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LAKE FOREST HIGH SCHOOL  
AP BIOLOGY  
2020-2021

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REMIND CODE:  
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SUMMER WORK

- I. Understanding water Guide
  - a. Vocabulary in journal
  - b. Review Tasks

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SUMMER WORK 2020

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Dear Students,

Welcome to AP Biology! As you are aware AP courses are very different from traditional course work. They require extra work during the school year as well as the summer leading into the academic year and over school year breaks. The following is your assignment to prepare you for August of 2020 and the start of your AP Biology Academic career.

Summer Work:

- Obtain a composition book and use this as a vocabulary notebook, you will be required to complete vocabulary for review guides. You should write the name of the review guide or topic at the top of the first page, vocabulary word should go on the left and definition on the right. You will only use the front of the page so that you can fold the pages and use them to review.
- Obtain a binder (4"-5" is suggested for the year) and loose leaf paper, complete the review tasks.

**ALL WORK MUST BE HAND WRITTEN! ANY TYPED WORK WILL NOT BE ACCEPTED AND WILL RESULT IN A ZERO!**

AP BIOLOGY EXAM IS Scheduled for  
FRIDAY MAY 14<sup>th</sup>, 2020

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# Understanding Water Guide

## AP Biology

**Focus:** How do the properties of water impact the Biological function of water?

**Read:** Sections 2.1 and 2.2 in the openstax text book : Biology – 2e

<https://openstax.org/books/biology-2e/pages/2-introduction>

### Videos/Interactives to help:

- . [Amoeba Sisters : Properties of water](#)
- [Mr. Andersen's "Water: A Polar Molecule"](#)
- Khan Academy: [The Properties of Water](#)

**Vocabulary –** These terms should be completed in vocabulary notebook. – See summer work handout for details on how to set up your vocabulary notebook.

Acid	Dissociation	pH scale
Adhesion	Element	Polar covalent bond
Anion	Evaporation	Product
Base	Heat of vaporization	Reactant
buffers	Hydrogen bond	Solvent
Capillary action	Hydrophilic	Specific heat capacity
Cation	Hydrophobic	Surface tension
Chemical reaction	Ionic bond	Van der waals interaction
Cohesion	Litmus	
Covalent bond	Nonpolar covalent bond	

**Review tasks:** Use the lecture in the videos and your textbook reading to help you answer these questions.

1. Illustrate the difference between cohesion and adhesion of water molecules- You can create a doodle note, a t-chart, and infographic, etc. In the illustration explain why each of these properties are significant to living things and give specific examples.
2. Explain how Hydrogen bonds result in cohesion, adhesion and surface tension for water.
3. Using a graphic organizer (of your choice), **explain** how water's high specific heat, high heat of vaporization and expansion upon freezing affect both aquatic and terrestrial ecosystems.
4. Water is often referred to as the Universal Solvent, using evidence justify why it would be given this title. Be sure to cite your evidence (text, video, online research).