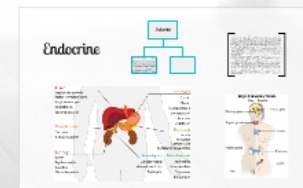
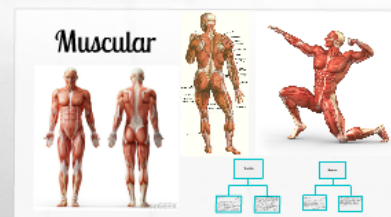
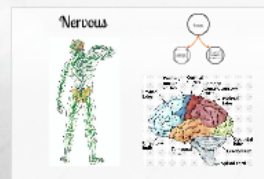
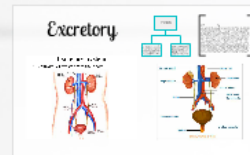
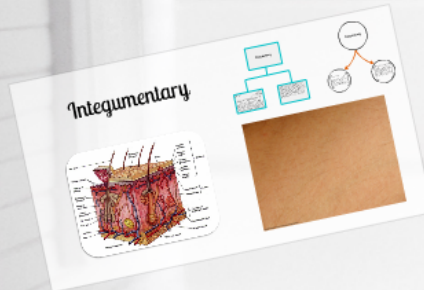
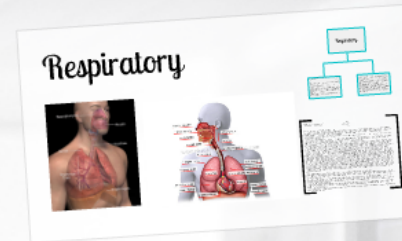
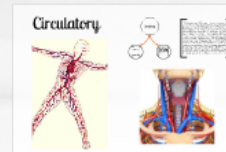
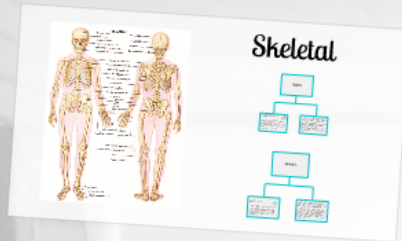
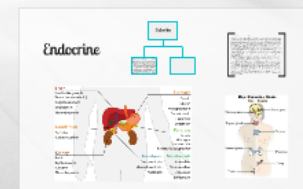
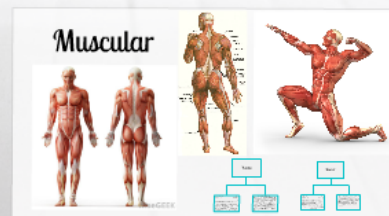
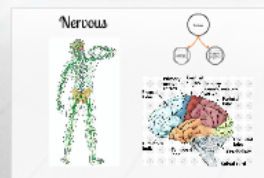
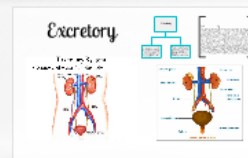
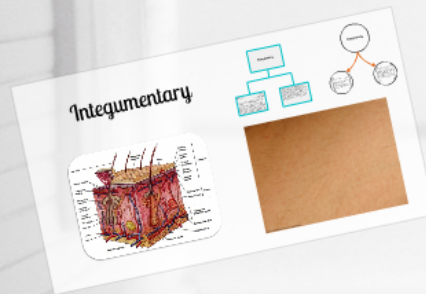
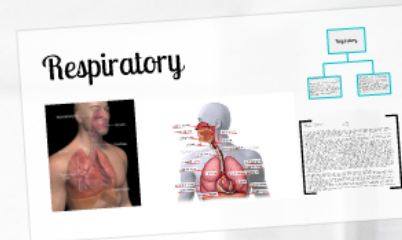
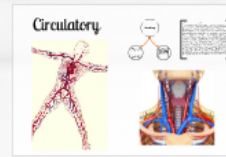
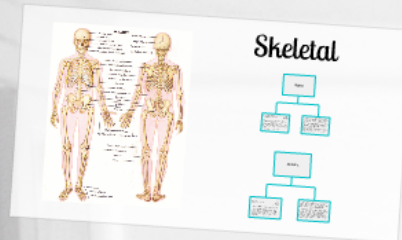


Human Systems

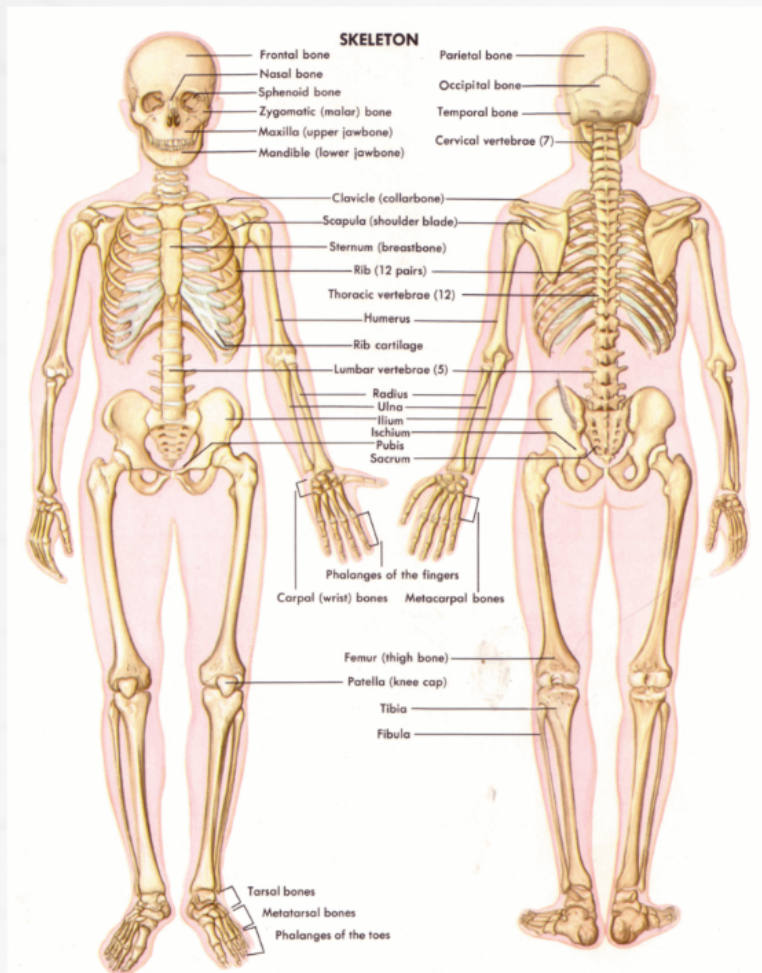


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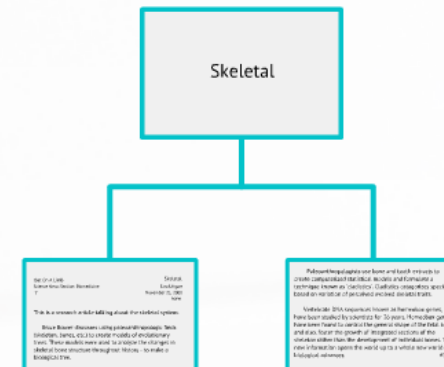
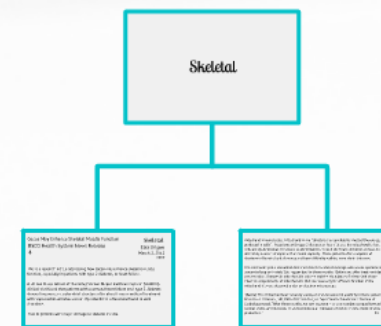
Human Systems



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Skeletal



Skeletal

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graph TD; A[Skeletal] --> B[Out On A Limb...]; A --> C[Paleoanthropologists use bone and tooth extracts...];
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Out On A Limb
Science News Section: Biomedicine
7

Skeletal
Ezra Urigwe
November 25, 2000
none

This is a research article talking about the skeletal system.

Bruce Bower discusses using paleoanthropologic finds (skeleton, bones, etc.) to create models of evolutionary trees. These models were used to analyze the changes in skeletal bone structure throughout history - to make a biological tree.

Paleoanthropologists use bone and tooth extracts to create computerized statistical models and formulate a technique known as 'cladistics'. Cladistics categorizes species based on variation of perceived evolved skeletal traits.

Vertebrate DNA sequences known as homeobox genes, have been studied by scientists for 26 years. Homeobox genes have been found to control the general shape of the fetal body and also, foster the growth of integrated sections of the skeleton rather than the development of individual bones. This new information opens the world up to a whole new world of biological advances.

#3

Skeletal

Out On A Limb

Science News Section: Biomedicine

7

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Skeletal

Cocoa May Enhance Skeletal Muscle Function USCD Health System News Release

4

Skeletal
Ezra Urigwe
March 2, 2012
none

This is a research article addressing how cocoa may enhance skeletal muscle function, especially in patients with type 2 diabetes, or heart failure.

A UC San Diego School of Medicine/ VA San Diego Healthcare System (VASDHS) clinical trial found that patients with advanced heart failure and type 2 diabetes showed improved mitochondrial structure after about three months of treatment with "epicatechin-enriched cocoa". Epicatechin is a flavonoid found in dark chocolate.

Five ill patients with major damage to skeletal muscle

mitochondria were tested. Mitochondria are "structures responsible for most of the energy produced in cells". In patients with type 2 diabetes or heart failure, the mitochondria fuel cells are dysfunctional. This leads to abnormalities in both the heart and skeletal muscles; ultimately a result of impaired functional capacity. These patients often complain of shortness of breath, lack of energy and have difficulty walking even short distances.

The trial participants consumed dark chocolate bars and a beverage with a total epicatechin content of approximately 100 mg per day for three months. Before and after treatment data was recorded. Changes in mitochondria volume and the abundance of cristae (which are internal compartments of mitochondria that are necessary for efficient function of the mitochondria) were observed under an electron microscope.

"[Beore] The cristae had been severely damaged and decreased in quantity in these patients," Francisco J. Villarreal, MD, PhD of UC San Diego's Department of Medicine's Division of Cardiology noted. "After three months, we saw recovery – cristae numbers jumped toward normal levels, and increases in several molecular indicators involved in new mitochondria production."

#4