

SCULPTING THE RESPIRATORY SYSTEM WITH CLAY

1. Create 3 open tubes of terracotta clay, each 3" long with a 1" lumen. One is the nasal cavity, one is the oral cavity and one is the pharynx.
2. Molding the 3 tubes together assemble them into a sagittal (profile) view of the upper respiratory system. Refer to Fig. 21.2, p. 480, in the Amerman manual or the torso models in the room if you need help visualizing this.
3. Create an esophagus by rolling a thin closed 12" tube of terracotta clay. Attach it to the bottom rear of the pharynx. If you like you can add a stomach to the bottom of the esophagus by attaching a 2" by 1" J-shaped piece of clay.
4. Build the larynx by taking a flattened piece of blue clay 1" by 1" and rolling it into an open tube (bigger in diameter than the esophagus). Add the epiglottis, the cartilage that covers the opening to the larynx (the glottis) by creating an oval shaped piece of blue clay and attaching it to the top anterior surface of the larynx. Make sure it is large enough to cover the glottis.
5. Attach the larynx (with its epiglottis) to the bottom front of the pharynx so that the top of the larynx and the top of the esophagus fit snugly together into the bottom of the pharynx.
6. Create a trachea by rolling out a 3" by 1" flattened sheet of blue clay. Draw horizontal lines across the sheet to represent the tracheal cartilage. With the tracheal cartilage lines on the exterior, roll the clay sheet into an open tube. Flatten the back of the tube to represent the trachealis muscle on the back of the trachea.
7. Attach the trachea to the bottom of the larynx by blending the clay of the two structures together. Be sure that the flattened side of the trachea rests against the esophagus and that the cartilaginous rings are visible.
8. Create the primary bronchi by rolling out 2 smaller flat sheets of blue clay. Draw cartilaginous rings across the sheets and roll them into tubes. Attach them to the bottom of the trachea. Slant the right primary bronchus downward while the left primary bronchus slants sideways and downward.
9. Add secondary bronchi to the primary bronchi by attaching 3 narrow blue clay tubes to the bottom of the right primary bronchus and 2 narrow blue tubes to the bottom of the left primary bronchus.

10. Build the lungs with flattened pieces of terracotta clay, 3 lobes for the right lung and 2 lobes for the left lung (each lobe is attached to a secondary bronchus).
11. Create a diaphragm by arching a flattened piece of terracotta clay upward and under the inferior lobes of the lungs. Flatten the bottom of the inferior surface of the lungs so that they conform to the shape of the diaphragm.
12. YOU ARE DONE, ADMIRE YOUR CREATIVITY! Circulate around the room to see other renditions of the respiratory system.

