



WebQuest

The Respiratory System and Hanta Virus

Introduction: The structure and function of the respiratory system is a topic that can be investigated by using a specific disease that is localized in the lungs. There are three parts to this quest. Part I asks that you review some basic structures of the respiratory system and their function. This should be a very brief review. Objectives # 2 and 3 are most important. We will spend the majority of our time in class on # 3. Be sure to review sections in the text related to gas exchange of oxygen and carbon dioxide prior to class.

The objectives for Part II will lead you to a review of virus structure and replication (objectives 4 and 5). You are also asked to consider a vector in disease progression.

Finally, the objectives in Part III ask that you connect the virus and its host (objectives 7 and 9).

Due date for this activity is_____.

Part I RESPIRATORY SYSTEM

Objective: Students are responsible to learn

1. the names and location of structures of the respiratory systems AND their functions.
2. how air enters and leaves the lungs (mechanism of breathing), and
3. the mechanism by which oxygen enters the blood and carbon dioxide leaves the blood at the alveoli.

1. structure/function respiratory organs

<http://sln.fi.edu/biosci/systems/respiration.html>

<http://www.space-sciencegroup.nsula.edu/sotw/newlessons/defaultie.asp?Theme=humanbody&PageName=respiratory>

http://www.lungusa.com/learn/resp_sys.html

2. mechanism inhalation/exhalation

<http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/P/Pulmonary.html#Breathing>

http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/P/Pulmonary.html#The_Pathway

<http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/P/Pulmonary.html#Control>

http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/P/Pulmonary.html#Local_Control_of_Breathing

3. gas transport

<http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/B/Blood.html#oxygen>

<http://www.purchase.com/biology/respire.htm>

gaseous exchange

<http://www.stemnet.nf.ca/~dpower/resp/exchange.htm#Transport>

oxygen transport

You may need to use additional text reference for this topic

Part II HANTA VIRUS

Objectives: Students should be able to

4. describe the structure of the Hanta virus.

5. explain the mode of replication of the Hanta virus at the molecular level, and

6. show how an animal vector aids the introduction of Hanta virus into a human population

4,5 viral structure and replication

<http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/phys/virology.htm>

<http://www.science.mcmaster.ca/Biology/Virology/16/strat.htm>

<http://www.science.mcmaster.ca/Biology/Virology/16/replication.htm>

6. mouse as host

<http://sevilleta.unm.edu/data/species/mammal/sevilleta/profile/deer-mouse.html>

<http://www.faseb.org/opar/hanta.html>

<http://www.science.mcmaster.ca/Biology/Virology/16/hfrs.htm>

Part III HANTA VIRUS PULMONARY SYNDROME

Objectives: Students should be able to

7. describe the interaction of the Hanta virus and the respiratory tissue that leads to disease,

8. summarize (briefly) what epidemiologists suggest as protection against infection with Hanta Virus, and

9. explain how the virus is transmitted.

7.description of HVPS

<http://www.cdc.gov/ncidod/diseases/hanta/hps/index.htm>

<http://www.cdphe.state.co.us/dc/zoonosis/hanta/PhysicianGuidanceHPS.pdf>

8, 9 Epidemiological studies/transmission of Hanta virus

<http://www.cariboo.bc.ca/hsafety/swp/hanta.htm>

[http://www.bact.wisc.edu:81/ScienceEd/discuss/msgReader\\$28](http://www.bact.wisc.edu:81/ScienceEd/discuss/msgReader$28)

miscellaneous information about Hanta Virus

<http://www.explorenorth.com/library/weekly/aa052300a.htm>

<http://www.cdc.gov/ncidod/diseases/hanta/hps/index.htm>