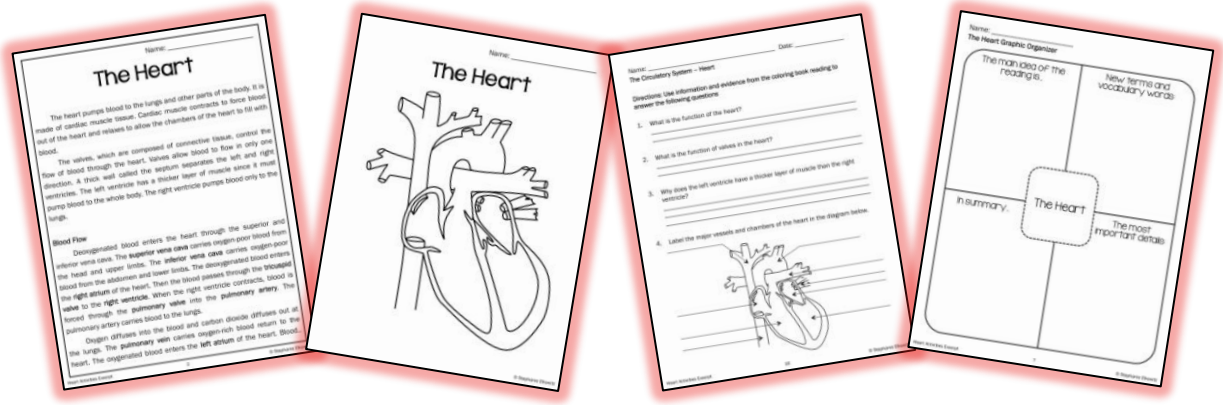
SCIENCE Coloring Book

A FREE excerpt from the Human Body Coloring Book, Assistant and Reading Guide!



Human Heart

By Stephanie Elkowitz

Name: _____

The Heart

The heart pumps blood to the lungs and other parts of the body. It is made of cardiac muscle tissue. Cardiac muscle is a special type of muscle that does not fatigue easily. This allows the heart to continuously contract. When the heart contracts, blood is forced out of the heart. When it relaxes, the chambers of the heart fill with blood.

There are four chambers inside the heart: right atrium, left atrium, right ventricle and left ventricle. The left and right sides are separated by a thick wall of muscle called the septum.

Blood enters the heart through the left and right atrium. Blood leaves the heart through the left and right ventricles. The left ventricle is larger than the right ventricle. This is because blood is pumped to the whole body from the left side. The right ventricle only pumps blood to the lungs, as you read about in the next section. **Valves**, which are composed of connective tissue, control the flow of blood through the heart. Valves allow blood to flow in only one direction.

Blood Flow

Deoxygenated blood enters the heart through the superior and inferior vena cava. The **superior vena cava** carries oxygen-poor blood from the head and upper limbs. The **inferior vena cava** carries oxygen-poor blood from the abdomen and lower limbs. The deoxygenated blood enters the **right atrium** of the heart. Then the blood passes through the **tricuspid valve** to the **right ventricle**. When the right ventricle contracts, blood is forced through the **pulmonary valve** into the **pulmonary artery**. The pulmonary artery carries blood to the lungs.

at the lungs, Oxygen diffuses into the blood and carbon dioxide diffuses out of the blood. This turns the oxygen-poor blood into oxygen-rich blood. The **pulmonary vein** carries oxygen-rich blood back to the heart. The oxygenated blood enters the **left atrium** of the heart. Blood passes through the **mitral value** (also called the bicuspid valve) into the **left ventricle**. The oxygenated blood is pumped out of the left ventricle through **aortic valve** into the **aorta.** The aorta is the largest artery in the body. It carries the blood to the rest of the body.

Oxygen is delivered to body cells. Carbon dioxide is picked up at the body cells. The deoxygenated blood (carrying carbon dioxide) returns to the heart through the superior and inferior vena cava. The blood flows through the heart, to the lungs and back, all over again.

Name: _____

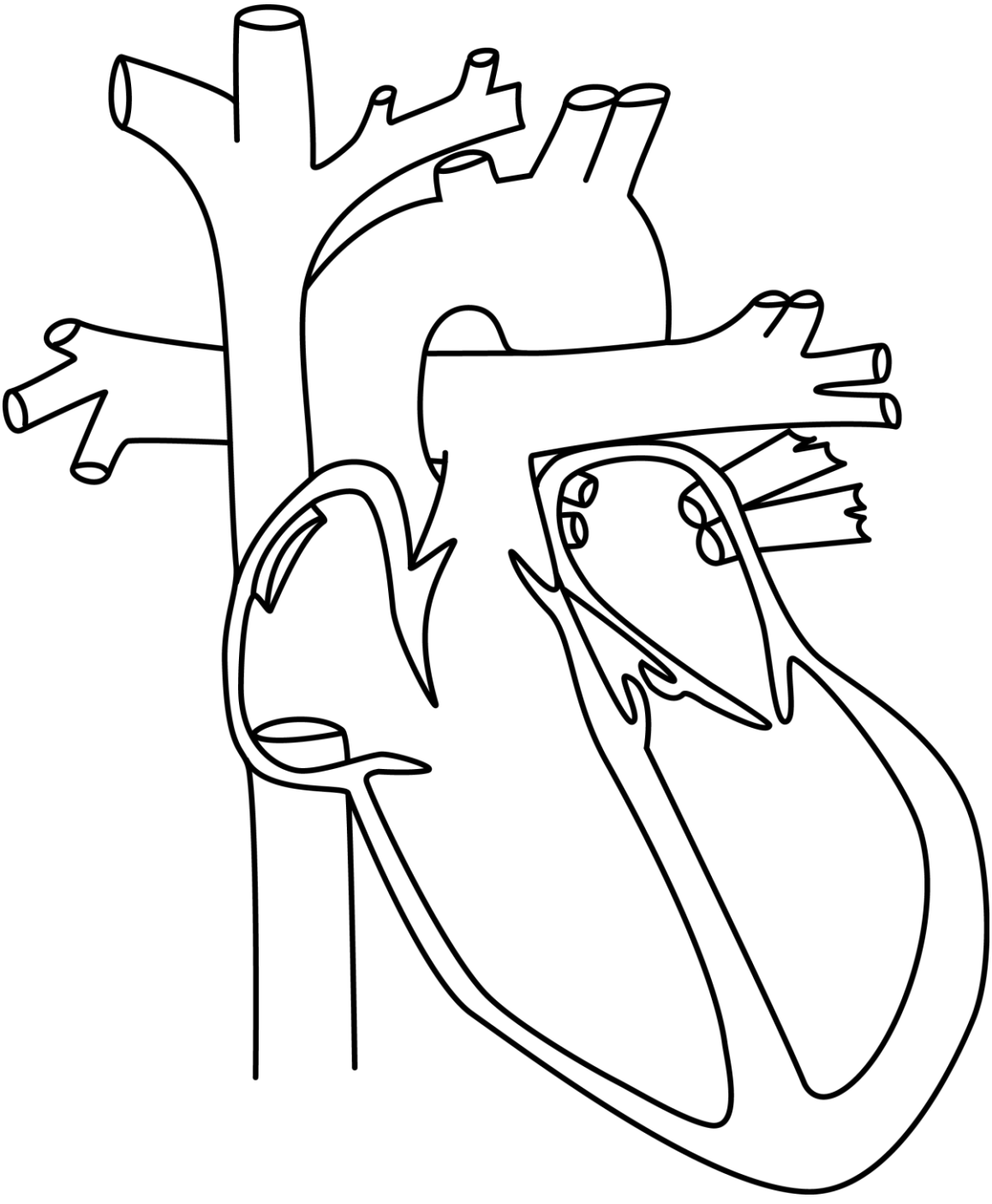
The Heart

Directions:

1. Label and color the superior vena cava blue.
2. Label and color the inferior vena cava blue.
3. Label and color the right atrium violet.
4. Label and color the right ventricle brown.
5. Label and color the pulmonary artery sky blue.
6. Label and color the pulmonary vein pink.
7. Label and color the left atrium orange.
8. Label and color the left ventricle yellow.
9. Label and color the aorta red.
10. Label and color the tricuspid valve grey.
11. Label and color the pulmonary valve teal.
12. Label and color the mitral valve green.
13. Label and color the aortic valve magenta.
14. Label and color the septum tan.
15. Draw arrows showing the direction of blood flow through the heart.

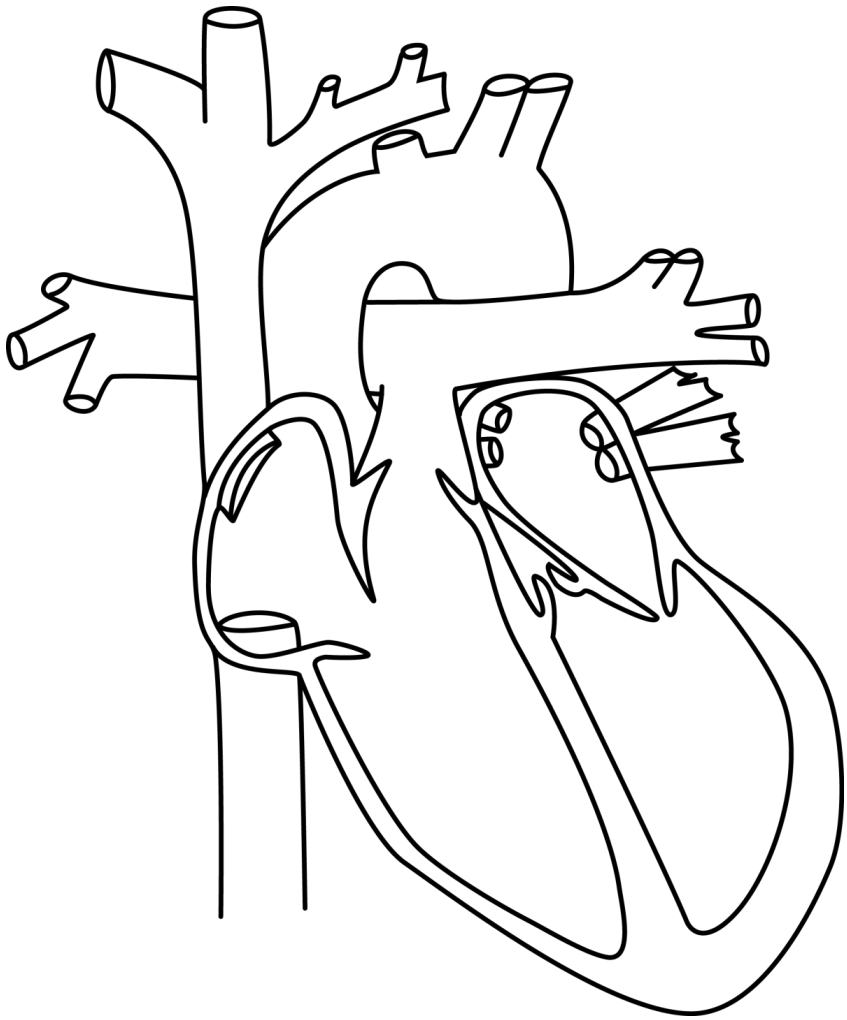
Name: _____

The Heart



Name: _____

The Heart Coloring Activity



Coloring Directions:

1. Label and color the superior vena cava blue.
2. Label and color the inferior vena cava blue.
3. Label and color the right atrium violet.
4. Label and color the right ventricle brown.
5. Label and color the pulmonary artery sky blue.
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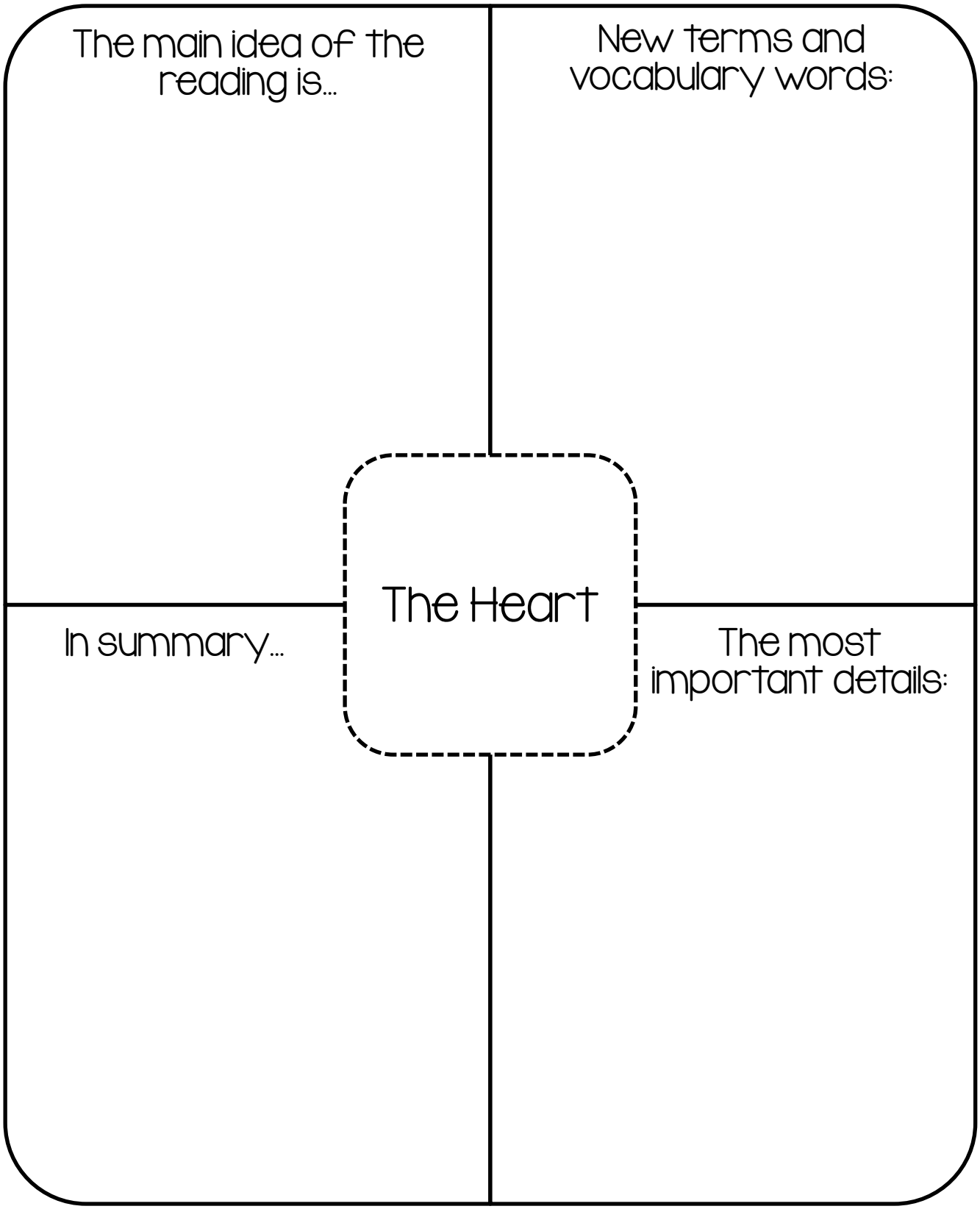
12. Label and color the mitral valve green.
13. Label and color the aortic valve magenta.
14. Label and color the septum tan.
15. Draw arrows showing the direction of blood flow through the heart.

Name: _____

The Heart Graphic Organizer

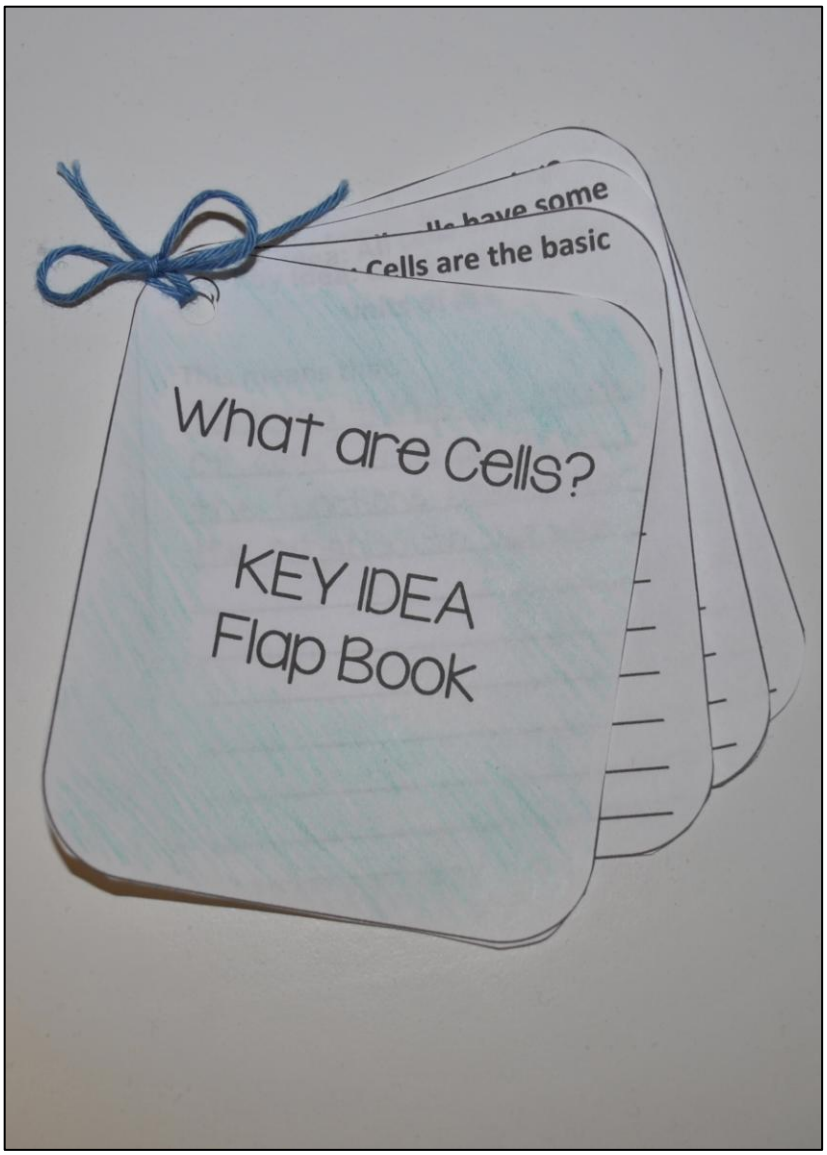


Name: _____

Key Idea Flap Books

Directions:

1. Use the reading for each flap book to write details about the key ideas.
2. Cut out the pages of the flap book.
3. Punch a hole in the upper left corner of the pages.
4. Fasten the pages together with a fastener, string or key ring.



The Heart Flap Book PAGE 1

The Heart

KEY IDEA Flap Book

Key Idea: The heart pumps blood.

This means that…

Key Idea: Valves control the flow of blood through the heart.

This means that…

Key Idea: Deoxygenated blood enters the right side of the heart.

This means that…

The Heart Flap Book PAGE 2

Key Idea: Deoxygenated blood is pumped from the right side of the heart to the lungs.

This means that…

Key Idea: Blood becomes oxygenated at the lungs.

This means that…

Key Idea: Oxygenated blood enters the left side of the heart.

This means that…

Key Idea: Oxygenated blood is pumped from the left side of the heart to the body.

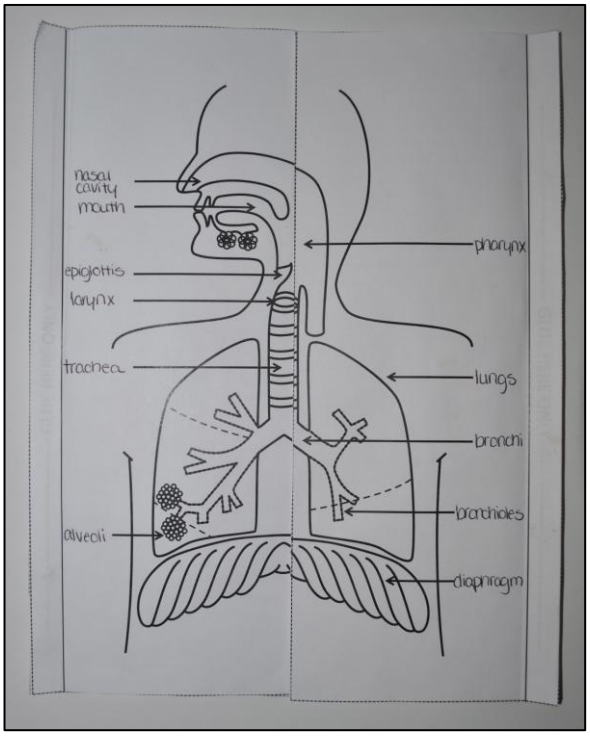
This means that…

Name: _____

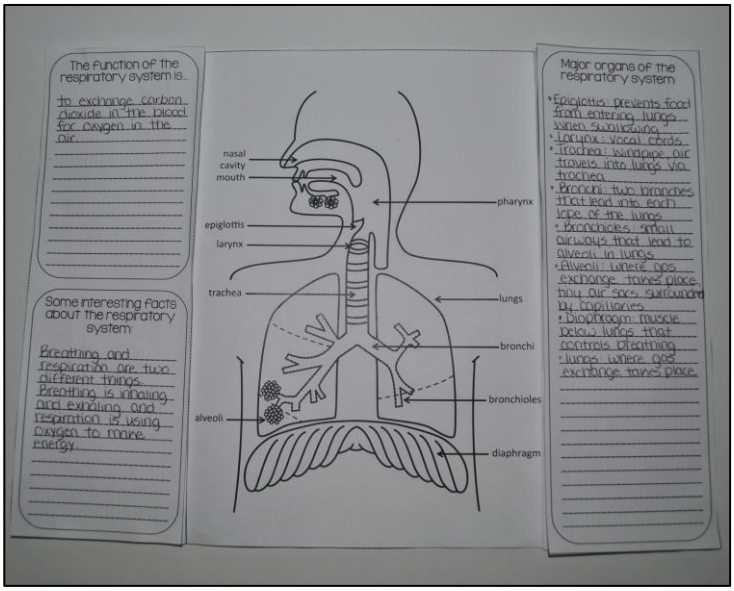
Notebook Organizers: Human Body Systems

Directions:

1. Cut along the dotted lines of the TOP PAGE. Then fold along the solid lines of the TOP PAGE.
2. Next, cut along the dotted lines of BOTTOM PAGE.
3. Glue the top page to the bottom page along the sections that says "glue here only."
4. Cut along the dotted lines of INSIDE FLAP.
5. Glue the inside flap pages to the inside of your notebook organizer.
6. Label the structures on the top page.
7. Complete the inside flap boxes.
8. Glue the organizer into your science notebook.

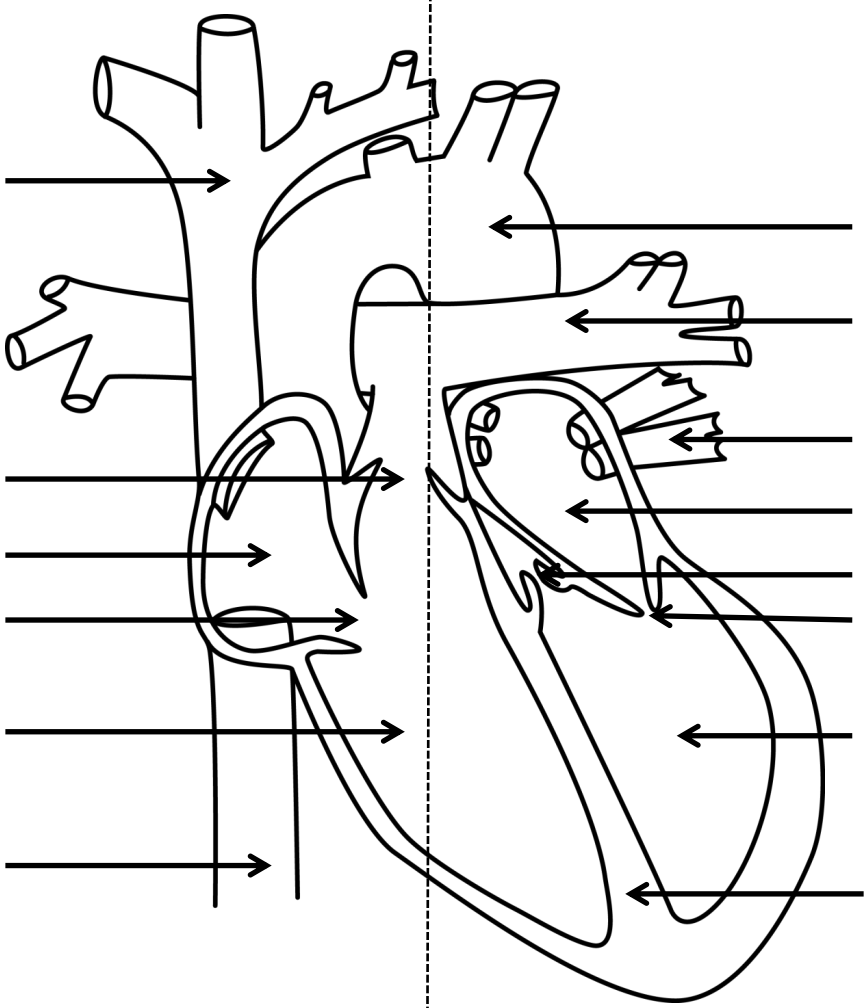


FRONT



INSIDE

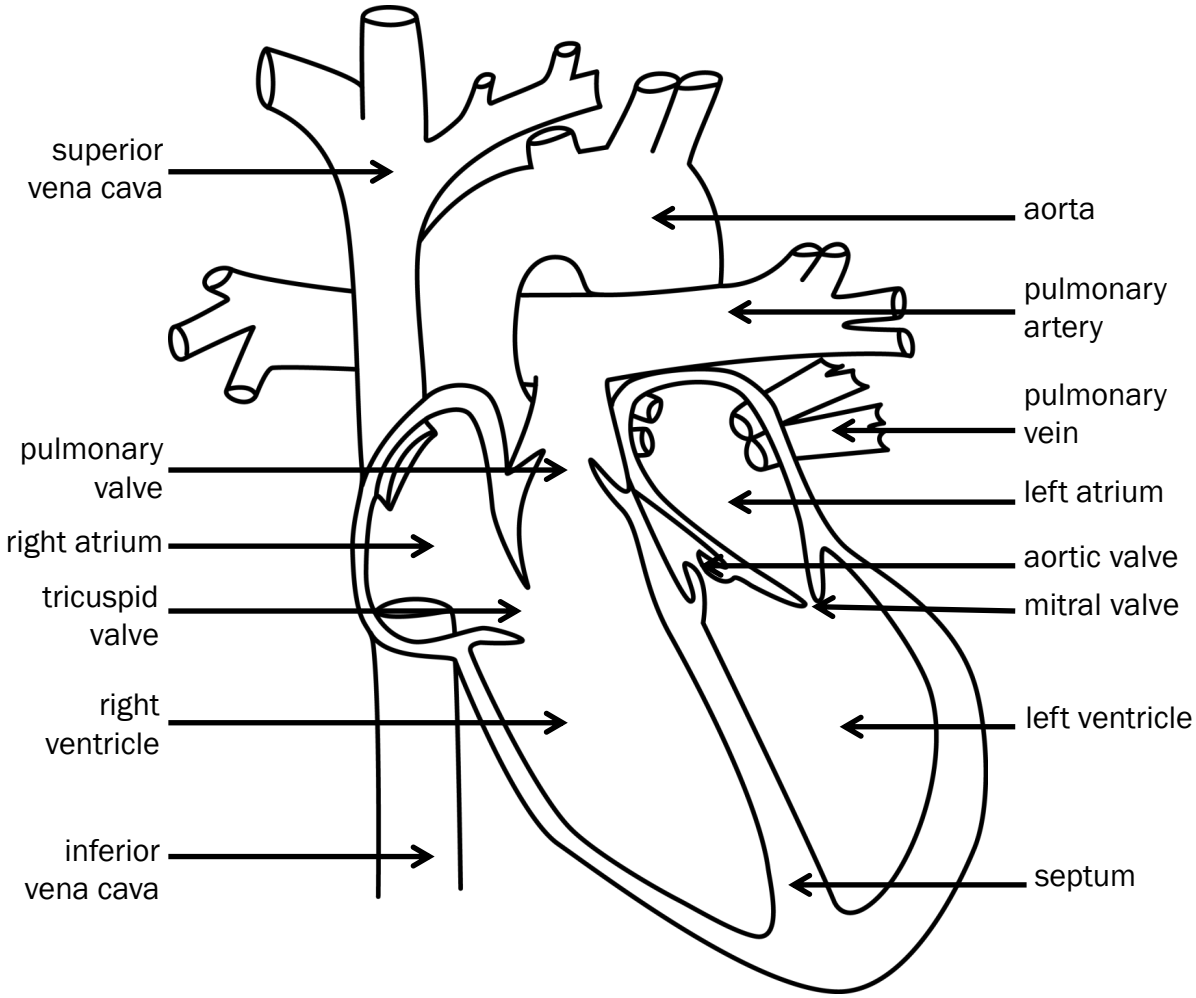
The Heart Organizer FRONT PAGE



The Heart Notebook Organizer BOTTOM PAGE

GLUE HERE ONLY

GLUE HERE ONLY



The Heart Notebook Organizer INSIDE FLAP

The function of the heart is...

Some interesting facts about the heart:

Major structures and parts of the heart:

Name: _____

The Heart Vocabulary Builder

Based on what you know about the heart, explain how the word origin helps to define the terms.

Structure	Word Origin	Description
Superior Vena Cava	Super: above Vena: vein Cava: hollow	
Aorta	From aorte which means raise	
Pulmonary artery/vein	Pulmon: lung Artery means windpipe Vein: channel	
Right/Left Atrium	Atrium means open space in architecture	
Right/Left Ventricle	From ventriculus which means belly	
Inferior Vena Cava	Infer: low Vena: vein Cava: hollow	
Pulmonary valve	Pulmon: lung Valve: leaf	
Tricuspid valve	Tri: three Cuspid: cusp Valve: leaf	
Mitral valve	Mitra: belt/turban Valve: leaf	
Aortic valve	Aortic refers to aorta Valve: leaf	
Septum	From sepire which means enclose	

Name: _____ Date: _____

The Circulatory System – Heart

Directions: Use information and evidence from the coloring book reading to answer the following questions

1. What is the function of the heart?

   _____
   _____

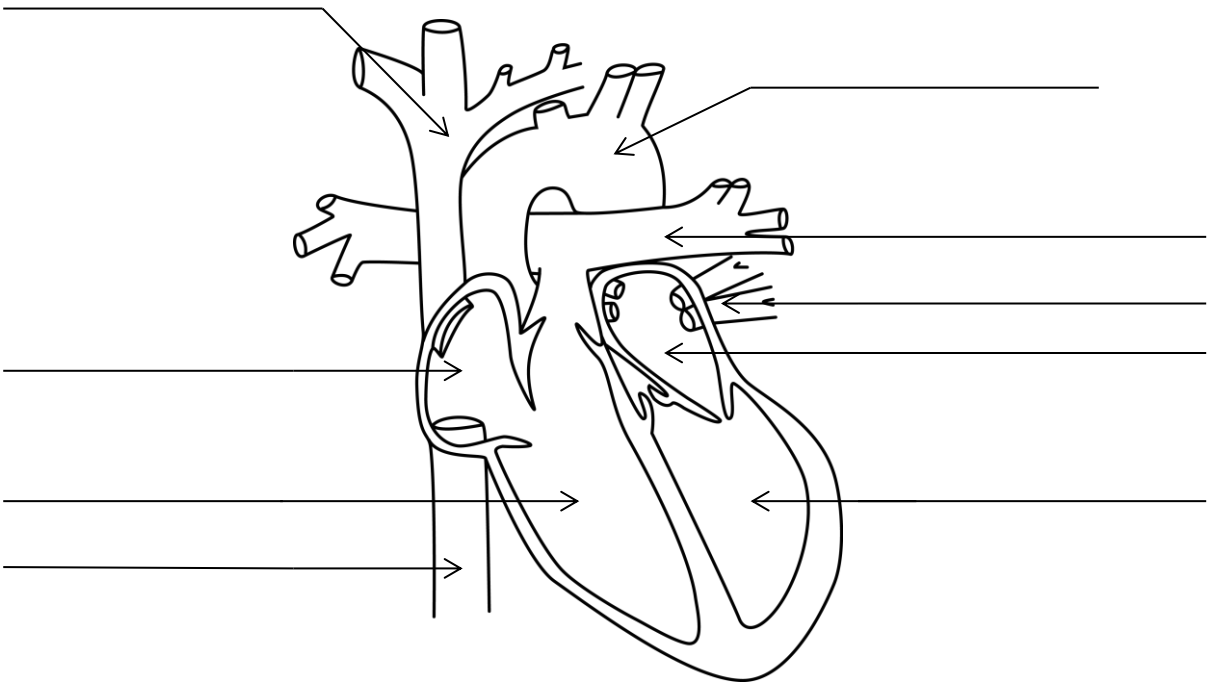
2. What is the function of valves in the heart?

   _____
   _____

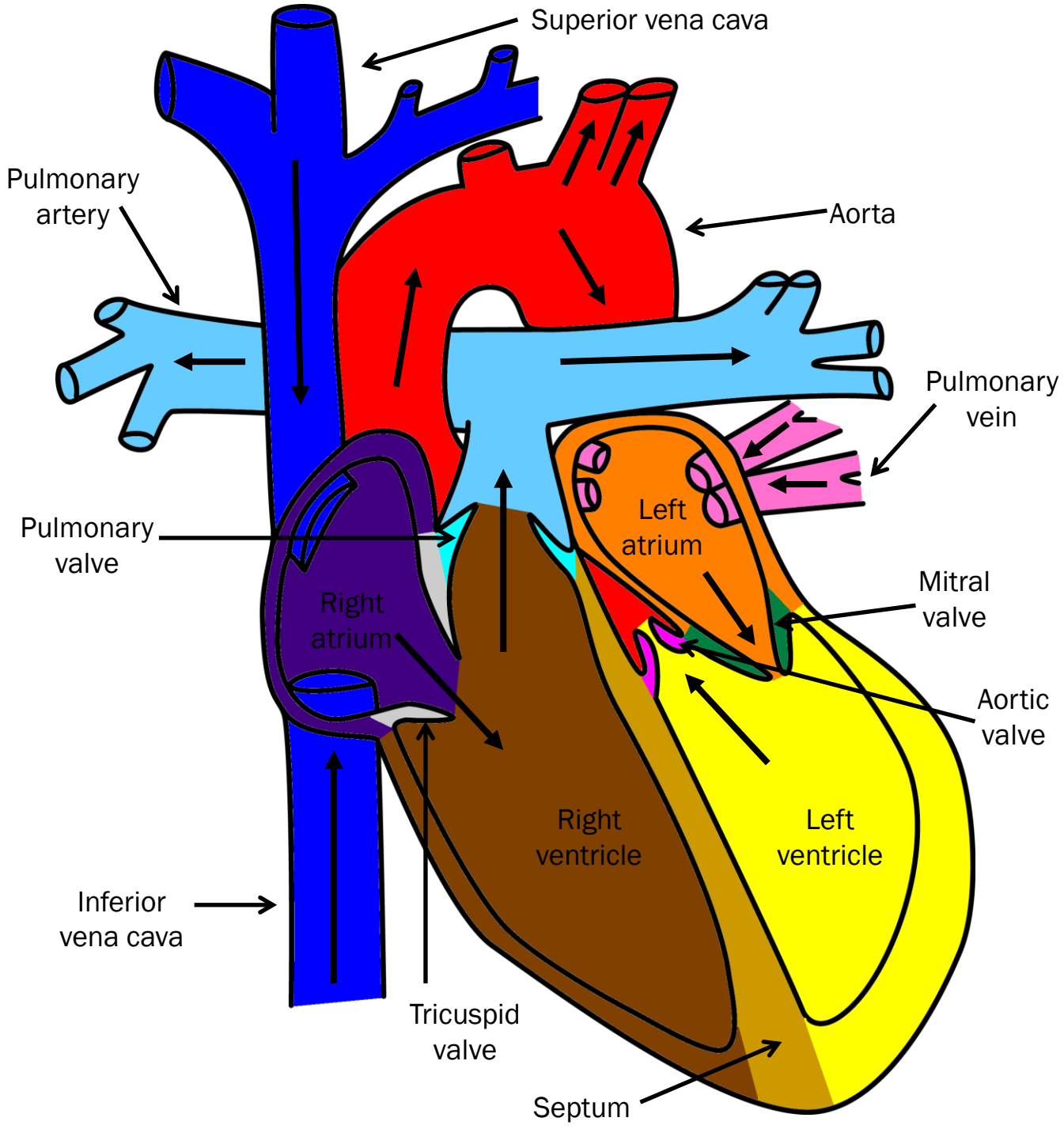
3. Why does the left ventricle have a thicker layer of muscle than the right ventricle?

   _____
   _____
   _____

4. Label the major vessels and chambers of the heart in the diagram below.



The Heart



Name: _____ Date: _____

Answer key

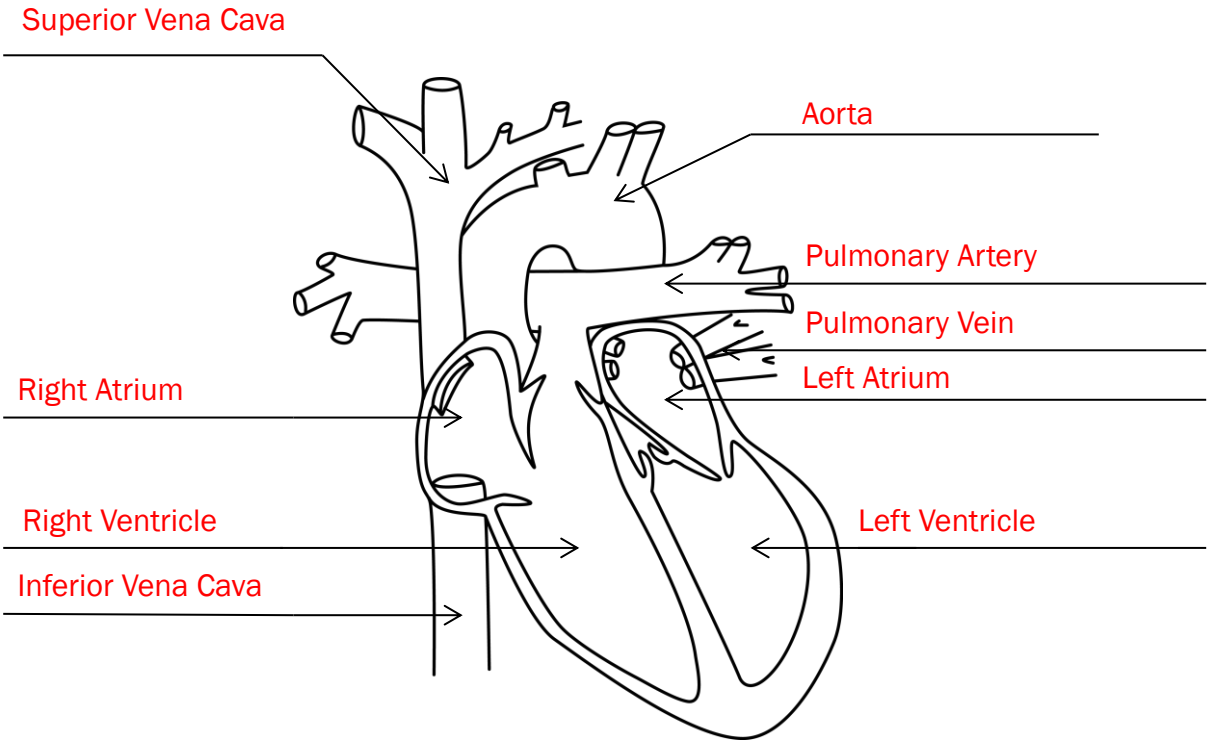
The Circulatory System – Heart

1. What is the function of the heart?
   The function of the heart is to pump blood throughout the body.

2. What is the function of valves in the heart?
   To keep blood flowing correctly through the heart.

3. Why does the left ventricle have a thicker layer of muscle than the right ventricle?
   The left side of the heart pumps blood to the body and the right side only has to pump blood to the lungs.

4. Label the major vessels and chambers of the heart in the diagram below.



Heart Activities Coloring Book

Last Updated: October 29, 2014

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