Objectives: Describe the effects of exercise on the heart & lungs. The student is expected to analyze the relationships among the body systems.

Introduction to Circulatory & Respiratory Systems:
https://www.youtube.com/watch?v=9fxm85Fy4sQ

ACTIVITIES

- Read an overview of the Circulatory & Respiratory System:

  - The circulatory system, also known as the cardiovascular system, is a vast network of organs and blood vessels that acts both as a delivery and waste removal system for the body. Nutrients, oxygen and hormones are delivered to every cell and as these necessities are provided, waste products such as carbon dioxide are removed, according to the nonprofit Nemours Children’s Health System. Not only does the circulatory system keep our cells healthy, but it also keeps us alive. The heart constantly receives signals from the rest of the body that direct how hard it needs to pump to properly supply the body with what it needs, according to Nemours. For example, when asleep, the body sends electrical signals to the heart that tell it to slow down. When participating in heavy exercise, the heart receives the message to pump harder to deliver extra oxygen to the muscles. Exercise causes the heart to pump blood into the circulation more efficiently as a result of more forceful and efficient myocardial contractions, increased perfusion of tissues and organs with blood, and increased oxygen delivery.

- Respiratory System

  - The respiratory system is the organs and other parts of your body involved in breathing, when you exchange oxygen and carbon dioxide. Breathing starts when you inhale air into your nose or mouth. It travels down the back of your throat and into your windpipe, which is divided into air passages called bronchial tubes. For your lungs to perform their best, these airways need to be open. They should be free from inflammation or swelling and extra mucus. As the bronchial tubes pass through your lungs, they divide into smaller air passages called bronchioles. The bronchioles end in tiny balloon-like air sacs called alveoli. Your body has about 600 million alveoli. The alveoli are surrounded by a mesh of tiny blood vessels called capillaries. Here, oxygen from inhaled air passes into your blood. After absorbing oxygen, blood goes to your heart. Your heart then pumps it through your body to the cells of your tissues and organs. As the cells use the oxygen, they make carbon dioxide that goes into your blood. Your blood then carries the carbon dioxide back to your lungs, where it’s removed from your body when you exhale.

  - Read the effects of exercise on breathing: https://www.bbc.co.uk/bitesize/guides/z6h4jxs/revision/4
  - Read cardiovascular effects & benefits of exercise: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6172294/

- Watch the Videos on the Circulatory System:
  - https://youtu.be/0sttt3M8qZM
  - https://youtu.be/i7okoxFWILQ

- Watch the video on the respiratory system. Specifically, focus on tidal volume and respiratory rate.
  - https://youtu.be/8NuxvY8-_ok
  - https://youtu.be/dH9K78oOGI

ASSESSMENT:

Answer the following questions and submit them via a word document. Title the document by course name. Student name. Student ID and class period.

1. How are the respiratory system and circulatory system connected?
2. What are the effects of exercise on the heart?
3. What are the effects of exercise on the lungs?
4. What are some ways you are exercising during the stay-at-home order to strengthen your lungs and heart in a safe environment?

FOR NEXT TIME:

SUBMIT YOUR QUESTIONS IN WORD APA STYLE TO THE TEACHER BY 4/12/20 AT 8PM