

**BIOLOGY 20**  
**FETAL PIG DISSECTION 1**  
**DIGESTION SYSTEM**  
**Pages 762 – 764**

**Day 1            Exposing and Examining the Mouth Cavity and its Structures**

**Procedure:**

1. Propose the problem, hypothesis, and variables of the overall dissection activity.
2. List materials used in overall dissection.
3. May refer to this sheet for procedure steps in your lab report.
  
4. Turn your specimen onto its back. Using a strong pair of scissors, make a cut in the corner of the mouth, cutting toward the inferior end of the specimen. Repeat on the other side.
5. Continue the cut until the lower jaw can be dropped and the interior of the mouth examined.
6. Pry the mouth open. Using Figure A10.5 page 763, locate and identify the features of the oral cavity: The epiglottis is a white tab of cartilage at the point of entrance to the trachea.
7. Using the forceps, pinch the skin of each cheek and pull it away from the animal. With your scissors, make an incision in the skin. Cut sagittally along the cheek layer by layer until you can expose the salivary glands. These will appear cauliflower-like.
8. The esophagus is located behind the trachea. Remove muscle tissues from around both the trachea and esophagus in the throat area. Note the colour, texture and shape of the esophagus.

**Observations:**

1. Make a table of the following structures and describe their colour, texture and shape: salivary glands, epiglottis, tongue.

**Analysis Questions for Day 1:**

1. Explain how each of the structures listed below are related to each of their functions.
  - a. the teeth
  - b. the tongue
  - c. the epiglottis
2. What is one major difference between the pig's mouth structures and your own? Suggest a reason for this difference.
3. Explain how the structure of the esophagus is related to its function. How is food moved along the esophagus?

## Day 2

## Exposing and Examining the Abdominal Organs

### Procedure:

1. Place animal onto its ventral side (back). Select a point just inferior to its ribcage. Using forceps, pinch the skin of the abdomen along the midsagittal line and pull it slightly away from the animal.
2. With your scissors, make a sagittal incision in the skin. The incision should be large enough to pass the point of your scissors through.
3. Now make a mid-sagittal cut ending just superior to the animals' anus. Use Fig. A10.6, page 764.
4. Avoid damaging the organs underneath the skin by keeping the tips of the scissors pointing up.
6. Cut along both sides of the animals' legs. Cut across the ventral side of the animal just below its ribcage.
7. Cut sagittally from the leg up to the edge of the ribcage and pull the flaps of skin open like a book.
8. Locate organs of the abdominal cavity using Fig. A10.7 on page 764
9. Locate the liver. Remove it from the body cavity by cutting the esophagus and the top of the liver. Locate the gall bladder embedded in the liver.
9. Remove the stomach from the esophagus and small intestine. Cut open the stomach and observe its inner structures under the dissecting scope.
10. Locate and remove the pancreas. It is situated below the stomach and is usually lighter in colour than the surrounding organs. Observe this structure under the dissecting scope.
11. Separate the small and large intestine from one another by carefully unravelling the small intestine into its three portions; the duodenum, jejunum and ileum. Cut a section of the small intestine longitudinally and observe its inner structures under the dissecting scope. Time permitting, see if you can stretch out the small and large intestines to compare their lengths.
12. Toward the end of the large intestine is the rectum. Try to locate the rectum. Cut the end of the digestive tract as close to the anus as you can. Observe the structure of the rectum.

### Observations:

1. Make a table of the following structures and describe their colour, texture and shape: liver, gall bladder, pancreas, stomach, small intestine, large intestine, rectum.

### Analysis Questions for Day 2:

1. Explain how the structures below are related to their functions.

a. liver	b. pancreas	c. stomach
d. small intestine	d. large intestine	e. gall bladder
2. Why is the small intestine longer than the large intestine? What is the purpose in this?
3. Trace the path of food from your mouth to your rectum and include accessory organs along the way.

4. Predict symptoms an individual would have if they were born with nodules (polyps) attached to the inside of their small intestine.
5. Write a comprehensive conclusion for your dissection.



<http://www.newbedford.k12.ma.us/srhigh/oliveira/ABlockMainPage.html>

<http://www.whitman.edu/biology/vpd/main.html>

scroll down and click on study guide: digestive system

Explore and enjoy!

Criteria	1	2	3	4	5
<b>Purpose</b>	<ul style="list-style-type: none"> <li>• Purpose is not identified</li> </ul>	<ul style="list-style-type: none"> <li>• Purpose is somewhat vague</li> </ul>	<ul style="list-style-type: none"> <li>• Purpose is identified</li> </ul>	<ul style="list-style-type: none"> <li>• Purpose is clearly identified</li> </ul>	
<b>Hypothesis</b>	<ul style="list-style-type: none"> <li>• Predicted results and hypothesized relationship between variables not stated</li> </ul>	<ul style="list-style-type: none"> <li>• Predicted results and hypothesized relationship between variables are unclear</li> </ul>	<ul style="list-style-type: none"> <li>• Predicted results and hypothesized relationship between variables stated and appear reasonable</li> </ul>	<ul style="list-style-type: none"> <li>• Predicted results and hypothesized relationship between variables clearly stated and reasonable</li> </ul>	
<b>Variables</b>	<ul style="list-style-type: none"> <li>• Relevant variables are not described</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant variables are described in somewhat unclear manner</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant variables are described clearly two out of three</li> </ul>	<ul style="list-style-type: none"> <li>• Relevant variables are described clearly three out of the three</li> </ul>	
<b>Materials</b>	<ul style="list-style-type: none"> <li>• There is not a list of the necessary lab materials</li> </ul>	<ul style="list-style-type: none"> <li>• Most lab materials included</li> </ul>	<ul style="list-style-type: none"> <li>• All necessary lab materials included but not listed in any particular order</li> </ul>	<ul style="list-style-type: none"> <li>• All necessary lab materials included and listed</li> </ul>	<ul style="list-style-type: none"> <li>• All necessary lab materials included and listed in an organized manner with key diagrams</li> </ul>
<b>Procedure</b>	<ul style="list-style-type: none"> <li>• Procedures are not listed</li> </ul>	<ul style="list-style-type: none"> <li>• Procedures are listed but not in clear steps</li> </ul>	<ul style="list-style-type: none"> <li>• Procedures are listed in clear steps but not numbered and/or in complete sentences</li> </ul>	<ul style="list-style-type: none"> <li>• Procedures are listed in clear steps</li> <li>• Each step is numbered and in a complete sentence</li> </ul>	<ul style="list-style-type: none"> <li>• Procedures are listed in clear steps</li> <li>• Each step is numbered and in a complete sentence</li> <li>• Diagrams are included to describe the set-up</li> </ul>
<b>Data</b>	<ul style="list-style-type: none"> <li>• Data is not represented or is not accurate</li> </ul>	<ul style="list-style-type: none"> <li>• Data lacks precision</li> <li>• Table missing headings and/or title</li> </ul>	<ul style="list-style-type: none"> <li>• Good representation of the data using tables and/or graphs</li> <li>• Precision is acceptable</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate representation of the data using tables and/or graphs</li> <li>• Data is fairly precise</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate representation of the data using tables and/or graphs</li> <li>• Graphs and tables are labeled and titled</li> <li>• Data is precise</li> </ul>
<b>Analysis</b>	<ul style="list-style-type: none"> <li>• Trends/patterns are not analyzed</li> <li>• Questions are not answered</li> <li>• Analysis is not relevant</li> </ul>	<ul style="list-style-type: none"> <li>• Trends/patterns are not analyzed</li> <li>• Answers to questions are incomplete</li> <li>• Analysis is inconsistent</li> </ul>	<ul style="list-style-type: none"> <li>• Trends/patterns are logically analyzed for the most part</li> <li>• Questions are answered in complete sentences</li> <li>• Analysis is general</li> </ul>	<ul style="list-style-type: none"> <li>• Trends/patterns are logically analyzed</li> <li>• Questions are answered in complete sentences</li> <li>• Analysis is thoughtful</li> </ul>	<ul style="list-style-type: none"> <li>• Trends/patterns are logically analyzed</li> <li>• Questions are answered thoroughly and in complete sentences</li> <li>• Analysis is insightful</li> </ul>
<b>Conclusion</b>	<ul style="list-style-type: none"> <li>• No conclusion was included or shows little effort and reflection on the lab</li> </ul>	<ul style="list-style-type: none"> <li>• A statement of the results is incomplete with little reflection on the lab</li> </ul>	<ul style="list-style-type: none"> <li>• A statement of the results indicates whether results support the hypothesis</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate statement of the results of the lab indicates whether results support the hypothesis</li> <li>• Possible sources of error identified</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate statement of the results of lab indicates whether results support hypothesis</li> <li>• Possible sources of error and what was learned from the lab discussed</li> </ul>