

Here Are the Answers

Overview

These activities are designed as “starters” to introduce different body systems by asking students to think about fun facts.

North Carolina Essential Science Standards:

- 7.L.1.4** Summarize the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, and excretion) and ways that these systems interact with each other to sustain life.

Materials

*Materials marked with an asterisk must be supplied by the teacher or the students.

Materials for small groups

- Tape

Materials for individual students

- An appropriate *Here Are the Answers* sheet (BLM 4, 5, 6, or 7)
- Scissors
- Science Notebook*

Preparation

- Make copies (one per student) of the appropriate *Here Are the Answers* sheet.

Procedure

- These activities are designed to introduce the different body systems. They can be used as starters for the other activities in this guide or on their own.
- The procedure is simple. Tell the students that since they are always clamoring for answers, you have decided to give them the answers right off the bat. The only problem is that the answers are not with the appropriate questions. To complete the activity students are to cut out the individual questions and answers and pair them up. They should tape these together in their science notebooks, and they should then write a sentence that explains why they think each is correct.
- Have students share their answers and justifications as a class discussion. At this point, you can go through the answers and have a class discussion or you can allow the students to try to find the answers on their own while learning about the different system.

BLM 4: Here Are the Answers—Digestive System

The Questions	Choose from these answers
How many pints of saliva do we make in one day?	1.5
How many liters of food can an average adult stomach hold?	10
How many tons of food does a 150-pound male eat in his lifetime?	2
How many species of bacteria are present in the human colon?	1 to 3
How many liters of HCl does the human stomach produce in a day?	2 to 3
How long does it take, in seconds, for food to travel through the esophagus and reach the stomach?	14
What is the length, in centimeters, of the average esophagus?	25
How many hours does food stay in your stomach?	35
On average, people “pass” flatus how many times per day?	400

BLM 5: Here Are the Answers—Musculoskeletal System

<i>The Questions</i>	Choose from these answers
Where are the smallest muscles in the body located?	14
Where are the strongest muscles, pound for pound, located?	27
Approximately how many muscles make up the muscular system?	50
On average, muscles make up what percent of a human's total weight?	206
Where is the largest muscle in the body located?	650
Where are the busiest muscles in the body located?	Buttocks
Are bones alive?	Eye
Approximately how many bones are there in the adult skeletal system?	Jaw
Are teeth considered to be bones?	Middle ear
How many bones are in the human hand (including the wrist)?	No
How many bones are in the human face?	Yes

BLM 6: Here Are the Answers—Cardiovascular System

<i>The Questions</i>	Choose from these answers
An adult human has how many miles of blood vessels?	5 to 6
How many <u>millions</u> of beats are performed each year by your heart?	5
An adult heart pumps how many gallons of blood each day?	10
The average heart beats how many times each minute?	20
A typical person has how many liters of blood?	30
How many <u>millions</u> of red blood cells are in one drop of human blood?	70
How many <u>thousands</u> of white blood cells are in one drop of human blood?	250
How many <u>thousands</u> of platelets are in one drop of human blood?	2,000
How many seconds does it take for one blood cell to circulate through the whole body?	60,000

BLM 7: Here Are the Answers—Nervous System

The Questions	Choose from these answers
A newborn baby's brain grows how many times larger by its first birthday?	3
The left side of the brain controls which side of the body?	3
The right side of the brain controls which side of the body?	100
How many neurons are in the human spinal cord?	1,275
What is the total surface area, in square centimeters, of the human brain?	1,375
How many grams does the average adult male brain weigh?	25,000
How many grams does the average adult female brain weigh?	13,500,000
How long, in feet, is the longest cell in your body (a neuron)?	Left
The nervous system can transmit impulses how many meters per second?	Right

BLM 8: Answer Key—Digestive System

How many pints of saliva do we make in one day?	1 to 3
How many liters of food can an average adult stomach hold?	1.5
How many tons of food does a human eat in his lifetime?	35
How many species of bacteria are present in the human colon?	400
How many liters of HCl does the human stomach produce in a day?	2
How long does it take, in seconds, for food to travel through the esophagus and reach the stomach?	10
What is the length, in centimeters, of the average esophagus?	25
How many hours does food stay in your stomach?	2 to 3
On average, people “pass” flatus how many times per day?	14

Sources:

<http://digestivesystemforkids.com/15-fun-facts-digestive-system/>

<http://zomoetdat.nl/theartfacts.com/index.html>

<http://emedicine.medscape.com/article/1948973-overview>

BLM 9: Answer Key—Musculoskeletal System

Where are the smallest muscles in the body located?	Middle ear
Where are the strongest muscles, pound for pound, located?	Jaw
Approximately how many muscles make up the muscular system?	600
On average, muscles make up what percent of a human's total weight?	50
Where is the largest muscle in the body located?	Buttocks
Where are the busiest muscles in the body located?	Eye
Are bones alive?	Yes
Approximately how many bones are there in the adult skeletal system?	206
Are teeth considered to be bones?	No
How many bones are in the human hand (including the wrist)?	27
How many bones are in the human face?	14

Sources:

http://wiki.answers.com/Q/What_are_some_of_the_most_interesting_facts_about_the_muscular_system

<http://hes.ucfsd.org/gclaypo/skelweb/skel01.html>

<http://www.sciencekids.co.nz/sciencefacts/humanbody/skeletonbones.html>

BLM 10: Answer Key—Cardiovascular System

An adult human has how many miles of blood vessels?	60,000
How many <u>millions</u> of beats are performed each year by your heart?	30
An adult heart pumps how many gallons of blood each day?	2,000
The average heart beats how many times each minute?	70
A typical person has how many liters of blood?	5 to 6
How many <u>millions</u> of red blood cells are in one drop of human blood?	5
How many <u>thousands</u> of white blood cells are in one drop of human blood?	10
How many <u>thousands</u> of platelets are in one drop of human blood?	250
How many seconds does it take for one blood cell to circulate through the whole body?	20

Sources:

<http://www.arheart.com/cardiovascular-health/amazing-heart-facts/>

<http://hes.ucfsd.org/gclaypo/circulatorysys.html#AMAZING%20FACTS>

<http://answers.yahoo.com/question/index?qid=20080207125144AA2rDHH>

BLM 11: Answer Key—Nervous System

A newborn baby's brain grows how many times larger by its first birthday?	3
The left side of the brain controls which side of the body?	Right
The right side of the brain controls which side of the body?	Left
How many neurons are in the human spinal cord?	13,500,000
What is the total surface area, in square centimeters, of the human brain?	25,000
How many grams does the average adult male brain weigh?	1,375
How many grams does the average adult female brain weigh?	1,275
How long, in feet, is the longest cell in your body (a neuron)?	3
The nervous system can transmit impulses how many meters per second?	100

Sources:

<http://www.peteducation.com/article.cfm?cls=11&cat=1283&articleid=2982>

<http://answers.yahoo.com/question/index?qid=20080603103005AAGRPHt>