

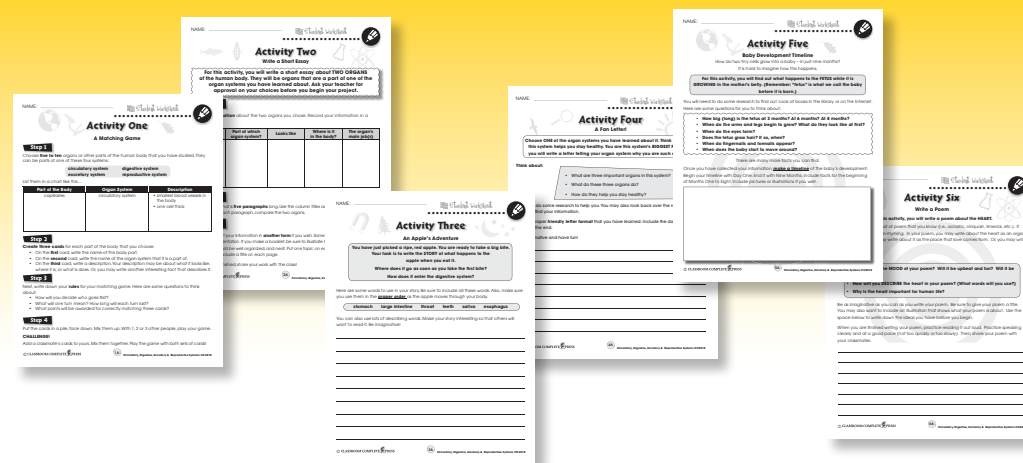
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- Click on item CC4518 – Circulatory, Digestive, Excretory & Reproductive Systems
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The Circulatory System - Heart

1. Complete each sentence with a word from the list. Use a dictionary to help you.

pump **oxygenated** **involuntary** **cardiac** **chamber**

- a) Blood that is _____ has a lot of oxygen in it.
 b) A _____ is a separate space, like a room. The heart has four.
 c) The heart muscle works without us thinking about it so it works _____.
 d) _____ is another word for the heart and things related to it.
 e) The heart is like a _____ because it pushes blood around the body.

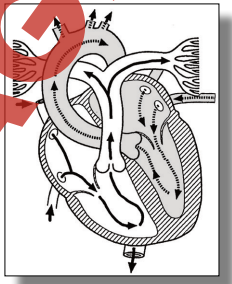
2. Which term completes the sentence? Circle your answer. You may use your dictionary to help you.

- a) Our heart _____
 beats **beats**
- b) The heart is about the size of a _____.
 fist **fist**
- c) Heart muscle is also called _____ muscle.
 cardiac **carp**
- d) The heart is divided into sections called _____.
 rooms **chambers**
- e) Muscle that works without us thinking about it is called _____.
 voluntary **involuntary**



The Circulatory System - Heart

Your heart is only the size of your **fist**, but it is one of the strongest muscles in your body. That's a good thing because it has a very important job. The heart **pumps** blood through your whole body every moment you are alive.



Facts About the Hardworking Heart

- Most hearts beat 75 to 80 times every minute.
- Your heart beats over 100,000 times every day.
- Blood travels around the body 1,000 times a day.
- If you live into your 70's, your heart will have beat over 3 billion times.

The heart is made of **involuntary muscle** tissue called **cardiac** muscle. Involuntary muscle works without us telling it to. This means that you do not have to tell your heart to beat. It does it without you even noticing. This is important because it would be impossible to remember to make your heart beat thousands of times an hour.

The Heart Is a Pump

The heart is really two pumps in one. The two parts work together as a team to send blood all around the body. The heart is divided into two sides. Each of these sides is divided into two chambers. This means the heart has four main areas.

The left side pumps blood that has come from the lungs and is filled with oxygen. Blood filled with oxygen is bright red. This **oxygen-rich (oxygenated)** blood is going to the body to feed every cell. The right side of the heart pumps blood back to the lungs where it can get more oxygen. This blood is called **oxygen-poor (deoxygenated)** and is a very dark red color.

What is the main job of the heart?





The Circulatory System - Heart

1. Put a check mark (☑) next to the answer that is most correct.

a) Why does the heart have to beat throughout our whole life?

- A It would get bored with nothing to do if it didn't.
 B If our blood does not deliver oxygen to our cells they will die.
 C Our heart signals our brain when to breathe.
 D It doesn't beat all our life. Once we are older than 70 the heart doesn't beat.

b) Why is it important that cardiac muscle is involuntary?

- A Involuntary muscle works faster.
 B Involuntary muscle is stronger.
 C Involuntary muscle works without us telling it to.
 D Involuntary muscle does not need oxygen to live.

2. Fill in each blank with a word from the list. Two words will be left over.

blood **two** **four** **deoxygenated** **bright**
lungs **cells** **dark** **oxygenated** **poor**

The heart works not one, but _____ pumps. The left side pumps blood to the _____. This blood is _____ because it is filled with oxygen. The oxygen makes this blood _____ red. The right side pumps blood back to the _____ to drop off waste and pick up oxygen. This blood is _____ red. It has much less oxygen so it is called _____. It can also be called oxygen - _____.



The Circulatory System - Heart

3. Why is it important that the heart beats without us telling it to beat?

4. What is the difference between bright red blood and dark red blood?

5. Here are some new words from the reading. Write each word beside its meaning. Use the information in the reading passage to help you.

chamber **oxygenated** **deoxygenated** **involuntary** **pump**

- _____ a) The heart is one because it pushes blood around the body.
 _____ b) A separate place (the heart has four of these)
 _____ c) Filled with oxygen
 _____ d) Something that works without us having to think about it first
 _____ e) Something with very little oxygen in it

6. Look at the diagram on the next page. It is a **heart**. Follow the instructions to show how blood flows through the two chambers of the heart.

Extension & Application

7. What do you know about **heart attacks**? They are very dangerous. People can die from them. There are other **heart diseases** too. Research heart attacks or another heart disease. Look for information on the Internet and in books from the library. Record your information in the chart (on page 16). Here are some questions you should find the answers to:

- What happens to the heart? • What are the symptoms? • How is it treated?
- Are there some people who are more likely to get it than others?
- What can people do to avoid getting it? What can people do to keep their heart healthy? • Any other interesting facts



Build a Kidney!

We have learned that the kidneys filter blood. This is how they help clean wastes from the body. For this activity, you will build your own "kidney". It is really some pop bottles, but it will give you an idea of how a filter, like our kidneys, works.

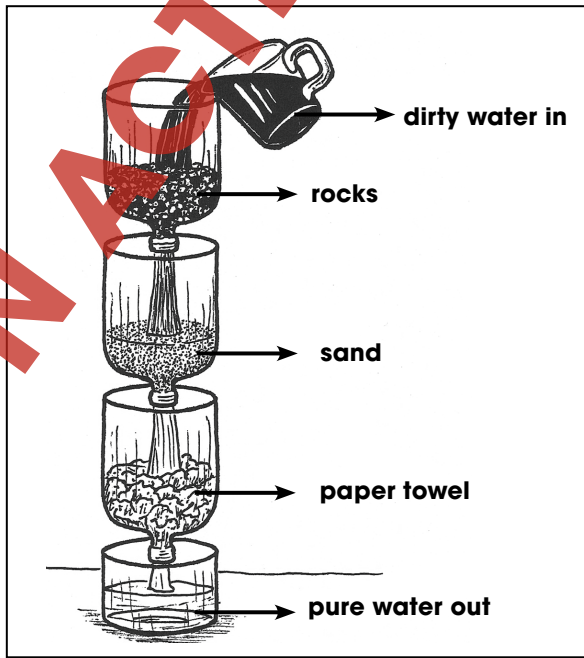
FOR THIS ACTIVITY, you will need:

- 3 large plastic pop bottles, cut in half (you will use the top half of each)
- a large bowl or bucket • pebbles • sand • paper towel • masking tape • small jug of dirty water

Ask your teacher to help you find these things.

STEPS:

1. Fill the first bottle with pebbles. Fill the second bottle with wet sand. Fill the third bottle with paper towel.
2. Stack the containers like they are in the picture and tape them together. They are now in a column.
3. Hold the column of containers over the bucket. Pour the dirty water over the pebbles in the top bottle. The water should filter all the way down into the bucket.



QUESTIONS:

Answer these questions in your notebook.

1. What does the water in the bucket look like? How is it different from the dirty water you started with?
2. What did the pebbles, sand and paper towel do?
3. What conclusions can you make about how kidneys work?1



Word Search

Find all of the words in the Word Search. Words are written horizontally, vertically, or diagonally, and some are even written backwards.

- | | | |
|------------------|-------------|----------------|
| circulate | fetus | immunity |
| artery | involuntary | carbon dioxide |
| vein | heart | saliva |
| urine | chamber | stomach |
| capillary | nutrients | esophagus |
| pressure | abdomen | kidneys |
| excretory system | plasma | intestine |
| oxygen | platelet | colon |
| bladder | clot | enzymes |
| digestion | | |

A	W	S	T	Z	C	S	D	F	T	G	B	N	H	Y	U	M	K
M	K	L	Y	F	H	E	A	R	T	R	F	V	S	D	R	E	X
C	S	T	O	M	A	C	H	H	C	J	R	C	U	L	A	T	E
Z	A	Q	X	S	M	R	F	V	B	N	X	D	E	R	H	S	F
C	D	E	Y	F	B	T	G	E	N	T	U	J	M	K	N	Y	I
N	P	T	G	U	E	J	K	L	N	E	W	F	E	T	U	S	N
W	L	R	E	Y	R	K	Y	U	G	S	O	V	X	D	E	Y	V
Q	A	S	N	U	T	R	I	E	N	T	S	E	J	F	T	R	O
M	S	H	Y	T	G	B	F	D	E	I	T	I	U	R	P	O	L
V	M	D	F	H	U	H	V	T	N	N	C	N	S	E	G	T	U
X	A	E	D	C	V	F	T	Y	G	E	C	V	N	D	G	E	N
U	H	V	B	F	N	Z	Y	M	E	S	Y	R	F	D	V	R	T
R	P	L	A	T	E	L	E	T	H	A	G	S	X	A	H	C	A
Y	R	E	R	A	R	V	G	Y	L	R	F	I	L	A	X	R	
R	E	D	V	B	U	Y	U	O	L	I	F	D	M	B	B	E	Y
A	V	F	R	S	N	H	Y	R	F	V	D	G	M	S	D	K	J
L	W	C	S	V	F	R	T	G	H	A	U	J	U	R	O	F	K
L	S	E	S	O	P	H	A	G	U	S	N	Y	N	B	M	D	F
I	R	A	C	A	R	B	O	N	D	I	O	X	I	D	E	U	Y
P	U	H	N	T	V	R	F	T	G	B	L	N	T	H	N	O	L
A	Q	S	O	X	E	D	C	R	F	V	O	T	Y	G	B	N	H
C	M	L	J	U	U	R	I	N	E	K	C	I	L	O	P	S	F
X	C	V	D	E	R	F	D	G	N	O	I	T	S	E	G	I	D



Part C

Comprehension Quiz

1. Name the **three** kinds of **blood vessels**. Describe what each blood vessel does. 6

2. Name **one** part of the **blood**. Describe its main job. Tell **one** other important thing about it. 3

3. What happens to food when it enters the digestive system? Use the terms **teeth**, **esophagus**, **stomach** and **large intestine** in your answer. 4

4. Name **one** organ of the **excretory system**. Describe what it does. 2

5. How does a **fetus** get its food and oxygen? Why does it need these two things? 3

SUBTOTAL: /18

Human Fetus



NAME: _____

After You Read 



The Circulatory System - Heart

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chamber oxygenated deoxygenated involuntary pump

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3. Answers will vary

4. bright - oxygenated, going to cells
dark - deoxygenated, going to lungs

5. a) pump

b) chamber
c) oxygenated
d) involuntary
e) deoxygenated

6. Left side should be colored red.
Right side should be colored blue.

7. Answers will vary

10

Student results:

Pulse at rest
- lowest of the 4 measurements

Pulse after exercise
- highest of the 4 measurements

Pulse aft 2 min. rest
- lower than after exercise

Pulse aft 5 min. rest
- lower than after 2 min. rest

Pulse is highest after exercise because the heart is beating fastest at this time. It beats faster because the body is working and the cells need more oxygen than when at rest. (Blood carries oxygen to cells.)

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11. It is cleaner than the water that was poured.

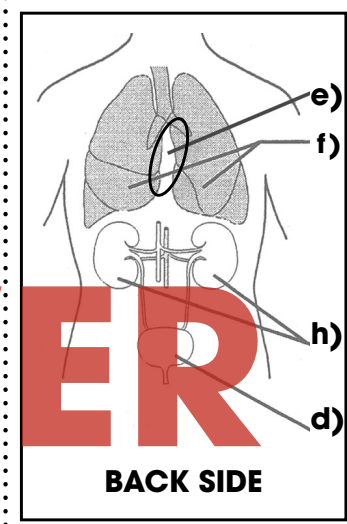
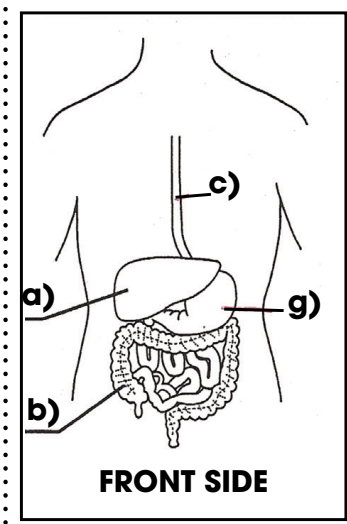
2. They removed the dirt

3. Kidneys filter waste materials out of the blood

14

Answers will vary

15



EASY MARKING ANSWER KEY