

Lamprey paper dissection model

We like to describe the lamprey as a tube with a bunch of other tubes packed inside. This paper dissection allows us a view of the lamprey that is difficult to obtain with regular dissection: a sagittal dissection through the entire animal. In reality, lamprey are difficult to dissect in a straight line as the axial muscles tend to curl during fixation with preservative.

Preparation

Color the parts of your lamprey using the colors noted in the structure key and function sheet. Then carefully cut out the lamprey structures being sure to leave the tabs intact.

Assembly instructions

1. To make the external lamprey, spread glue over the words “insert tail” and overlay the external tail. Draw in the lateral line system and the external nostril. Set aside.
2. To make the base or dissected side of the lamprey, spread glue over the words “insert tail” and overlay the base tail. Draw in the buccal papillae and tooth-like organs.
Adding the organs:
3. On the atrium of the heart: bend the tab **C1** to the back of the atrium, apply glue to the surface of **C1**, and affix it to box **C** on the base.
4. On the esophagus/intestine: do not bend the tab. Apply glue to the back of **O1** and affix it to box **O** on the base.
5. For the respiratory tube with gills: starting at one end, fold the end of the tube on the dotted line toward the gill filaments (fold the right sides together). Fold the backs of the next two gills filaments toward one another (fold the wrong sides together). Glue the back/wrong sides of the two gill filaments together. Fold the glued-together gill filaments toward the next gill pouch at the dotted line, toward the tube (right sides together). Complete these steps with the next pair of gill filaments to complete one branchial pouch. Repeat these steps across the respiratory tube. When you are finished, you should have 7 gills. Apply glue to the back of **O2**- do not bend- and affix it on top of **O1**.
6. For the velum: Apply glue to the back of **O3**- do not bend- and affix it on top of **O2**.
7. On the liver: bend the tab **L1** to the back of the liver, apply glue to the surface of **L1**, and affix it to box **L** on the base.
8. On the gonad: apply glue over **R2** (do not bend yet) and stick the back of **R1** (the tab on the kidney) to **R2**. Now bend **R1/R2** to the back, apply glue to the surface of **R1**, and stick it to box **R** on the base.
9. Apply glue to the backs of the two tabs on the dorsal part of the external lamprey, align the external lamprey over the base, making sure that the fins overlay one another, and fold the tabs to the back of the base.