

PURPOSE

To help students understand the function of nine of the body's systems and how each system is essential to the wellbeing of the whole body.

LEARNING OBJECTIVES

By the end of the lesson students will be able to:

1. Identify nine different body systems.
2. Understand that every system in the body must function properly for the whole body to be healthy.
3. Introduce puberty and its relationship to body systems.

MATERIALS & RESOURCES

- **Lesson 1 teenMEN** powerpoint
- **Icebreaker Activity**
- **Worksheet: Body Systems + Teacher's Answer Key**

VOCABULARY

- **Body system:** Groups of organs working together for certain purposes.
- **Maturity:** The growth and full development of the body, brain, and emotions.
- **Hormones:** Chemical signals that travel in the bloodstream, directing the activity of every system in the body.
- **Puberty:** Time when physical and sexual characteristics mature due to hormonal changes (typically between 9-14 years old for a girl, and 10-17 years for a boy).

PREPARATION

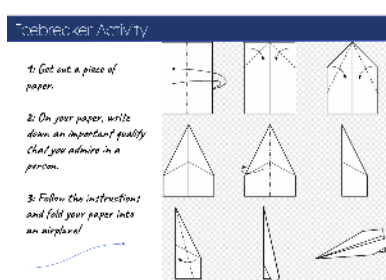
- ☐ Provide each student with a piece of paper for the **Icebreaker Activity**.
- ☐ Print the **Body Systems Worksheet** for each student.

PROCEDURE

Step 1 (10 minutes): Icebreaker Activity + Introduce teenMEN as a health program

1. Hand out one piece of paper to each student.
2. On their paper, instruct students to write down something - a characteristic or quality in a friend, classmate, family member - that they admire and would like to develop in themselves. For example: "they try really hard in school", "they encourage me when I'm feeling down", "they always put others before themselves," etc.

Give students a minute to write down their response on their paper.

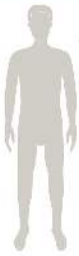


3. Next, follow the diagram on the slide and walk students through the process, step by step, to fold their paper into a paper airplane.

Once students have completed their airplane, have them try to throw it across the room to another student. Each student should send and receive an airplane. Have students share what is written on the airplane they have received.

Maturity means *the growth and full development of the body, brain, and emotions*. In other words, it's a time when your life takes off and you start to mature towards adulthood. We are going to learn in this class what this looks like for your body and for your health. Most of this growth and development you don't control. But maturity also means taking responsibility for the things you can control: your choices and how you respond to situations in your life. With this icebreaker, you actually all grew in maturity! You used your body, brain and emotions to think about the kind of qualities or habits that you admire in another person. This kind of mature thinking is the first stopover on the path to becoming an excellent person, yourself.

Introducing teenMEN



teenMEN is a health program that will help you understand your body & your health as you grow to full maturity.

You will learn about:

- ✓ the **reproductive system**
- ✓ the **physical and emotional changes** of puberty
- ✓ the **importance of your choices** now and for your future.

teenMEN is a health program that will help you learn about your body and also yourself. In this class you will learn about your hormones, your reproductive system, the physical and emotional changes of puberty, and how the choices you make now will impact your life as you grow to full maturity.

Puberty



Puberty is a time when your body starts to change.

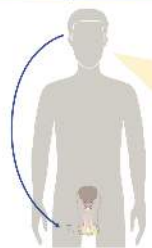
You will notice:

- shoulders and muscles develop
- you get taller
- your voice deepens
- increased body hair growth

You may also notice acne, fatigue, body odor and mood changes.

Puberty is a time of **rapid physical growth, brain development and maturation**. Puberty usually happens between ages 10 and 17 years (between ages 9 and 14 years for a girl). Initially, you may notice that you are getting taller, your voice is deepening, there is increased body hair growth and changing of your body shape as your shoulders and muscles develop. You may also experience acne, fatigue, increased sweat and odor, and moodiness.

Puberty & Hormones



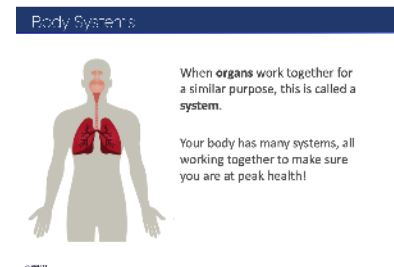
Hormones have a BIG role to play in puberty.

Hormones keep our body functioning on its best.

During puberty, multiple organ systems and major changes in the central nervous system impact your emotional behavior as well. Hormones are powerful and they play a big role in puberty. Next to infancy, puberty is the second most rapid period of growth in the life of a human being.

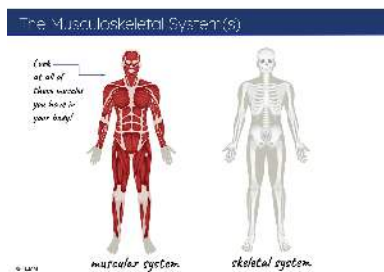
Step 2 (15 minutes): *The reproductive system + other body systems*

The human body is amazing. Let's talk about some of the basics of the body's systems. Your body is composed of cells that are organized into tissues, organs, and organ systems.



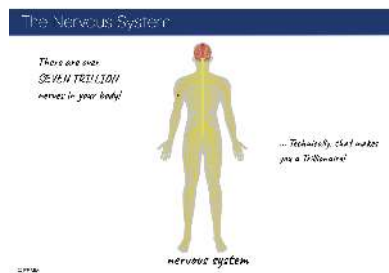
When many organs work together for a similar purpose, we call this a *body system*. Today we will look at nine body systems:

1. The muscular system
2. The skeletal system



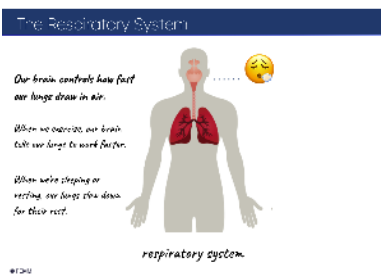
The muscular system and the skeletal system are sometimes called the musculoskeletal system. We sometimes put them into one system because they are so closely linked! Muscles, bones, and joints are attached to each other by different tissues. Ligaments are found at your joints, and their job is to hold bones together. Tendons are found at the ends of muscles, and their job is to connect muscles to bones. When you tighten a muscle, your tendon pulls the bone to which it's attached. So, when you kick a soccer ball, the tendons in your legs have to do a lot of work to make that one motion!

3. The nervous system



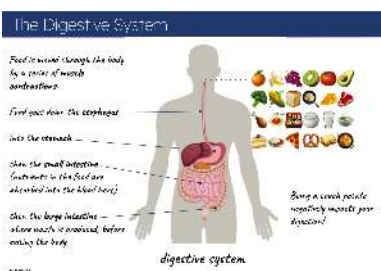
The nervous system controls everything you do, including breathing, walking, thinking, and feeling. This system is made up of your brain, spinal cord, and all of the nerves of your body. The brain is the control center and the spinal cord is the major highway to and from the brain. The nerves carry the messages to and from the body, so the brain can interpret them and take action. At your age, your nervous system is still maturing. That's why you're not yet allowed to do all of the things that you will one day be able to do, like drive a car.

4. The respiratory system



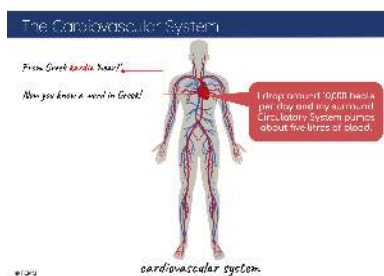
The respiratory system consists of the airways, the lungs and the respiratory muscles that move air into and out of the body. For example, if you do a lot of running for your sport or are on the cross-country team, you will actually get better at breathing! Your body adapts and gives you more of the things you need to transport oxygen around your body and to your muscles.

5. The digestive system



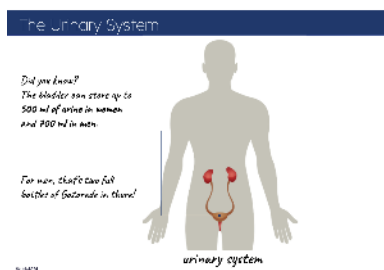
The digestive system consists of a group of connected organs—the mouth, pharynx, esophagus, stomach, small and large intestines, and anus. Through these structures, food is processed via mechanical and chemical action into usable nutrients and expendable waste. It is important to eat enough fiber to keep everything moving along well in your digestive system. Fiber is found in things like fruits and vegetables. Movement helps your body to use the food you eat for energy and growth. Drinking lots of water is also important to keep things moving in your digestive system!

6. The cardiovascular (or circulatory) system



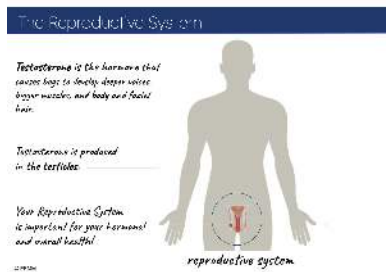
The circulatory system is made up of blood vessels that carry blood away from and towards the heart. Arteries carry blood away from the heart and veins carry blood back to the heart. The circulatory system carries oxygen, nutrients, and hormones to cells, and removes waste products, like carbon dioxide. When you weight train or do cardio exercise (like running) you also improve the way your cardiovascular system works, by training your heart and blood vessels to work more effectively.

7. The urinary system



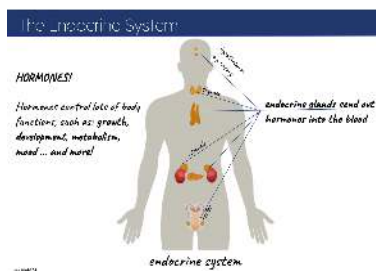
The various activities of the body create waste by-products that must be expelled in order to maintain health. To excrete certain fluid wastes, the body has a specialized filtering and recycling system known as the urinary system.

8. The reproductive system

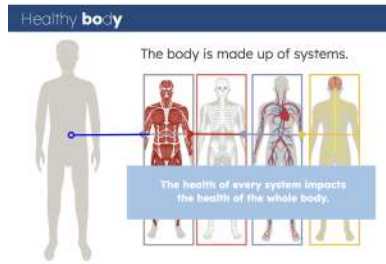


The reproductive system is responsible for bringing about a new life. In boys it includes the testes, scrotum, penis, and all the tubes through which sperm travels. In girls, it includes the ovaries, fallopian tubes, the uterus, and vagina. The reproductive system is also in charge of producing testosterone and other hormones responsible for all of the growth and changes during puberty.

9. The endocrine system



The endocrine system: controls and regulates body processes by means of chemical messengers called hormones. The system is composed of a group of ductless glands located throughout the body that produce hormones in response to the body's needs. Once released, hormones may act on nearby structures, or they may travel in the blood to distant target organs. Hormones act like text messages in the body. So, your brain might send a text to your thyroid gland to let it know that it's time to do its thing. *"Hey, thyroid, can you get moving?"*



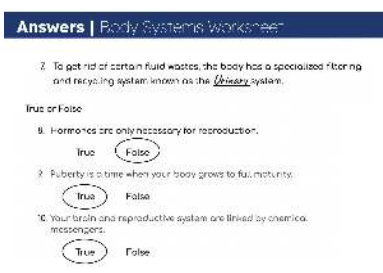
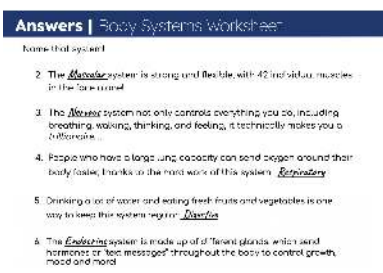
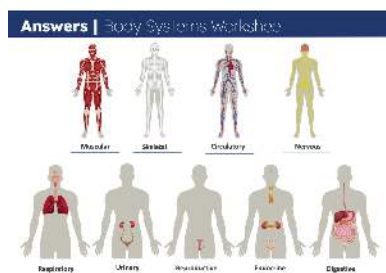
Certain body systems work together to achieve a particular goal. For example, the nervous system and the endocrine system (hormones!) work together to control almost **all of the things the body does**. The respiratory system and cardiovascular work together to provide the body with oxygen and to rid the body of carbon dioxide. All of the body's systems need to be functioning properly for you to be healthy.

Remember: the health of every system impacts the health of the whole body.

Step 3 (10 minutes): Body Systems Worksheet



Hand out the **Body Systems Worksheet** for students to complete. When students are finished, review the answers together with the following slides or the Teacher's Answer Key provided in the materials.



CONCLUSION

Puberty is a time of rapid development, when your body grows towards full maturity. The proper functioning of all of your body systems is important, including your reproductive system. The maturation of the reproductive system is especially important during puberty as that's where the main male hormone, testosterone is produced. We'll learn more about the reproductive system in the next lesson.

REFERENCES

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