**BIOLOGY 2022-23 October 14, 2022**

**Today’s Agenda (Day 36)**

1. HOUSEKEEPING ITEMS

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1. Homework Check:

🡪 Chapter 5 Reading Guide

🡪Chapter 6 Vocabulary

1. Class Activity:

🡪 **QUIZ: Chemicals and Symbols**

 \*Go to [www.socrative.com](http://www.socrative.com) 🡪 enter room “MSBBIOLOGY” 🡪 enter ID #

HOMEWORK:

* READ: Chapter 6 – Chemistry in Biology
* COMPLETE: Chapter 6 Reading Guide
* **STUDY**: Ch 5 & 6 Vocabulary Quiz

CHAPTER 5 – Biodiversity and Conservation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Background extinction | Biological augmentation | Biological magnification | Bioremediation | Ecosystem diversity | Edge effect |
| Endemic | Eutrophication | Extinction biodiversity | Genetic diversity | Habitat fragmentation | Introduced species |
| Mass extinction | Natural resource | Overexploitation | Renewable resource | Species diversity | Sustainable use |

CHAPTER 6 – Chemistry in Biology

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Acid | Activation energy | Active site | Amino acid | Atoms | Base |
| Buffer | Carbohydrate | Catalyst | Chemical reaction | Compound | Covalent bond |
| Electron  | Element | Enzyme | Hydrogen bond | Ion | Ionic bond |
| Isotope  | Lipid | Macromolecule | Mixture | Molecule | Neutron  |
| Nucleic acid | Nucleotide | Nucleus | pH | Polymer | Polar molecule |
| Product | Protein | Proton | Reactant | Solute | Solution |
| Solvent | Substrate | Van der Waals force |  |  |  |

ELEMENTS AND SYMBOLS

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hydrogen -  | Helium -  | Lithium -  | Beryllium -  | Boron - | Carbon - | Nitrogen - | Oxygen - | Fluorine - |
| Neon -  | Sodium -  | Magnesium - | Aluminum -  | Silicon - | Phosphorus- | Sulfur - | Chlorine - | Argon - |
| Potassium- | Calcium -  | Chromium -  | Manganese - | Iron - | Cobalt - | Nickel - | Copper - | Zinc - |
| Arsenic -  | Selenium -  | Bromine -  | Krypton -  | Palladium - | Silver - | Cadmium - | Tin - | Iodine - |
| Xenon -  | Cesium -  | Barium -  | Platinum -  | Gold - | Mercury - | Lead - | Radon - | Radium - |

POLYATOMIC IONS & COMMON ACIDS

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Acetate | Acetate | Ammonium | Bromate | Carbonate | Chlorate | Chlorite | Chromate | Cyanate |
| Cyanide | Dichromate | dihydrogen phosphate | hydrogen carbonate / bicarbonate | hydrogen phosphate | hydrogen sulfate / bisulfate | Hydroxide | Hypochlorite | Iodate |
| Nitrate | Nitrite | Oxalate | Perchlorate | Permanganate | Peroxide | Phosphate | Phosphite | Sulfate |
| Sulfite | Thiocyanate | Thiosulfate |  |  |  |  |  |  |
| Acetic | Bromic | Chloric | Chlorous | Hydrobromic | Hydrochloric | Nitric | Phosphoric | Sulfuric |

REMINDERS:

* **~~QUIZ: Chemicals and Symbols [elements, polyatomic ions, acids] 🡪 Oct. 11 Postponed to Oct. 14~~**
* ~~Chapter 6 Vocabulary – Oct. 14~~
* Chapter 6 Reading Guide – Oct. 17
* **QUIZ: Ch 5 & 6 Vocabulary – Oct. 18**
* **TEST: Ch 6 🡪 Oct. 25**

**BIOLOGY 2022-23 READING GUIDE**

Chapter 6 Chemistry in Biology

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| --- |
| Review pages 148 – 171 in the Glencoe Science *Biology*Textbookand answer the following questions.1. Define **matter**.  Describe atoms in terms of matter.
2. State the location and charge of the three subatomic particles of an atom.
3. Why are elements in the periodic table placed in the groups (vertical columns)?
4. List the most abundant element in living organisms and then nonliving matter.  Do the same for least abundant.
5. What are **isotopes**?  Give an example.
6. What are **compounds**?  Explain how they are the same, or how they are different, then the individual elements they are made of.
7. Describe how **covalent bonds** form.  Give an example.
8. Describe how **ionic bonds** form.  Give an example.
9. What types of elements tend to donate electrons?  What type of elements tend to accept electrons?
10. What are **van der Waals forces**?  What factors determine the strength of these forces?
11. Why must all chemical reactions be balanced?
12. Label the reactants and products in the following equation:

6CO2 + 6H2O + sunlight 🡪 C6H12O6 + 6O21. How do enzymes work in terms of **activation energy**?
2. Describe what is taking place in the diagram below:

 1. Explain why water is **a polar molecule**.
2. Compare and contrast **homogeneous mixtures** and **heterogeneous mixtures**.
3. Describe the difference between acids and bases in terms of ions.
4. List 2 common **acids** and two common **bases**.
5. How do **buffers** help organisms maintain homeostasis?
6. List and describe the four most essential macromolecules in organism.
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