

Jan 8th Multiple Choice Monday

- <https://goo.gl/forms/fdOuzm99CYXw4D7i1>

Jan 9th Team Tuesday

1.2.U1/2 Using a table, compare prokaryotic and eukaryotic cells in regards to five different features [5]

prokaryotic cells

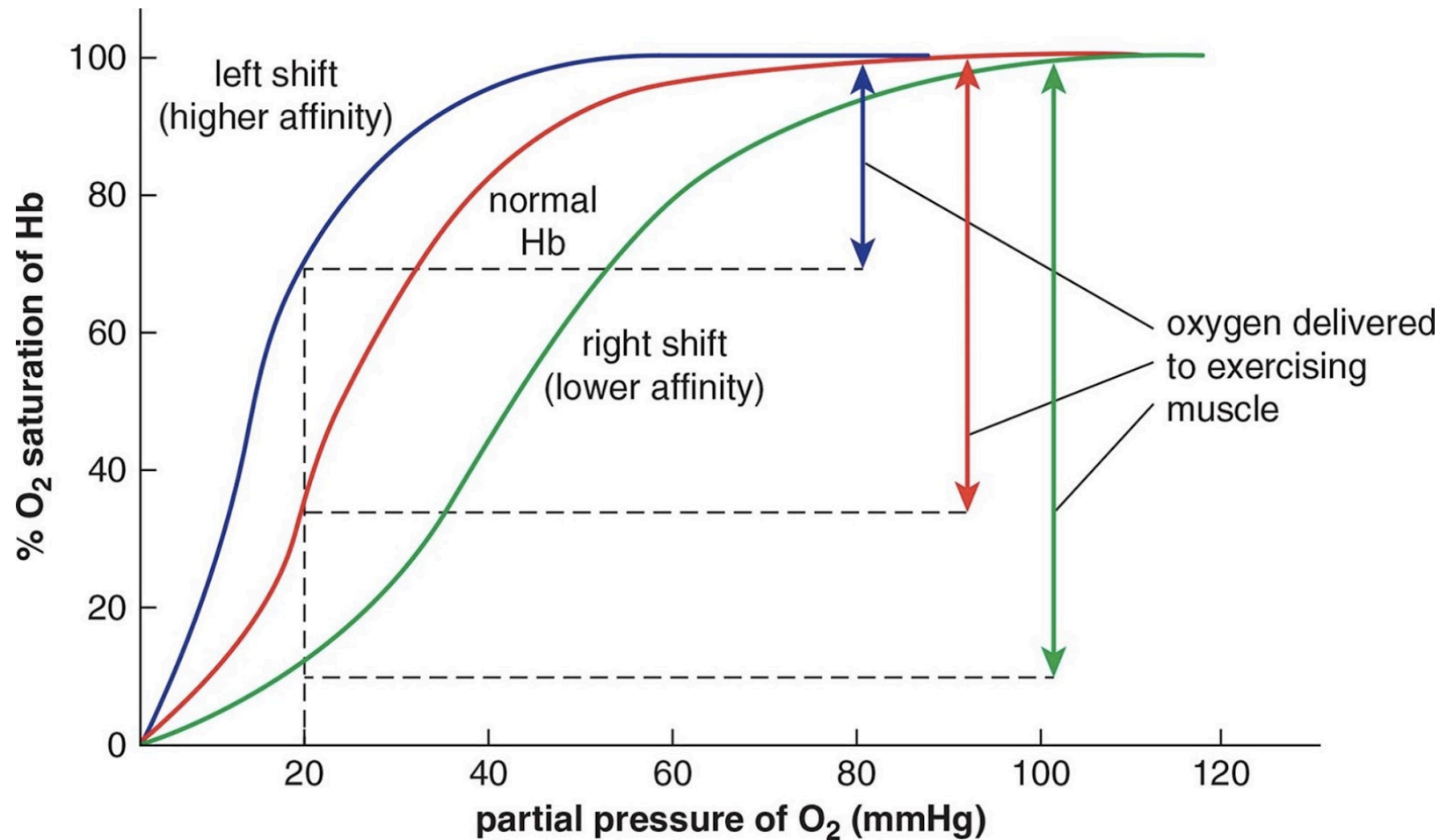
nucleoid / no nucleus / nuclear membrane
naked DNA / no histones
no mitochondria
no Golgi / no ER
circular DNA
no / very few membrane-bound organelles
ribosomes smaller / 70S
no mitosis / meiosis
flagella lack internal microtubules

eukaryotic cells

vs. nucleus / nuclear membrane;
vs. NA associated with protein / histone;
vs. mitochondria present;
vs. Golgi / ER present;
vs. linear DNA;
vs. membrane-bound organelles;
vs. ribosomes larger / 80S;
vs. mitosis / meiosis;
vs. flagella have microtubules (9+2);

Jan 10th Wise Wednesday

D.6.U4 Explain the Bohr shift of an oxygen dissociation curve during gas exchange. [6]



Max 6

- Oxygen dissociation curves describe saturation of hemoglobin by oxygen;
- Occurs over a narrow range of partial pressure of oxygen;
- Typifies oxygen pressures surrounding cells under normal metabolism;
- Increased metabolism results in greater release of CO_2 into blood; CO_2 lowers pH of blood resulting in increased acidity and corresponding shift of oxygen dissociation curve to right and the release of oxygen from hemoglobin;
- At the same partial pressure of oxygen ensuring that respiring tissues have enough oxygen when their need for oxygen is greatest;
- Saturation of hemoglobin occurs at higher partial pressures of oxygen so that it can release oxygen at higher partial pressures;

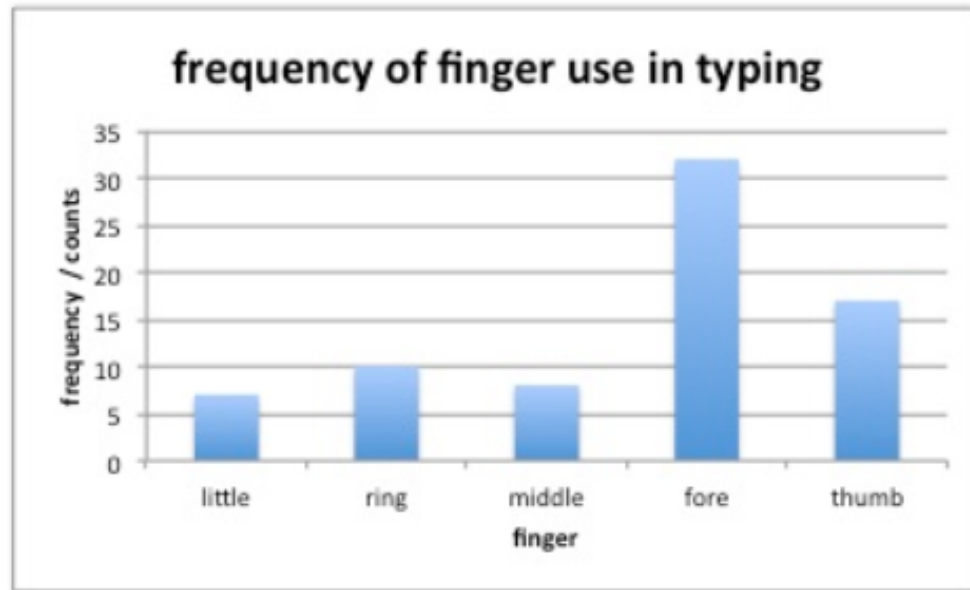
Jan 11th Thinking Thursday

11.3.U4 Explain the process of ultrafiltration [5]

- Blood in glomerulus at high pressure;
 - due to afferent arterioles being close to the heart;
 - due to diameter of efferent narrower than afferent arteriole;
- Capillary wall is fenestrated / has pores / holes;
- Basement membrane;
 - prevent large cells and molecules (protein) from leaving blood plasma;
 - allows passage of small molecules;
- Filtrate passes through the Bowman's capsule to the proximal convoluted tubule;
- Passive process;

Jan 12th Figure Friday

Practical 1 Use the figure below to answer the following questions:



1. State which finger has the highest frequency use in typing. [1]
2. Compare and contrast the use of the three fingers, 'little', 'ring' and 'middle'. [2]
3. Analyze the hypothesis that most people type with just two fingers. [2]

Jan 12th Figure Friday

1. State which finger has the highest frequency use in typing. [1]
Fore finger
2. Compare and contrast the use of the three fingers, 'little', 'ring' and 'middle'. [2]

Similarity – all three fingers have a lower frequency of use than fore or thumb.

Difference – little finger has lowest frequency of use, middle finger has a slightly higher frequency than little finger, and the ring finger has a slightly higher frequency of use than the little and middle fingers.

3. Analyze the hypothesis that most people type with just two fingers. [2]

The data supports the hypothesis because most of the typing frequency is accomplished by the fore finger and thumb.

The data does not support the hypothesis because all five fingers are used in typing.