

## Modeling the Internal Anatomy of the **Human Heart**

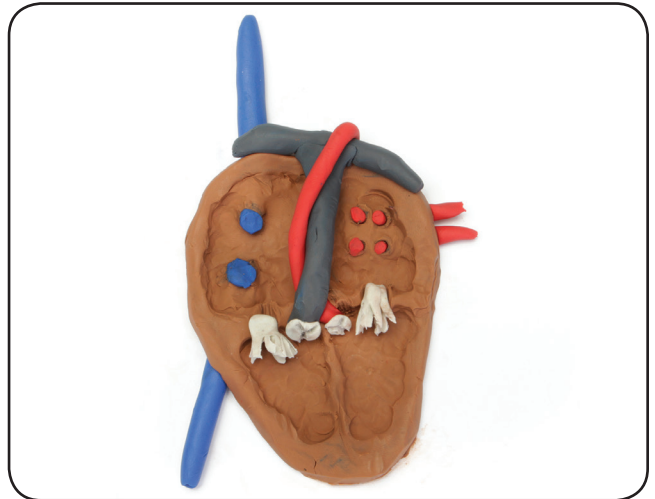
Build understanding of the structure of the human heart by modeling the internal anatomy.

### Materials

Modeling Clay in Terra-Cotta, Blue, Red, and White  
Clay Sculpting Tool  
Workstation Mat  
Pencil with an Eraser

### Procedure

1. Mold the terra-cotta clay into a strawberry shape. Flatten it, maintaining the broad top and point toward the bottom. The apex should point to the right, as if the heart is a heart in a patient who is supine and in front of you.
2. Start by forming the **right atrium**. Use the pencil's eraser to tamp down the clay and make a cavity.
3. Below the right atrium, use the pencil's eraser (as in Step 2) to form the **right ventricle**. Press the clay down to form a cavity, but maintain a wall between the spaces.
4. Form the **left atrium**. Take care to leave the septum between the right and left atria intact.
5. Form the **left ventricle**, leaving a wall between the atrium and ventricle and leaving the septum between the right and left ventricles. Remember that the left ventricle is the largest chamber of the heart.
6. Use the pencil point to poke 2 holes in the top of and through the back wall of the right atrium.



The completed human heart model



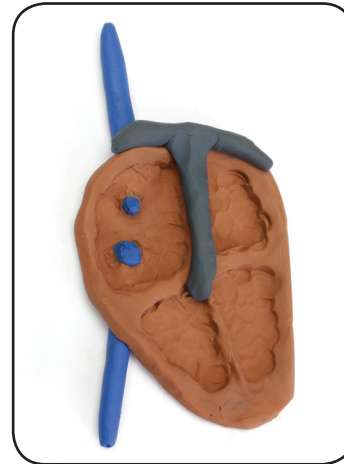
Mold the atrium and ventricles (Steps 1–5).



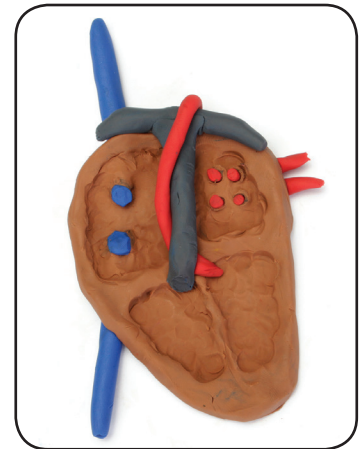
Poke holes in the right atrium (Step 6).

# Carolina Workshop Resource

- Using blue clay, roll 2 small “snakes,” and insert them into the holes made in Step 6. The “snakes” are the **superior and inferior vena cava**.
- Mix a small amount of red and blue clay to form a purple shade. Roll this into a T shape. Place the T on the surface of the heart with its base connecting to the right ventricle and its top across the top of the atria. This is the **pulmonary artery**.
- Using the point of the pencil, make 2 pairs of small vertical holes in the back wall of the left atrium.
- Using red clay, roll 4 small “snakes.” These are the **pulmonary veins**. Attach them to the holes made in Step 9.
- Roll another red clay “snake,” and place it on the surface of the heart—under the pulmonary artery with its end connected to the left ventricle. It should then come over the pulmonary artery and around to the back of the heart. This is the **aorta and aortic arch**.
- With the tip of the pencil, poke a small hole in the wall between the right atria and right ventricle. Repeat between the left atria and left ventricle.
- Using white clay, make 2 small rectangles. Cut small strips along a long side of each rectangle so the cuts look like fringe. Roll each rectangle into a tube. These are the **chordae tendinea**. Place them in the holes between the atria and ventricles with the fringe ends connecting to the ventricles.
- Using white clay, make 2 small discs. Place one on the base of the T-shaped pulmonary artery. Place the other on the end of the red aorta that attaches to the left ventricle. With the tip of the pencil, draw a Y on each. These are the **pulmonary and aortic valves**.



Insert the superior and inferior vena cava and the pulmonary artery (Steps 7 and 8).



Attach the pulmonary veins and the aorta and aortic arch (Steps 9–11).



Draw a Y on the pulmonary and aortic valves (Step 14).

## Additional information

View more information, content links, and products related to this activity at [www.carolina.com/healthscience](http://www.carolina.com/healthscience).

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