Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Block: \_\_\_\_\_

**What Is Life?**

1. **Using just your brain, list as many characteristics as you can that are common to all living things. "ALL LIVING THINGS ARE:"**

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1. **For each listed item below, classify the object as being either living (biotic) or non-living (abiotic) . Then further classify the Biotic organisms as to which Kingdom of life you think they belong to. (Plantae, Animalia, Fungi, Protista, or Monera).**
2. **Coral: \_\_BIOTIC E) Moss: \_\_\_\_\_BIOTIC\_\_\_\_\_\_\_\_\_\_\_**
3. **Bacteria:\_\_\_ BIOTIC\_\_\_\_\_\_ F) Lichen: \_\_\_\_BIOTIC\_\_\_\_\_\_\_\_\_\_**
4. **Air: \_\_\_\_\_ABIOTIC\_\_\_\_\_\_\_ G) Barnacles: \_\_\_\_BIOTIC\_\_\_\_\_\_\_\_\_**
5. **Mould: \_\_BIOTIC\_\_\_\_\_\_ H) Viruses: That's a DEBATE**

**\*\*\* To complete the section below, please read pp. 26-31 from Miller-Levine BIOLOGY Textbook.**

1. **List five characteristics that are generally common to all forms of life.**
2. **Made up of one or more CELLS**
3. **REPRODUCE – Either Sexually or Asexually**
4. **GROWTH -via cell division as well as DEVELOP – Change during life cycle**
5. **Obtain and use ENERGY and run energy transformations**
6. **RESPOND to environmental changes**
7. **Give an example of an organism that would fit each class below:**
8. **Multicellular: HUMAN, CAT, TREE, WORM
B) Unicellular: AMOEBA, PARAMECIUM, BACTERIA**
9. **Define each of the following mechanisms of reproduction.**
10. **Sexual Reproduction: When two haploid (carrying half the DNA) sex cells from two different individuals unite to form a new offspring that is a blend of both parents**
11. **Asexual Reproduction: When a single organism reproduces on its own to form offspring that are clones of the the parent.**
12. **We often use the word "GROW" to indicate something is getting bigger in size, like a thunder cloud, puddle etc, but describe how an actual organism grows. p. 29**

**Organisms take in substances from their environment and use them for energy and building materials to cell growth and cell division**

1. **List three main ways that organisms use energy (usually light or chemical energy) from their environment?**

**They use chemicals and energy from their environment for GROWTH (making more cells), REPAIR, DEVELOPMENT, ENERGY.**

1. **An organism's metabolism is the rate at which it uses Chemical Energy from its environment. Of all the millions of reactions that take place in an organism, they can either be classified as being either ANABOLIC or CATABOLIC. Use google or a dictionary to determine which matches which statement below.**
2. **Any type of reaction that starts with bigger higher energy
molecules and breaks these chemicals down into smaller
lower energy molecules to release energy. CATABOLIC**
3. **Any type of reaction that starts with smaller low-energy**

**Molecules and brings them together with an energy input**

**To make larger higher-energy molecules. ANABOLIC**

1. **Try to think of and give a description for each:**
2. **A rapid response by an organism to a change in its environment (stimulus).**

**Stepping on a piece of glass with bare feet**

1. **A slow/gradual response by an organism to a change in its environment.**

**Plants growing toward sunlight over a few days**

1. **Define the term HOMEOSTASIS: The process that organisms use to monitor their internal conditions to keep everything in balance so they can stay alive**
2. **Give an example of a condition/factor that you as a human use homeostatic mechanisms to maintain. Explain how your body maintains that condition.**

**BODY TEMPERATURE : Sweat when hot, send more blood out to skin to cool down blood. Shiver and goose bumps when cold to burn more calories and generate more heat, send less blood out to skin.

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**Use the acronym below to become more familiar with characteristics common to life.**

**"C.H.A.R.G.E.R"**

**C= Consist of one or more Cells G = Grow and develop via cell division**

**H = Maintain Homeostasis E = Run Energy transformations**

**A = Are Adapted to environment R= Able to Respond/ Sensitive to changes**

**R = Reproduce**