***1.  
What structure is similar to a "bunch of grapes?  
a. Alveolar duct  
b. Alveoli  
c. Alveolar sac  
d. Respiratory bronchiole  
e. Terminal bronchiole  
Answer: c  
The respiratory tract is made of branching structures, much like the branches of a tree. The trachea branches into two bronchi which branch into smaller bronchi. The bronchi ultimately branch into smaller bronchioles. Bronchioles are distinguished from bronchi in that they do not have cartilage and submucosal glands. The terminal bronchioles are the last part of the airway in which gas exchange does not occur. Terminal bronchioles lead to the respiratory bronchioles. The respiratory bronchioles are the first section of the respiratory tree that gas exchange can occur. The alveoli duct is analogous to a thoroughfare with many cul-du-sacs branching off of it. At the end of the alveoli duct is an alveoli sac. An alveoli sac is a cluster of alveoli, much like a cluster of grapes. Alveoli are individual sacs where gas exchange occurs.  
2.  
Which cell is found in large numbers in the terminal bronchioles?  
a. Clara cell  
b. Type I pneumocyte  
c. Type II pneumocyte  
d. Dust cell  
e. Brush cell  
Answer: a  
The Clara cell is found in the terminal bronchioles. The type I pneumocyte is a squamous epithelial cell. It covers most of the surface of the alveoli. The type II pneumocyte is also called a septal cell. The type II pneumocyte secretes surfactant. The dust cell is also called the alveolar phagocyte. Brush cells are occasionally, but rarely, seen in the alveolar epithelium.  
3.  
Which cell type is located at the basal lamina of the olfactory mucosa?  
a. Basal cells  
b. Brush cells  
c. Olfactory cells  
d. Sustentacular cells  
e. All of the above  
Answer: a  
Olfactory mucosa lines the roof and portions of the walls of the nasal cavity. It contains several cell types: basal cells, brush cells, olfactory cells and sustentacular cells.  
Basal cells are located in the basal lamina. Brush cells are involved with general sensation of the olfactory mucosa. Olfactory cells are bipolar neurons that are the receptors for smell. Sustentacular cells are supporting cells. Sustentacular cells are most numerous cell type in the olfactory epithelium.  
4.  
Which cell type is most numerous in olfactory mucosa?  
a. Basal cells  
b. Brush cells  
c. Olfactory cells  
d. Sustentacular cells  
e. None of the above  
Answer: d  
Olfactory mucosa lines the roof and portions of the walls of the nasal cavity. It contains several cell types: basal cells, brush cells, olfactory cells and sustentacular cells.  
Basal cells are located in the basal lamina. Brush cells are involved with general sensation of the olfactory mucosa. Olfactory cells are bipolar neurons that are the receptors for smell. Sustentacular cells are supporting cells. Sustentacular cells are most numerous cell type in the olfactory epithelium.  
5.  
What type of epithelium is found in the respiratory mucosa of man?  
a. Non-ciliated pseudostratified columnar epithelium with goblet cells  
b. Ciliated pseudostratified columnar epithelium with goblet cells  
c. Simple columnar epithelium  
d. Stratified squamous epithelium  
e. Transitional epithelium  
Answer: b  
In man, respiratory mucosa is composed of ciliated pseudostratified columnar epithelium with goblet cells. Respiratory mucosa contains several cell types: ciliated cells, goblet cells, basal cells, and brush cells. Respiratory mucosa is located lining the respiratory segment of the nasal cavity. It lines the conchae and the paranasal sinuses.  
6.  
What type of tissue makes up the "Adam's apple"?  
a. Compact bone  
b. Spongy bone  
c. Hyaline cartilage  
d. Fibrocartilage  
e. Elastic cartilage  
Answer: e  
The "Adam's apple" is a nickname for part of the larynx formed by the thyroid cartilage. The thyroid cartilage is composed of hyaline cartilage.  
7.  
What type of tissue forms the alveoli in the lung?  
a. Simple squamous epithelium  
b. Simple cuboidal epithelium  
c. Simple columnar epithelium  
d. Stratified squamous epithelium  
e. Pseudostratified epithelium  
Answer: a  
The alveoli are formed by simple squamous epithelium. Epithelium lines body cavities and surfaces. Simple squamous epithelium is "simple" because it is one cell thick. "Squamous" refers to the fact that the cells are flat.  
8.  
What type of tissue lines the paranasal sinuses?  
a. Simple squamous epithelium  
b. Simple columnar epithelium  
c. Stratified squamous epithelium  
d. Ciliated pseudostratified epithelium with goblet cells  
e. Transitional epithelium  
Answer: d  
The paranasal sinuses are lined by ciliated pseudostratified epithelium with goblet cells.  
9.  
In which structure does gas exchange NOT occur?  
a. Alveolar duct  
b. Alveoli  
c. Alveolar sac  
d. Respiratory bronchiole  
e. Terminal bronchiole  
Answer: e  
The respiratory tract is made of branching structures, much like the branches of a tree. The trachea branches into two bronchi which branch into smaller bronchi. The bronchi ultimately branch into smaller bronchioles. Bronchioles are distinguished from bronchi in that they do not have cartilage and submucosal glands. The terminal bronchioles are the last part of the airway in which gas exchange does not occur. Terminal bronchioles lead to the respiratory bronchioles. The respiratory bronchioles are the first section of the respiratory tree that gas exchange can occur. The alveoli duct is analogous to a thoroughfare with many cul-du-sacs branching off of it. At the end of the alveoli duct is an alveoli sac. An alveoli sac is a cluster of alveoli, much like a cluster of grapes. Alveoli are individual sacs where gas exchange occurs.  
10.  
Which cell secretes surfactant?  
a. Clara cell  
b. Type I pneumocyte  
c. Type II pneumocyte  
d. Dust cell  
e. Brush cell  
Answer: c  
The Clara cell is found in the terminal bronchioles. The type I pneumocyte is a squamous epithelial cell. It covers most of the surface of the alveoli. The type II pneumocyte is also called a septal cell. The type II pneumocyte secretes surfactant. The dust cell is also called the alveolar phagocyte. Brush cells are occasionally, but rarely, seen in the alveolar epithelium.  
  
1.  
Which cartilage of the larynx is made of elastic cartilage?  
a. Thyroid cartilage  
b. Cricoid cartilage  
c. Arytenoid cartilage  
d. Epiglottis  
e. Corniculate cartilage  
Answer: d  
The larynx is composed of several cartilages. The thyroid cartilage, cricoid cartilage, arytenoid cartilages, corniculate cartilages and cuneiform cartilages are all composed of hyaline cartilage. The epiglottis is elastic cartilage. There is no fibrocartilage in the larynx.  
2.  
Which cell is rarely found in the alveolus?  
a. Clara cell  
b. Type I pneumocyte  
c. Type II pneumocyte  
d. Dust cell  
e. Brush cell  
Answer: e  
The Clara cell is found in the terminal bronchioles. The type I pneumocyte is a squamous epithelial cell. It covers most of the surface of the alveoli. The type II pneumocyte is also called a septal cell. The type II pneumocyte secretes surfactant. The dust cell is also called the alveolar phagocyte. Brush cells are occasionally, but rarely, seen in the alveolar epithelium.  
3.  
What are the alveolar pores called?  
a. Pores of Luschka  
b. Pores of Descemet  
c. Pores of Mall  
d. Pores of Kohn  
e. Pores of Disse  
Answer: d  
The alveolar pores are the pores of Kohn. These are openings between adjacent alveoli.  
4.  
What is the first portion of the respiratory tree where gas exchange can occur?  
a. Alveolar duct  
b. Alveoli  
c. Alveolar sac  
d. Respiratory bronchiole  
e. Terminal bronchiole  
Answer: d  
The respiratory tract is made of branching structures, much like the branches of a tree. The trachea branches into two bronchi which branch into smaller bronchi. The bronchi ultimately branch into smaller bronchioles. Bronchioles are distinguished from bronchi in that they do not have cartilage and submucosal glands. The terminal bronchioles are the last part of the airway in which gas exchange does not occur. Terminal bronchioles lead to the respiratory bronchioles. The respiratory bronchioles are the first section of the respiratory tree that gas exchange can occur. The alveoli duct is analogous to a thoroughfare with many cul-du-sacs branching off of it. At the end of the alveoli duct is an alveoli sac. An alveoli sac is a cluster of alveoli, much like a cluster of grapes. Alveoli are individual sacs where gas exchange occurs***

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