

RAT DISSECTION

Name _____

Date _____

INTRODUCTION

In this lab we will examine the anatomy of a rat. By dissecting the rat, we may look at the internal organs that we have studied in close 3D detail! The internal anatomy of a rat is very similar in construction to a humans'. Please remember that your rat was once a living organism and should be treated with respect and care.

PURPOSE

To investigate the internal anatomy of a rat for enrichment of human anatomy knowledge.

MATERIALS

Rats	Dissecting tray	Dissecting pin
Dissecting tools (scissors, scalpel, blunt probe)	Rat dissection reference books and charts	

PRELAB:

In this lab you will have to find and identify the structures from the following systems in a rat. Write a brief description of the structure and the function that it has.

Digestive System:

Liver:

Stomach:

Small Intestine:

Large Intestine/Colon:

Oesophagus:

Pancreas:

Circulatory Respiratory:

Heart:

Lungs:

Trachea:

General Terminology:

Anterior:

Posterior:

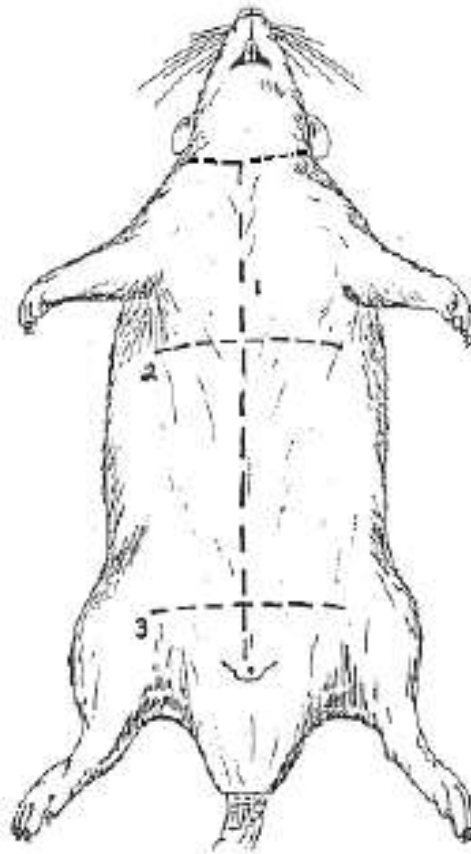
Ventral:

Dorsal:

PROCEDURE

A.) Opening and Pinning Rat

1. Obtain a set of dissecting tools, a rat, as well as a dissecting pan.
2. Using scissors, make the incisions in the rat, following the guided numbers. Make sure to not cut too deeply and keep the point of the scissors facing upward. Once the body cavity is opened, pin down the flaps to the dissecting tray.



B.) Thoracic Cavity Investigation (place a check mark in the space once you have correctly identified each structure).

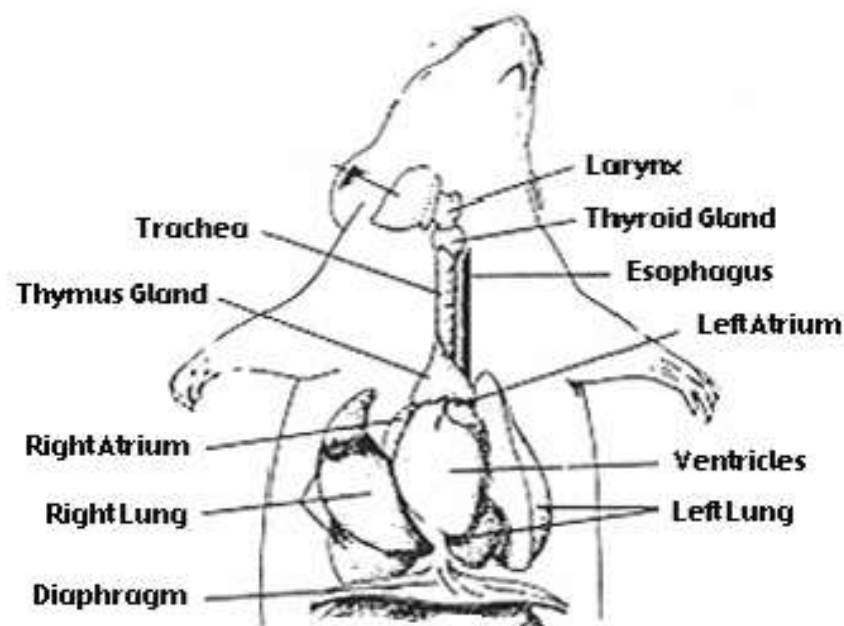
____ 1. Locate the diaphragm. This is the thin layer of muscle that separates the thoracic from the abdominal cavity.

____ 2. Locate the heart. This is located in the centre of the cavity. Note the four chambers: 2 atria and 2 ventricles.

____ 3. Locate the thymus gland. This is located directly above the heart. The thymus gland is involved in the development of T cells in the immune system.

____ 4. Locate the trachea, bronchi, and lungs. The trachea is a hard ridged structure descending from the pharynx.

The trachea will branch off in two tubes called bronchi, then lead to the large soft tissue of the left and right



Source: www.biologycorner.com/bio3/anatomy/rat_head.html

C.) Abdominal Cavity and Organ Investigation

____ 1. Locate the liver. The liver is the large dark purple/brown structure just underneath the diaphragm used for producing bile as well as storing glycogen and detoxifying the blood. You will not see a gall bladder in the rat as they do not have them!

____ 2. Locate the oesophagus. The oesophagus moves down from the pharynx through the thoracic cavity and into the abdominal cavity ending at the stomach. It is next to the trachea and lacks the rings of cartilage that the trachea has. **See above picture for reference.**

____ 3. Locate the stomach. The stomach is located underneath the diaphragm in the left side of the abdominal cavity.

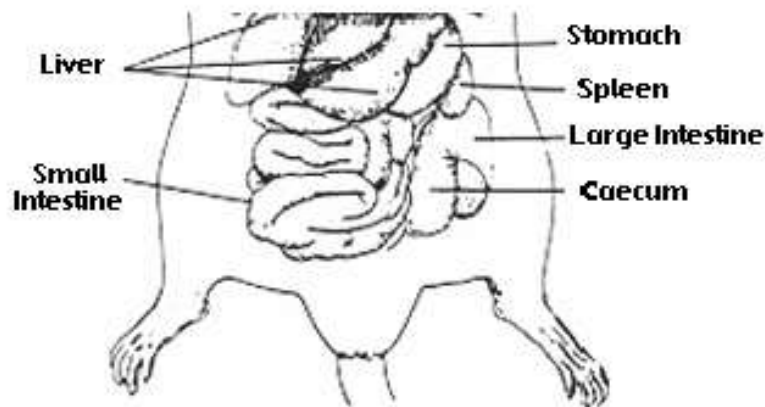
____ 4. Locate the spleen. This a small dark purple/brown structure attached to the stomach. Although we did not discuss the spleen in much detail in class it functions in the destruction of blood cells as well as blood storage.

____ 5. Locate the pancreas. The pancreas is located in the tissue between the stomach and small intestine. It is brown and flat. Look for a thin, membranous structure to find the pancreas.

____ 6. Locate the small intestine. The small intestine is thin and coiled as well as descends from the stomach.

____ 7. Locate the large intestine/colon. This is the large green colour tube that extends from the small intestine to the anus.

____ 8. Locate the caecum. This is the large sac most often confused with the large intestine. It is actually the point at which the small intestine becomes the large intestine.



Source: www.biologycorner.com/bio3/anatomy/rat_head.html

D.)Clean up

1. Wrap your rat with wet paper towels and place in plastic bag. Give this to your teacher.
2. Rinse and disinfect trays and tools.
3. Wipe down and disinfect lab bench.