

4. Carefully lift the abdominal muscles with the forceps. Cut a second *AB* incision. **Note:** *Keep the cut through the muscles shallow so as not to damage underlying organs.* As the incision is made in the chest, or pectoral area, you will need to cut through bone. This bone is part of the pectoral girdle. **Note:** *Use extra force with the scissors when cutting through the bone. Be careful not to damage any of the internal organs below the bone.* Make cuts *CD* and *EF* through the abdominal muscle.
5. Remove the pins holding the skin in place. Stretch the abdominal opening as much as possible. At this time the hands and feet of the frog may need to be repinned.
6. Study the positions of the exposed organs. Notice that most of the organs are held in place by thin, transparent tissues called mesenteries.
7. If the frog is a mature female, the most obvious organs will be the ovaries. The ovaries are white sacs swollen with tiny black-and-white eggs. Carefully lift the ovaries from the body cavity, cut the attachments with scissors, and remove the ovaries from the frog. **Note:** *Be careful not to rupture the ovaries with the scissors. If the ovaries are ruptured, they can spill out a mess of eggs.*
8. The large reddish-brown organ in the upper part of the abdominal cavity is the liver. Answer question 17 in Observations.
9. With your fingers or a probe, lift and separate the lobes of the liver upward. Behind the middle lobe, look for a greenish, finger-shaped gland. This gland is the gallbladder. You may be able to locate the bile duct leading from the liver to the gallbladder.
10. With scissors, carefully remove the liver and gallbladder from the body. The remaining organs of the digestive system are easier to see with the liver removed.

## DIGESTIVE SYSTEM

11. Locate the esophagus, which is a white tube leading from the mouth and connecting to the upper part of the white, muscular stomach. Notice the shape of the stomach. Look for a constriction at the lowest part of the stomach. This constriction is the pylorus. The pylorus leads into the long, coiled small intestine. Pull the loops of small intestine away from the body. Notice the mesentery that holds the intestines in place. Inside the first loop of the small intestine near the stomach, locate a thin, white organ called the pancreas. Also in the intestinal mesentery, locate a brown bean-shaped organ called the spleen. **Note:** *The spleen is an organ of the circulatory system.* Answer questions 18 and 19 in Observations.
12. The small intestine ends in a large bag-shaped organ, the large intestine. The last organ of the digestive system is the cloaca, a saclike organ at the end of the large intestine. Undigested food leaves the frog's body through an opening called the anus.
13. With scissors, cut the esophagus near the stomach. Cut through the large intestine just above the cloaca. With your fingers, carefully remove the digestive system from the body.
14. Stretch out the digestive system on the dissecting tray. With scissors, cut open the stomach along its outside curve. Open the stomach and examine its structure and contents. Answer questions 20 through 22 in Observations.
15. Dispose of the digestive system, liver, and ovaries according to your teacher's instructions.
16. In the appropriate place in Observations, label the following parts of the frog's digestive system and related organs: esophagus, stomach, pylorus, small intestine, large intestine, cloaca, liver, gallbladder, pancreas, mesentery, anus, and spleen.