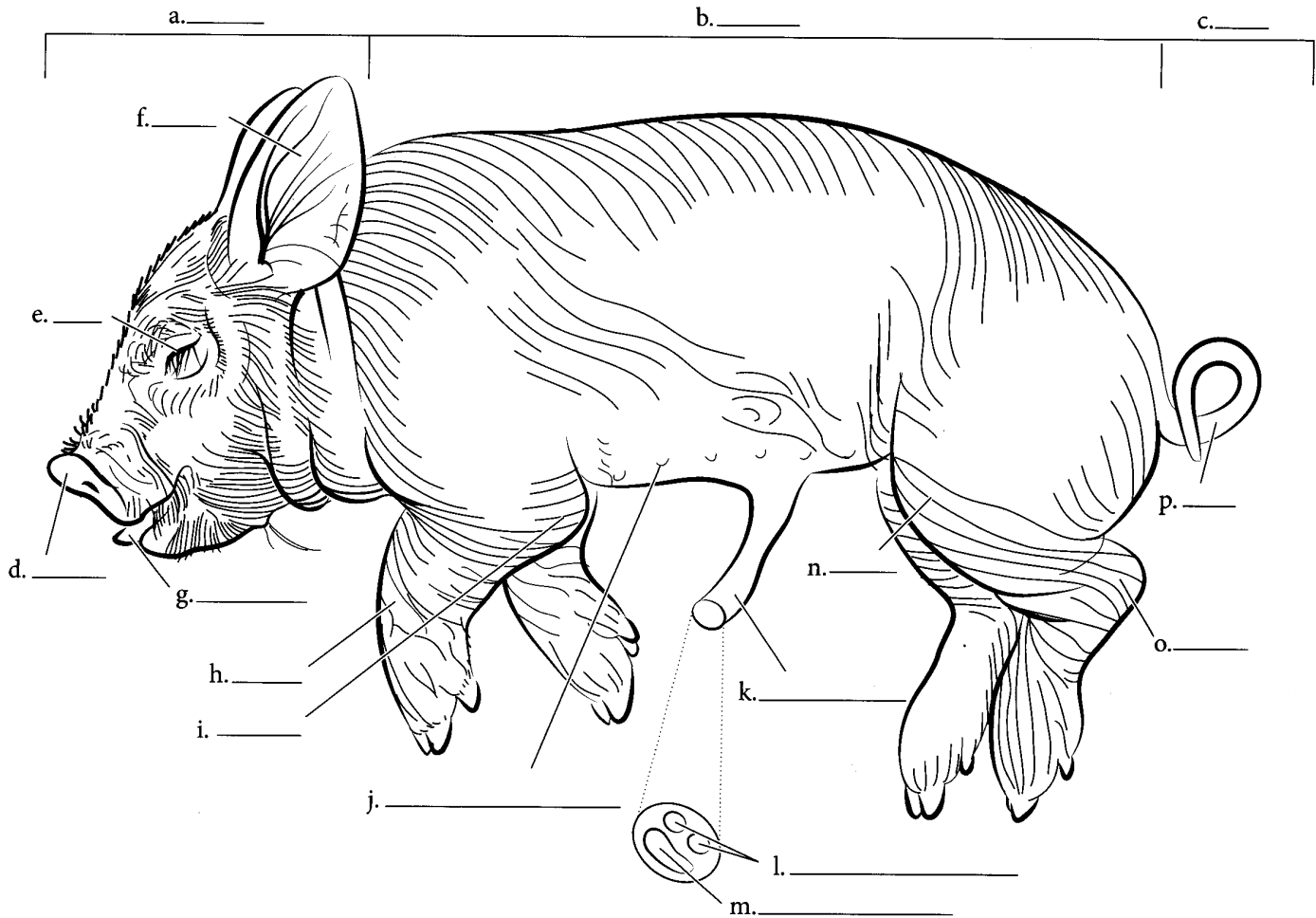
_____ **Printed Name**

GRADE: _____/20

LAB: External Dissection of a Fetal Pig

Diagram 1, External Lateral View: Label the following diagram(s) using the word bank provided.

WORD BANK			
Tail	Umbilical Artery	Wrist	Snout
Knee	Umbilical Cord	Head Region	Tounge
Ankle	Mammary Papilla	Trunk Region	External Ear (Pinna)
Umbilical Vein	Elbow	Tail Region	Eye

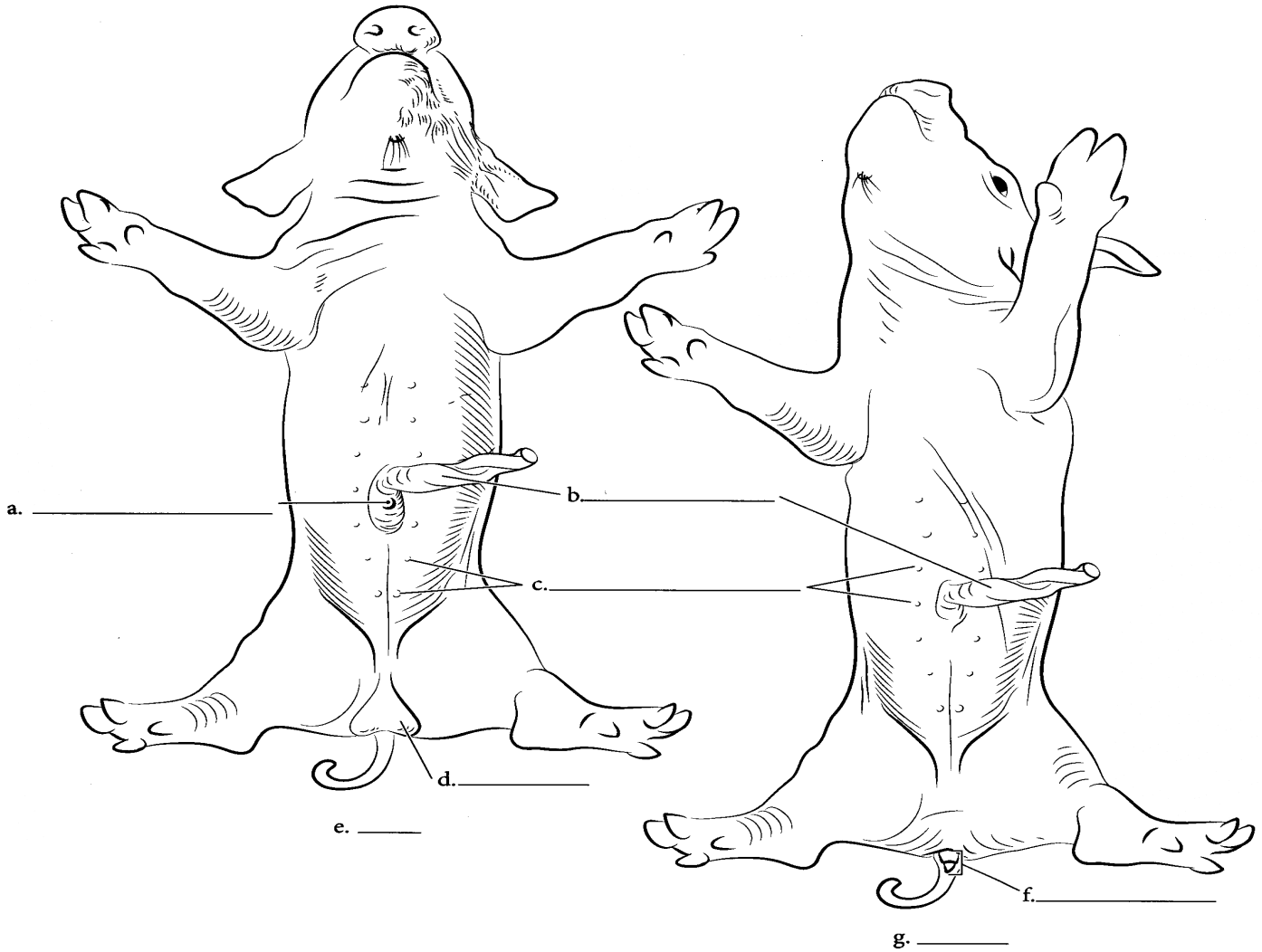


A:	I:
B:	J:
C:	K:
D:	L:
E:	M:
F:	N:
G:	O:
H:	P:

Diagram 2, External Ventral View: Label the following diagram(s) using the word bank provided.

WORD BANK

Female	Urogenital Papilla
Male	Umbilical Cord
Scrotal Sac	Mammary Papillae
Urogenital Opening	

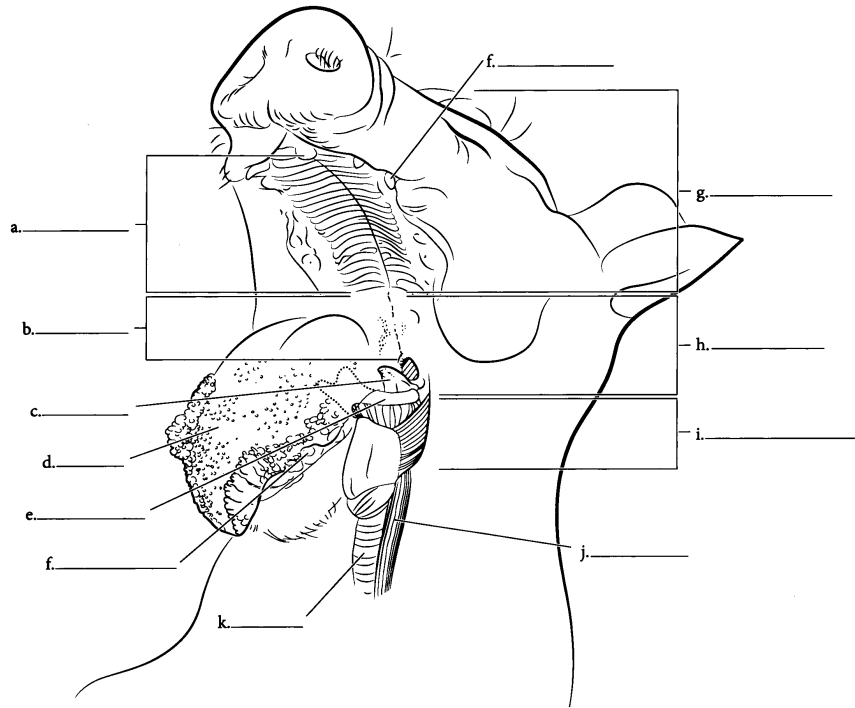


A:	E:
B:	F:
C:	G:
D:	

LAB: Respiratory System Dissection of a Fetal Pig

Diagram 1, Oral Cavity, Ventral View & Diagram 2, Oral Cavity, Lateral View: Label the following diagram(s) using the word bank provided.

WORD BANK	
Trachea	Soft Palate
Laryngopharynx (Region)	Canine Tooth
Oropharynx (Region)	Epiglottis
Nasopharynx (Region)	Tongue
Hard Palate	Esophagus



A:
B:
C:
D:
E: Hyoid Bone
F:
G:
H:
I:
J:
K:

A:
B:
C:
D:
E:
F: Hyoid Bone
G:
H:
J:

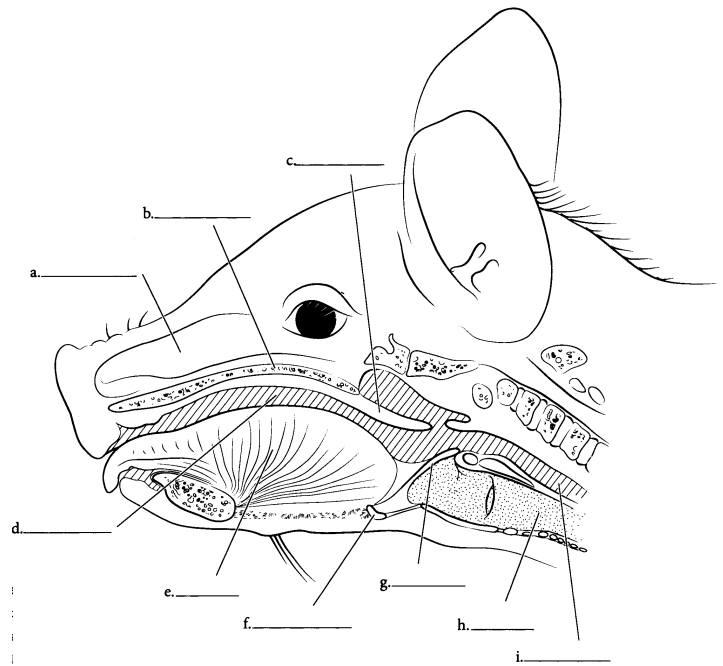
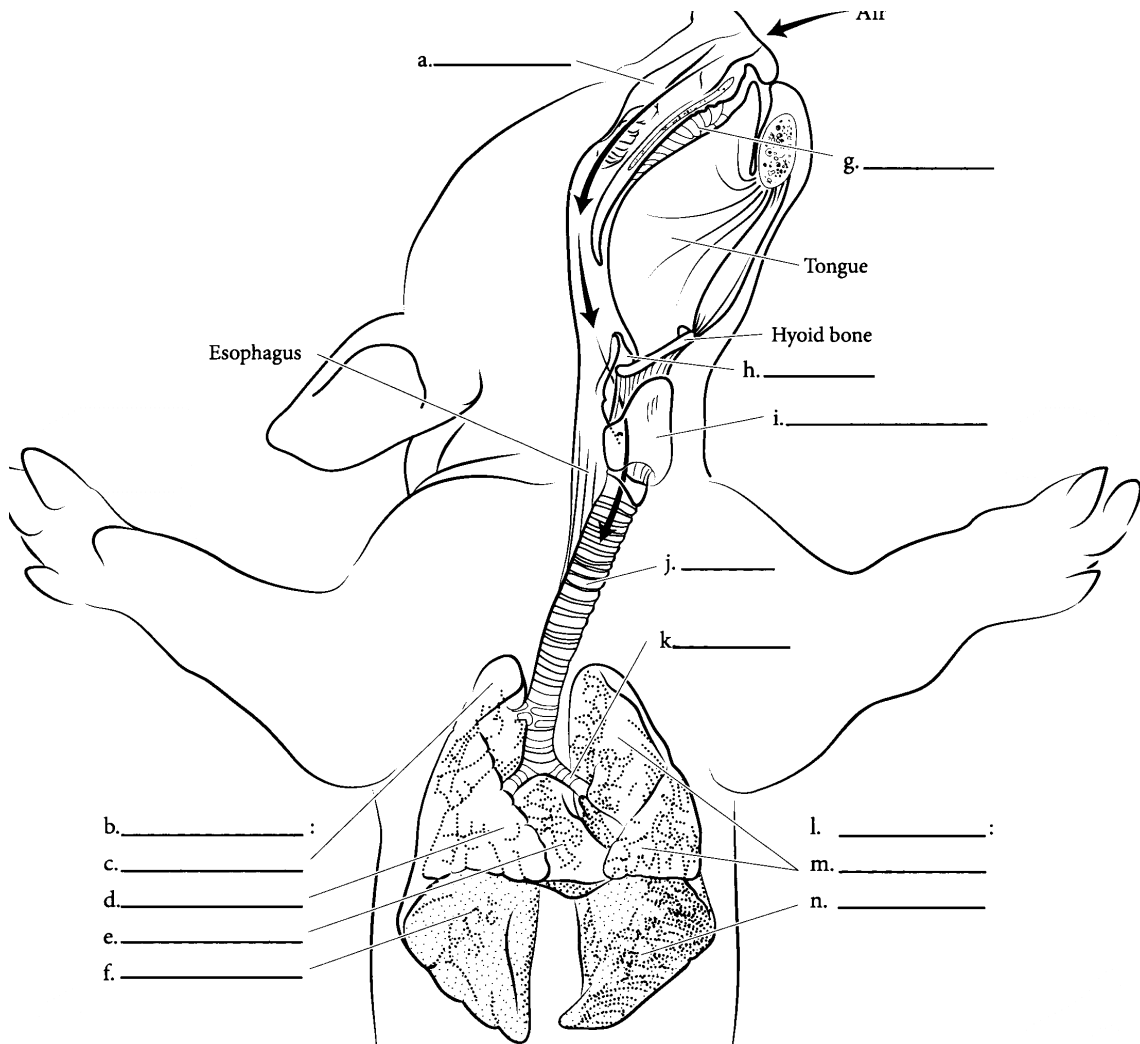


Diagram 3, Thoracic Cavity, Ventral View: Label the following diagram(s) using the word bank provided.

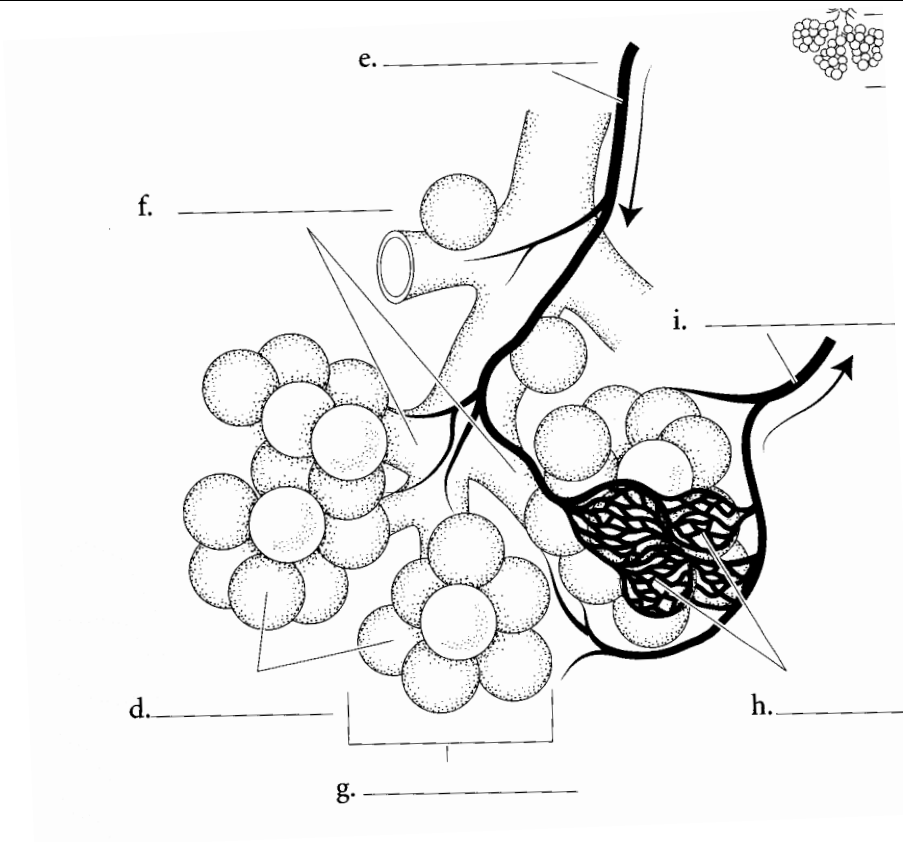
WORD BANK	
Right Lung	Nasal Cavity
Left Lung	Bronchus
Epiglottis	Thyroid Cartilage
Oral Cavity	Trachea



A:	H:
B:	I:
C: Cranial Lobe	J:
D: Middle Lobe	K:
E: Caudal Lobe	L:
F: Accessory Lobe	M: Cranial Lobe
G:	N: Caudal Lobe

Diagram 4, Lungs, Ventral View & Diagram 5, Bronchi and Alveoli, Magnified: Label the following diagram(s) using the word bank provided.

WORD BANK	
Pulmonary Vein	Alveoli
Pulmonary Artery	Alveolar Ducts
Capillaries	Alveolar Sac



D:	G:
E:	H:
F:	I:

Analysis: (Complete sentences are REQUIRED!)

4. Trace the flow of air into and out of the body using the anatomical structures as reference.

5. What is the function of the epiglottis? Why is it important?

6. Explain why breathing is considered a passive process and how it works.

Illustrations From: McCann, S. & Tillotson, J. (2007) *Fetal Pig Coloring Book: A Laboratory Manual*. Kaplan Publishing, New York, NY. (ISBN-13: 978-1-4195-9425-6)

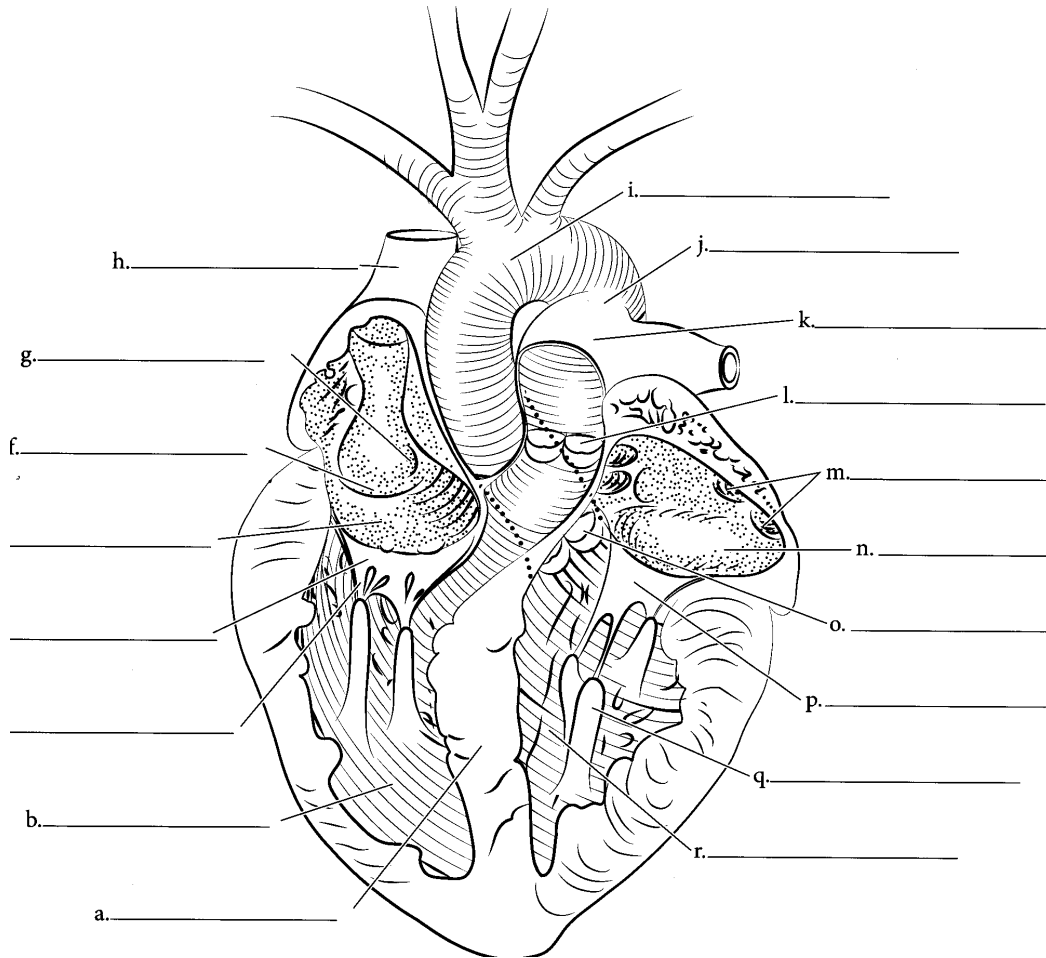
GRADE: _____/20

LAB: Circulatory System Dissection of a Fetal Pig

Diagram 1, Heart, Lateral Cross Section: Label the following diagram(s) using the word bank provided.

WORD BANK

Aorta	Superior Vena Cava	Left Ventricle	Aortic Semilunar Valve
Left Pulmonary Artery	Inferior Vena Cava	Bicuspid (Left AR) Valve	Pulmonary Semilunar Valve
Left Pulmonary Vein	Right Atrium	Tricuspid (Right AV) Valve	Right Pulmonary Vein
Right Pulmonary Artery	Left Atrium	Septum	Right Ventricle



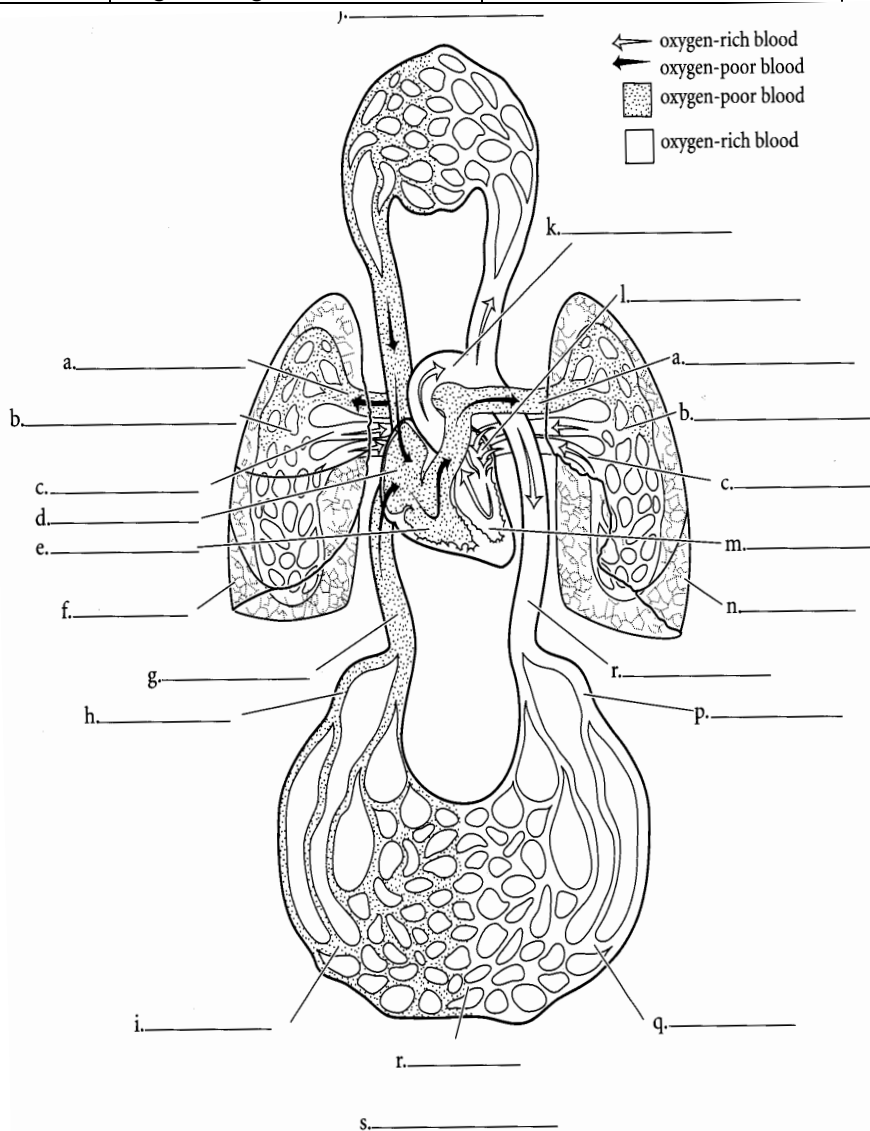
A:	J: Ductus Arteriosus
B:	K: Pulmonary Trunk
C: Chordae Tendineae	L:
D:	M:
E:	N:
F: Caudal Vena Cava Aperture	O:
G: Foramen Ovale	P:
H:	Q: Papillary Muscle
I:	R:

Diagram 2, Blood Circulation: Label the following diagram(s) using the word bank provided.

WORD BANK

Aorta	Capillary	Left Ventricle	Systemic Circulation (2)
Pulmonary Artery	Artery	Left Atrium	Pulmonary Circulation
Pulmonary Vein	Right Atrium	Right Ventricle	Right Pulmonary Vein
Vena Cava	Left Lung	Right Lung	Vein

A:
B:
C:
D:
E:
F:
G:
H:
I: Venule
J:
K:
L:
M:
N:
P:
Q: Arteriole
R:
S:



LAB: Digestive System Dissection of a Fetal Pig

Diagram 1, Abdominal Cavity, Ventral View: Label the following diagram(s) using the word bank provided.

WORD BANK

Heart	Esophagus (2)	Liver	Umbilical Vein
Thyroid Cartilage	Trachea	Stomach	Umbilical Cord
Right Lung	Bladder	Spleen	Left Kidney
Left Lung	Superior Vena Cava	Large Intestine (Colon)	Right Kidney
Small Intestine			

A:
B:
C:
D:
E:
F: (dotted)
G:
H:
I: Brachiocephalic Trunk
J: Right Subclavian Artery
K: Right Common Carotid Artery
L:
M: Left Common Carotid Artery
N:
O:
P: Left Subclavian Vein
Q:
R:
S:
T:
U:
V:
W:

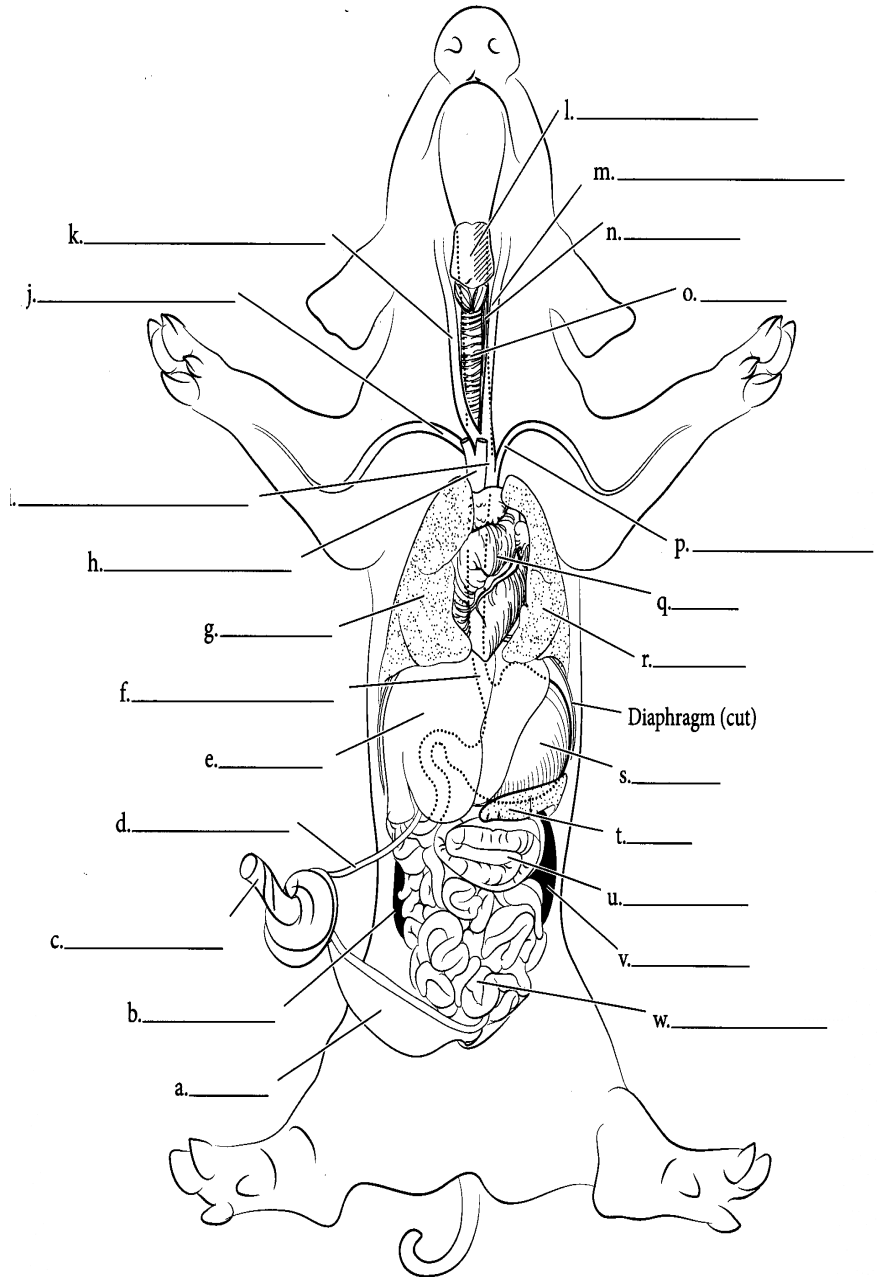
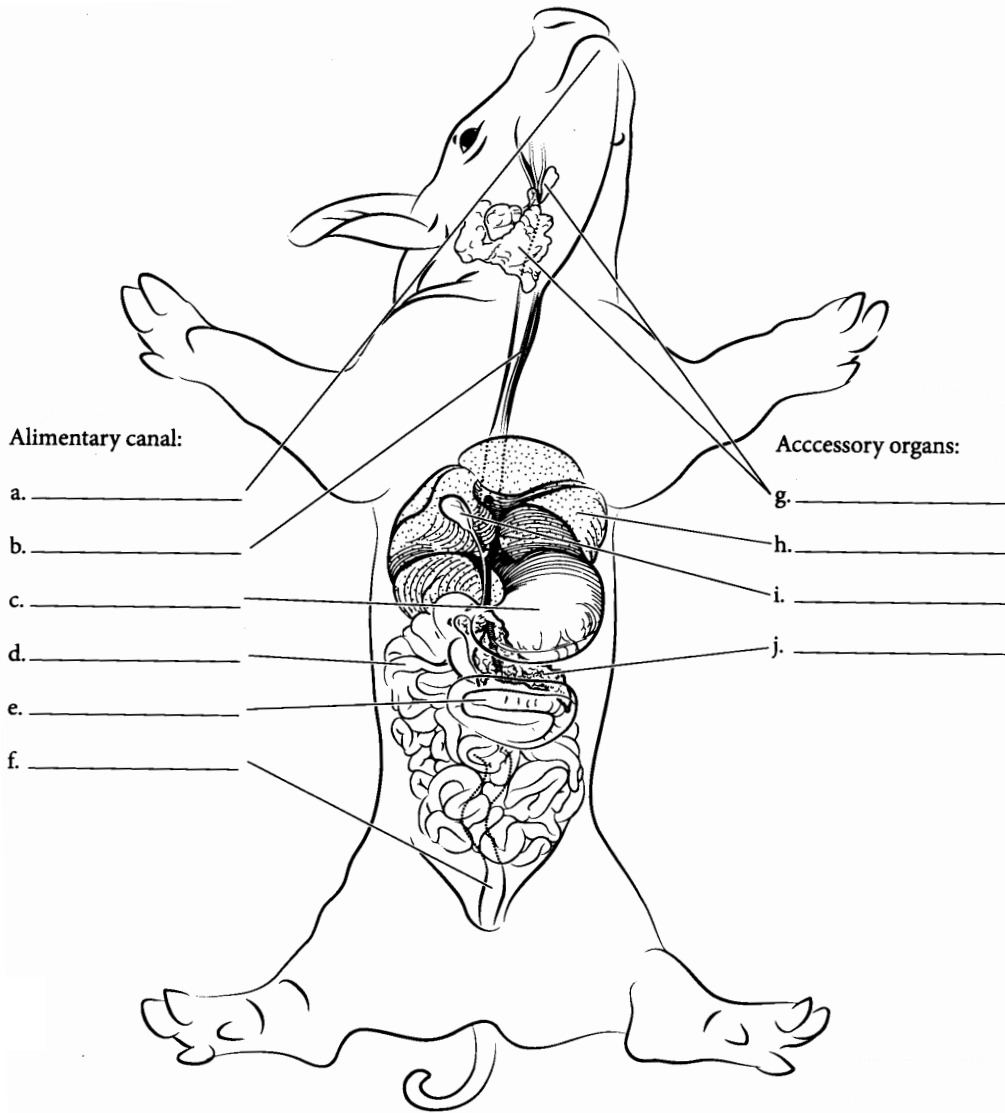


Diagram 2, Alimentary Canal, Ventral View: Label the following diagram(s) using the word bank provided.

WORD BANK

Large Intestine (Colon)	Salivary Glands	Liver	Pancreas
Rectum	Esophagus	Gal Bladder	Small Intestine
Stomach	Mouth		



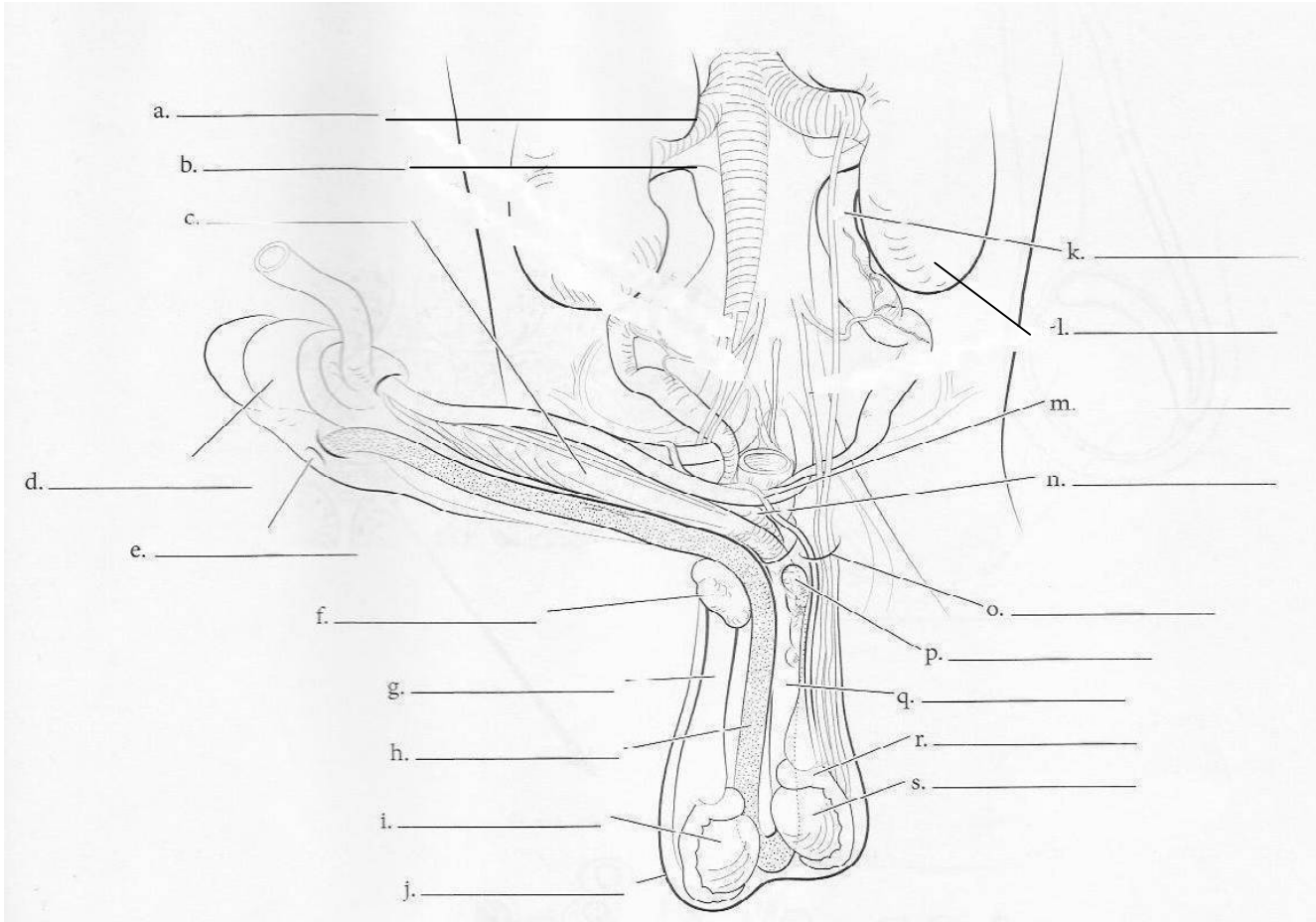
A:	F:
B:	G:
C:	H:
D:	I:
E:	J:

LAB: Excretory & Reproductive System Dissection of a Fetal Pig

Diagram 1, Male Urogenital System, Ventral: Label the following diagram(s) using the word bank provided.

WORD BANK

Scrotum	Bulbourethral Gland	Urethra	Epididymis
Seminal Vesicle	Vas (Ductus) Deferens	Urogenital Opening	Right Testis
Urinary Bladder	Umbilical Cord	Penis	Left Testis
Ureter	Kidney	Renal Artery	Renal Vein

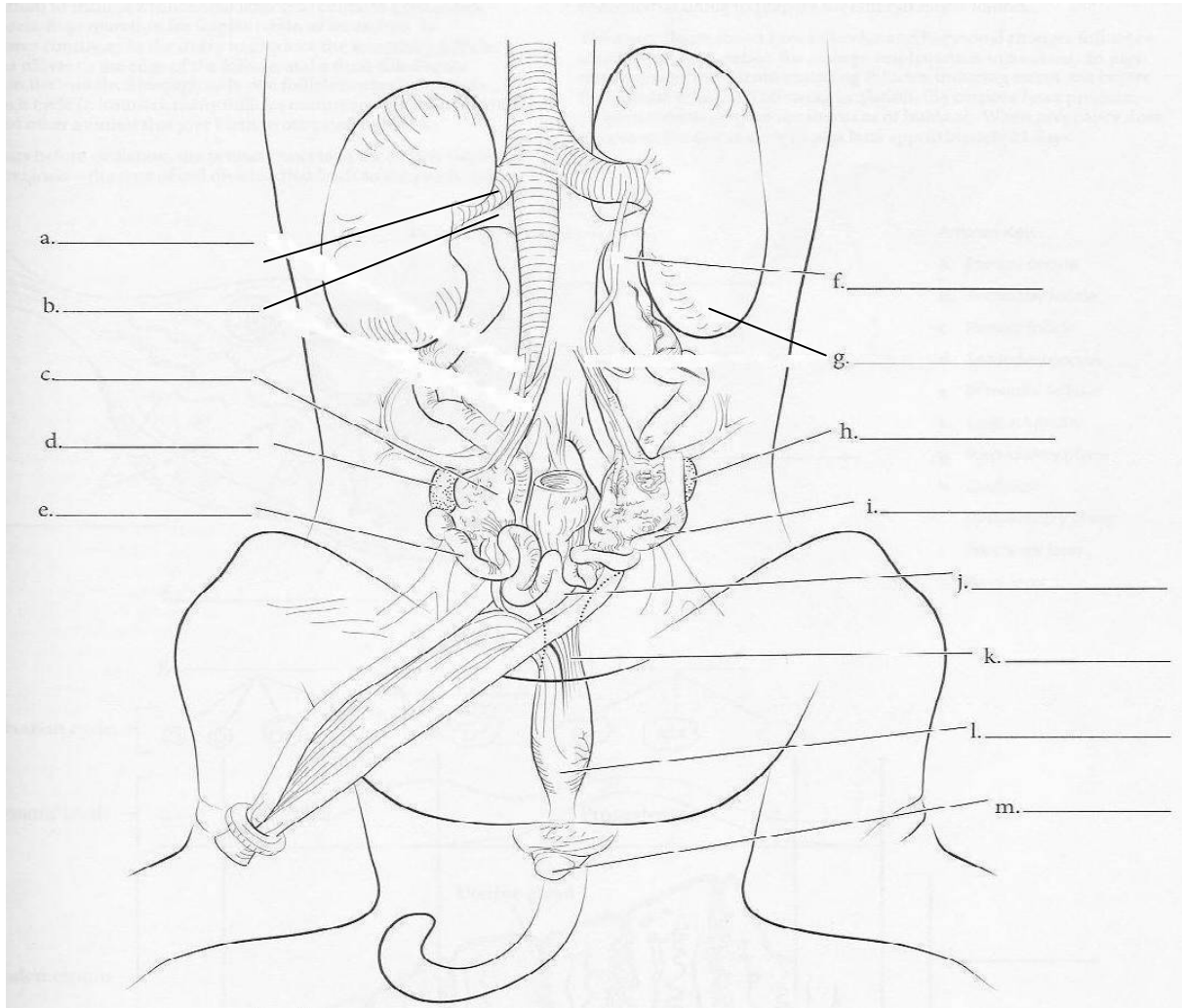


A:	K:
B:	L:
C:	M:
D:	N:
E:	O: Inguinal Canal
F: Preputial Gland	P:
G: Spermatic Cord	Q:
H:	R:
I:	S:
J:	

Diagram 2, Female Urogenital System, Ventral: Label the following diagram(s) using the word bank provided.

WORD BANK

Urogenital Papilla	Vagina	Uterus	Left Horn of Uterus
Kidney	Right Ovary	Right Horn of Uterus	Left Ovary
Renal Artery	Renal Vein	Ureter	



A:	H:
B:	I:
C: Mesoalpinx	J:
D:	K:
E:	L: Urogenital Sinus
F:	M:
G:	

LAB: Nervous System Dissection of a Fetal Pig

Diagram 1, Brain & Spinal Cord ,Ventral View: Label the following diagram(s) using the word bank provided.

WORD BANK

Brachial Plexus (Forelimb)	Spinal Cord	Cerebellum	Lumbar Nerves
Intercostal Nerves	Spinal Nerves	Sacral Nerves	Thoracic Nerves
Lumbo-Sacral Plexus	Cervical Nerves	Cerebrum	

A:
B:
C:
D:
E:
F:
G:
H:
I:
J:
K: Dorsal Root Ganglia
L:

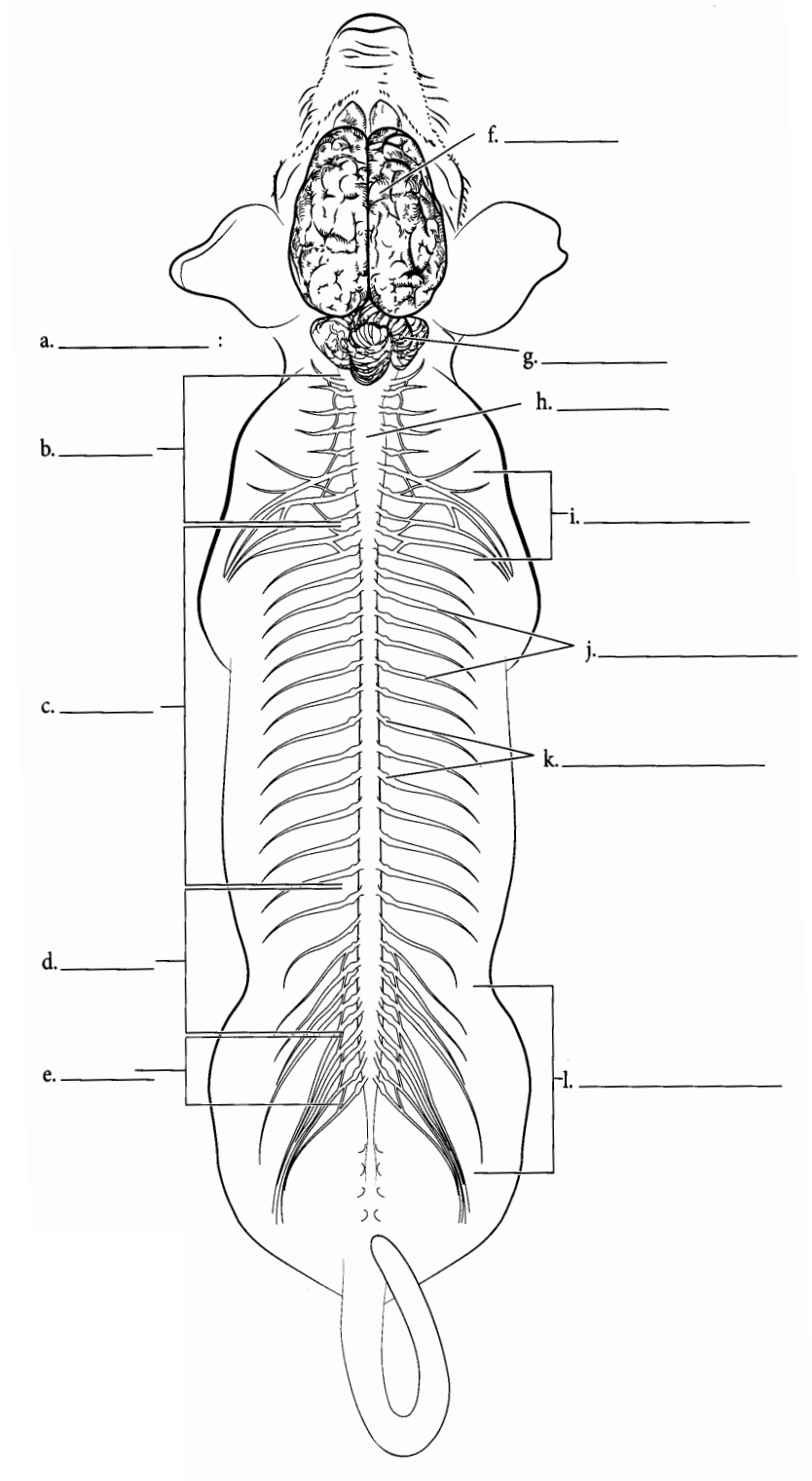
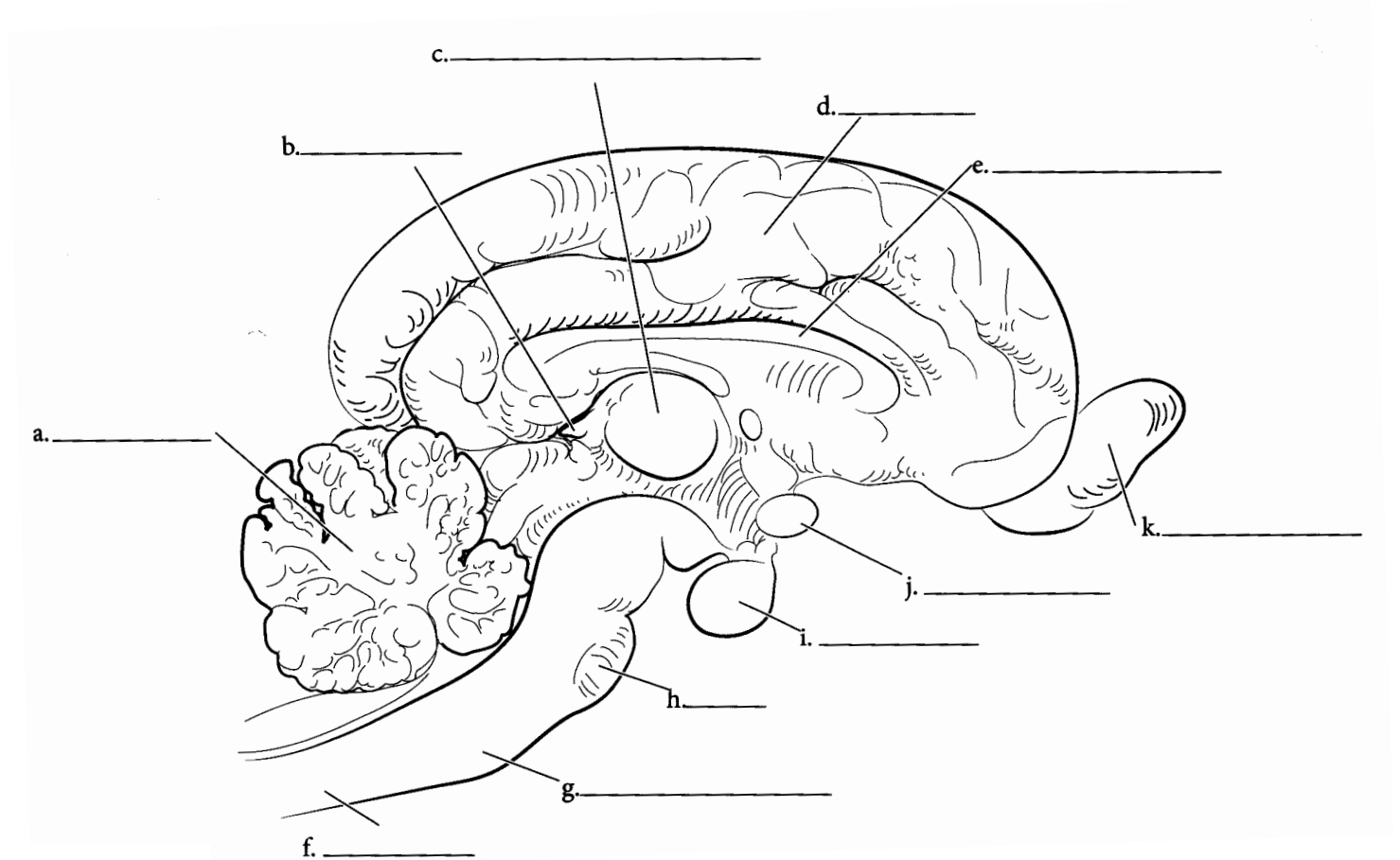


Diagram 2, Brain, Lateral Cross-Section: Label the following diagram(s) using the word bank provided.

WORD BANK

Spinal Cord	Cerebellum	Thalamus	Medulla Oblongata
Olfactory Bulb	Pineal Body	Corpus Callosum	Cerebrum
Optic Chiasma	Pons	Pituitary Gland (Mamillary)	



A:	G:
B:	H:
C:	I:
D:	J:
E:	K:
F:	

LAB: Exploratory Dissection of Fetal Pig Anatomy/Review

INSTRUCTIONS: Complete the chart by identifying the location, organ system, function, and tips for identification for each of the structures listed.

STRUCTURE	Location and Identification	Organ System	Function
External Nares			
Hard Palate			
Soft Pallate			
Pinnae			
Tongue			
Thoracic Region			
Urogenital Papillae			
Umbilical Cord			
Umbilical Vein			
Umbilical Artery			
Mammary papillae			
Digit			
Urogenital opening	Male: Female:		
Epiglottis			
Nasopharynx			
Glottis			
Esophagus			
Abdominal cavity			
Diaphragm			
Lung			
Liver			
Stomach			
Small Intestine			

STRUCTURE	Location and Identification	Organ System	Function
Large Intestine			
Gall Bladder			
Bile duct			
Caecum			
Mesentery			
Pancreas			
Spleen			
Thymus			
Heart			
Pericardium			
Right Atrium			
Left Atrium			
Coronary Artery			
Aorta			
Right Ventricle			
Left Ventricle			
Pulmonary Artery			
Pulmonary Vein			
Inferior Vena Cava			
Superior Vena Cava			
Kidney			
Ureter			
Urinary Bladder			
Urethra	Male: Female:		

STRUCTURE	Location and Identification	Organ System	Function
Scrotal Sac			
Testes			
Vas deferens			
Penis			
Ovaries			
Oviduct (Fallopian Tubes)			
Uterus			
Vagina			
Renal Artery			
Renal Vein			
Brain			
Spinal Cord			
Spinal Nerves			

System Overview: Include system paths, major structures, and how they integrate with other systems.

System	Description
Respiratory	
Circulatory	
Digestive	
Excretory	
Reproductive	
Nervous	