

Carolina's Perfect Solution[®] Pig Dissection

Carolina's Perfect Solution[®] pig dissection allows students to hone their dissection and observation skills, identify major external and internal features of the pig, understand form and function, and gain a better understanding of vertebrate and mammalian anatomy. The activity supports 3-dimensional learning and builds toward the following:

- NGSS Scientific and Engineering Practice: Developing and Using Models
- NGSS Core Ideas: Life Science 1: From Molecules to Organisms: Structures and Processes

Materials Required

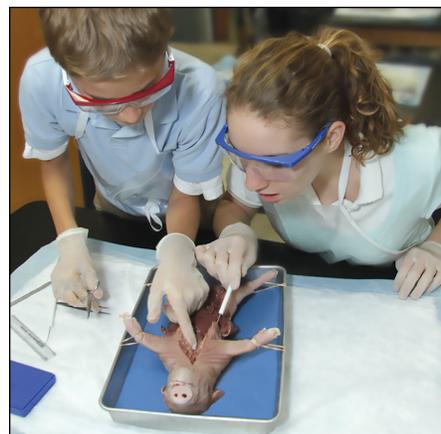
Carolina's Perfect Solution[®] Pig (228404)
Adjustable Safety Glasses (646705)
Laboratory Aprons Value Pack (706245)
Nitrile Disposable Gloves (706335, 706336, 706337)
Aluminum Dissecting Pan with Vinyl Dissecting Pad (629004)
Student Dissecting Set I (621096)
Rubber Bands
Absorbent Pad

Activity Procedure

1. Obtain a Carolina's Perfect Solution[®] pig, and lay the pig on its side in the dissection tray.
2. Identify the following external features of the pig:
 - a. Nares (nostrils)
 - b. Tongue
 - c. Eyes
 - d. Pinnae (ears)
 - e. Umbilical cord
 - f. Teats
3. Determine the gender of your pig. A female will have a urogenital opening and labia; these structures come together beneath the anus to form a small spikelike projection called the genital papilla. A male pig will possess a urogenital opening, for the penis, nearer the umbilical cord. Depending on its development, a male also may have a sac of skin beneath the anus and between the hind legs, the scrotum.
4. Position the pig in the dissection tray with its ventral surface up. Intertwine 2 rubber bands in a figure-8 shape. Stretch the rubber bands underneath the pan, and loop the ends around the forelegs and hind legs of the specimen to hold the pig in place.
5. Using a scalpel, begin by making shallow cuts through the skin. Then cut deeper to go through the muscle tissue. Begin at the throat, and make an incision along the midline of the chest toward the umbilical cord. Cut around the umbilical cord, making an upside-down U-shaped incision. Extend these cuts, in parallel, to the pubic region.
6. Make parallel lateral incisions, one along the throat and another below the umbilical cord. Fold back the flaps of skin to expose the internal organs.
7. Cut the bone along both sides of the rib cage and across the top and bottom of the chest plate to remove it completely from the pig.

Safety

Have students wear safety glasses or goggles, gloves, and lab aprons when dissecting.



8. Identify the major organs in the abdominal and thoracic cavities:
 - a. Stomach
 - b. Liver
 - c. Large intestine
 - d. Small intestine
 - e. Heart
 - f. Lungs
9. Fold the liver and stomach upward to expose the gallbladder and the pancreas.
10. Remove the entire digestive tract in order to view the kidneys.

Results/Summary

Carolina's Perfect Solution[®] pig dissection helps students gain a better understanding of vertebrate and mammalian anatomy, especially organ systems and the relationship between structure and function. Pigs are excellent specimens for investigating the similarities and differences between pigs and other mammals, including humans.

Additional Information

View more information, content links, and products related to this activity at www.carolina.com/takeaways.

