

SCIENCE OLYMPIAD 2012

San Diego County Regional Competition

Anatomy & Physiology C

DIGESTIVE, EXCRETORY and RESPIRATORY SYSTEMS

The event will be a set of multiple choice questions. At the end of the examination, test booklets and the answer sheets must be returned.

Teams may bring non-programmable calculators, but they will not be necessary for the exam. The calculations will be simple multiplication, division, addition and subtraction.

Suggested sources to study are:

1. Lectures in the DVD ***Understanding the Human Body*** taught by Professor Anthony A. Goodman, MD. Each school has received a complete set of discs with 32 lectures.
2. Selected pages (plates) from the paperback text ***The Anatomy Coloring Book*** by Kapit and Elson, THIRD EDITION, available at www.amazon.com
3. Selected pages (plates) from the paperback text ***The Physiology Coloring Book*** by Kapit, Macey and Meisami, SECOND EDITION, available at www.amazon.com
4. Information at the National Science Olympiad Website www.soinc.org/anatomy_physiology_c

including the following specific links:

- a. <http://www2.estrellamountain.edu/faculty/farabee/biobk/BioBookDIGEST.html>
- b. <http://clem.mscd.edu/~raoa/bio2320/uriphys/>
- c. http://en.wikibooks.org/wiki/Human_Physiology/The_respiratory_system

DIGESTIVE SYSTEM:

Lectures in the DVD Understanding the Human Body, by Professor Anthony A. Goodman, MD.

- Lecture 14: Digestive System – Anatomy of the Mouth, Esophagus and Stomach
- Lecture 15: Digestive System – Physiology of the Mouth, Esophagus and Stomach
- Lecture 16: Digestive System – Anatomy of the Pancreas, Liver and the Biliary Tree
- Lecture 17: Digestive System – Physiology of the Pancreas, Liver and the Biliary Tree
- Lecture 18: Digestive System – Anatomy of the Small Intestine, Colon, and Rectum
- Lecture 19:** Digestive System – Physiology of the Small Intestine, Colon, and Rectum

Plates from the Anatomy Coloring Book, Wynn Kapit and Lawrence Elson, 3rd Edition.

Plates 1, 2, (orientation of the body planes and positions)

Plates 4 (systems of the body: digestive)

Plate 136 (overview)

Plate 137 (oral cavity)

Plate 139 (pharynx and swallowing)

Plate 140 (peritoneum)

Plate 141-145 (esophagus, stomach, small and large intestine, liver, biliary system and pancreas)

Plates from the Physiology Coloring Book, Kapit, Macey and Meisami, 2nd Edition.

Plates 71 – 81 (organization, function and diseases of the digestive system)

Websites:

Stomach and duodenal ulcers (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/peptic-ulcer/DS00242>

Cancers of the digestive system (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/esophageal-cancer/DS00500>

<http://www.mayoclinic.com/health/stomach-cancer/DS00301>

<http://www.mayoclinic.com/health/liver-cancer/DS00399>

<http://www.mayoclinic.com/health/pancreatic-cancer/DS00357>

<http://www.mayoclinic.com/health/colon-cancer/DS00035>

Diarrhea (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/diarrhea/DS00292>

Lactose intolerance (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/lactose-intolerance/DS00530>

Hepatitis (definition, symptoms, risk factors, tests, treatment sections)

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002139/>

Appendicitis (definition, symptoms, risk factors, tests, treatment sections)

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001302/>

EXCRETORY (URINARY) SYSTEM:

Lectures in the DVD Understanding the Human Body, by Professor Anthony A. Goodman, MD.

Lecture 23: Urinary System – Anatomy of the Kidneys, Ureters, and Bladder

Lecture 24: Urinary System – Physiology of the Kidneys, Ureters, and Bladder

Plates from the **Anatomy Coloring Book**, Wynn Kapit and Lawrence Elson, 3rd Edition.

Plates 1, 2, (orientation of the body planes and positions)

Plates 4 (systems of the body: urinary)

Plates 146 – 150 Urinary System

Plates from the **Physiology Coloring Book**, Kapit, Macey and Meisami, 2nd Edition.

Plates 58 – 70 Kidney

Excretory (Urinary) Diseases Websites:

Obstructive disorders (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/kidney-stones/DS00282>

Urinary Tract Infections (UTIs) (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/urinary-tract-infection/DS00286>

Glomerular disorders (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/glomerulonephritis/DS00503>

Renal Failure (definition, symptoms, risk factors, tests, treatment sections)

<http://www.mayoclinic.com/health/kidney-failure/DS00280>

<http://www.mayoclinic.com/health/kidney-failure/DS00682>

RESPIRATORY SYSTEM

Lectures in the DVD Understanding the Human Body, Professor Anthony A. Goodman, MD.

- Lecture 5: Respiratory System – Anatomy
- Lecture 6: Respiratory System – Physiology

Plates from the **Anatomy Coloring Book**, Wynn Kapit and Lawrence Elson, 3rd Edition.

- Plates 1, 2, (orientation of the body planes and positions)
- Plates 4 (systems of the body: respiratory)
- Plates 30: Bony Thorax
- Plate 129: Overview of the Respiratory System
- Plates **130** – 132: Nose, Sinuses, Larynx and Pharynx
- Plates 133 – 134: Lungs and Bronchi
- Plate 135: Mechanism of Respiration

Plates from the **Physiology Coloring Book**, Kapit, Macey and Meisami, 2nd Edition.

Plates 48 – 57: Respiratory Physiology

Respiratory Diseases Websites:

COPD (definition, symptoms, causes, risk factors, complications, tests and diagnosis)

<http://www.mayoclinic.com/health/copd/DS00916>

http://en.wikipedia.org/wiki/Chronic_obstructive_pulmonary_disease

Asthma (definition, symptoms, causes, risk factors, complications, tests and diagnosis)

http://www.google.com/search?hl=en&rls=com.microsoft%3Aen-us%3AIE-SearchBox&rlz=1I7HPIA_en&q=asthma&aq=f&aqi=g10&aql=&oq=&gs_rfai=

<http://en.wikipedia.org/wiki/Asthma>

Emphysema (definition, symptoms, causes, risk factors, complications, tests and diagnosis)

<http://en.wikipedia.org/wiki/Emphysema>

Pneumonia (definition, symptoms, causes, risk factors, complications, tests and diagnosis)

<http://www.mayoclinic.com/health/pneumonia/DS00135/DSECTION=tests-and-diagnosis>

<http://en.wikipedia.org/wiki/Pneumonia>

Sleep Apnea (definition, symptoms, causes, risk factors, complications, tests and diagnosis)

http://en.wikipedia.org/wiki/Sleep_apnea

Cystic fibrosis (definition, symptoms, causes, risk factors, complications, tests and diagnosis)

<http://www.mayoclinic.com/health/cystic-fibrosis/DS00287>

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