



A Publication of Alpha Omega Institute,
September-October 2005
By Lanny and Marilyn Johnson

A MARVELOUS MUSCLE

Inside your chest, is the strongest and toughest muscle in your body. This marvelous muscle is your **heart**. The heart is special because its job is to pump blood to every part of your body. Why is blood so important? God tells us, *"...for the blood is the life..."* (Deuteronomy 12:23.) Blood carries the oxygen and food that your body needs to live. Blood also picks up items that your body doesn't need and takes it to those parts of your body that get rid of waste (lungs, kidneys and liver). Amazingly, your heart does this all day...all night...all the time — without you ever having to think about it!

Your heart is surprisingly small, considering what a hard worker it is. Shaped like an upside-down pear (not a Valentine!) the heart is about the size of your fist. The heart grows in size as you grow.

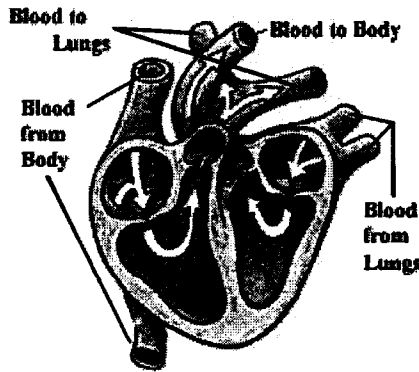
Your heart is like two pumps joined together. There are four **chambers**, or open spaces like rooms, inside the heart. Two of these chambers are located at the bottom of the heart. They are called the left **ventricle** (ven-tri-ku-l) and right ventricle. The other two chambers are located at the top. They are called the left **atrium** (at-ree-um) and the right atrium.

Before each beat, your heart fills with blood, then its muscles squeeze and relax to push the

blood along. Blood is pushed from the atrium into the ventricle on each side of the heart.

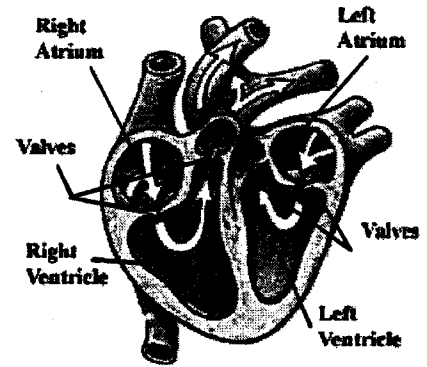
Between them are small valves (like doors). These valves all work to keep the blood flowing forward. They open up to let the blood move ahead and then they close quickly to keep the blood from flowing backward.

The left side of your heart receives blood from the lungs that is high in oxygen. It then pushes it out to the rest of the body.



Once the blood leaves the heart, it moves through many tubes called **arteries**. When the body uses up the oxygen, the blood returns to the heart through more tubes called **veins**. Together, arteries and veins are called **blood vessels**. Arteries carry blood *from* the heart, and veins carry blood *to* the heart. Once at the heart, the blood is pumped back to the lungs to receive more oxygen.

When you run, your body needs more oxygen. Special nerves connected to the heart make the heart beat faster to get more oxygen-filled blood to the body. That is why when you run your heart beats more quickly and you feel a pounding in you chest. When you sleep, your heart pumps more slowly.



What causes your heart to "beat" or "pump"? Located on your heart is a small patch called the **sinus node**. About every 8/10th of a second, it sends an **electrical current** to special nerves that make the heart muscles squeeze or contract.

From the moment we were growing in our mother's womb, until our death, our hearts never stops pumping. The heart is one "busy machine." Machines don't happen by chance and accident, they are designed by intelligence. The human heart points to an intelligent designer and that could only be God!

FANTASTIC HEART FACTS

- ♥ Beats 90 times a minute in a child and 70 times in an adult.
- ♥ Can beat 150 to 189 times a minute during exercise.
- ♥ Pumps blood to every cell in your body in 60 seconds or less!
- ♥ Beats about 100,000 times a day, or 40 million times a year.
- ♥ Pumps about 1,800 to 2,000 gallons of blood a day (enough to fill over 40 bathtubs!). That's about 680,000 gallons a year!
- ♥ Can squirt a stream of blood about 10 feet into the air!
- ♥ In one hour, can make enough energy to lift a medium-sized car 3 feet off the ground!



Although the heart is the muscle that pumps blood through your body, the Bible shows the word "heart" can also mean your spirit or who you are. For example, the heart can be wise, pure, wicked, good, prideful, etc. Today, the heart is also used to show love. Can you match words or phrases in the Valentine heart shapes with their meanings in the rectangular boxes? Answers below.

HAVE A HEART 1
 CHANGE OF HEART 2
 TO KNOW SOMETHING BY HEART 3
 BROKEN HEART 4
 HEARTBURN 5
 HEARTLESS 6
 HEARTACHE 7
 HAVE YOUR HEART SET ON 9
 GIVE YOUR HEART TO JESUS 10
 WHOLEHEARTED 8

J. INDIGESTION
G. BE KIND AND MERCIFUL
C. TO WANT SOMETHING A LOT
A. TO LOSE LOVE
E. UNKIND OR WITHOUT FEELING
H. TO FEEL SORROW OR GRIEF
F. PUT YOUR FAITH AND TRUST IN JESUS AS YOUR LORD AND SAVIOR
I. MEMORIZE SOMETHING
D. CHANGE YOUR MIND
B. GIVE IT YOUR ALL

WORD-FILL puzzle grid with letters 'c' and 'L' in the starting positions.

WORD-FILL: Use the following words found in "A Marvelous Heart" to solve the puzzle. Two letters are shown to help get you started

- HEART
- SINUS NODE
- CHAMBERS
- VENTRICLE
- ATRIUM
- ARTERIES
- VEINS
- BLOOD
- VESSELS
- DESIGNER
- MUSCLE

ANSWERS
 1.G 2.D 3.I 4.A 5.J
 6.E 7.H 8.B 9.C 10.F

