**EOG Study Guide 2014**

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| **8.P.1 - Matter: Properties and Change**   1. \_\_\_\_\_\_\_\_\_ are the building blocks of matter. 2. An \_\_\_\_\_\_\_\_\_ is a pure substance that CANNOT be broken down into a simpler substance. 3. A \_\_\_\_\_\_\_\_\_ a pure substance that is made of two or more \_\_\_\_\_\_\_\_\_ and can be broken down by a chemical reaction. 4. A \_\_\_\_\_\_\_\_\_ is two or more substances that have been physically combined. 5. Each substance in a mixture keeps its original \_\_\_\_\_\_\_\_\_. 6. You can separate a mixture by \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_. 7. A \_\_\_\_\_\_\_\_\_ mixture is NOT uniform and the components can be visibly distinguished. 8. A \_\_\_\_\_\_\_\_\_ mixture is uniform and you cannot see what it is made of. 9. The particles in a solid are \_\_\_\_\_\_\_\_\_ together. 10. The particles in a gas are \_\_\_\_\_\_\_\_\_ apart from each other. 11. The particles in a solid are \_\_\_\_\_\_\_\_\_ in place. 12. The particles in a gas are moving \_\_\_\_\_\_\_\_\_ quickly. 13. As you move from a solid, to a liquid, to a gas, the particles move \_\_\_\_\_\_\_\_\_ and spread farther \_\_\_\_\_\_\_\_\_. 14. The \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ arranges elements according to increasing \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_. 15. Elements in a group share similar \_\_\_\_\_\_\_\_\_. 16. As you move from left to right across a period, properties \_\_\_\_\_\_\_\_\_. 17. Non-metals are \_\_\_\_\_\_ conductors of electricity. 18. Four properties of metals are: \_\_\_\_\_\_ conductors of electricity, \_\_\_\_\_\_ (can be made into wire), \_\_\_\_\_\_ (can be flattened and shaped), and have \_\_\_\_\_\_\_ (shiny). 19. The elements along the staircase are called \_\_\_\_\_\_\_. 20. A \_\_\_\_\_\_\_\_\_ change can be reversed and nothing new is formed. For example: cutting paper, boiling water, and melting ice cream. 21. A \_\_\_\_\_\_\_\_\_ change cannot be reversed and something new is created. For example: rust, burning, and rotting. 22. Evidence of a chemical change includes \_\_\_\_\_\_\_\_\_ , formation of a precipitate, \_\_\_\_\_\_\_\_\_, and increase in temperature. 23. The \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_ states the mass and number of atoms in the reactants is equal to the mass and number of atoms in the products. Matter \_\_\_\_\_\_\_\_\_ be created or destroyed. 24. During in a chemical reaction the atoms in the reactants are \_\_\_\_\_\_\_\_\_\_ to create a new product, but the total number of atoms remains the \_\_\_\_\_\_\_. 25. In an open container the mass of the products may be \_\_\_\_\_\_ if a gas is produced and not trapped. | **8.E.2 – Earth History**   1. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ Theory states that the Earth’s plates have moved over time, which has caused changes in climate, in geographic features such as mountains, and in the types of living things in particular places. 2. The Law of \_\_\_\_\_\_\_\_ states that in any undisturbed sequence of rocks, the \_\_\_\_\_\_\_\_ layer is on top and the \_\_\_\_\_\_\_\_ is on the bottom. 3. \_\_\_\_\_\_\_ fossils existed during a specific geologic age and can be used to predict the relative age of a rock. 4. \_\_\_\_\_\_\_\_\_ age provides you the exact age of a rock or fossil and is determined by using \_\_\_\_\_\_\_\_\_\_\_\_\_. 5. A \_\_\_\_\_\_\_ is the preserved remains or traces of an organism that lived in the past. 6. \_\_\_\_\_ \_\_\_\_\_ are used to study how atmospheric conditions have changed throughout Earth’s history. 7. Most of Earth’s history is included in the \_\_\_\_\_\_\_\_ Era during which there was little to no life on Earth. 8. The era we are currently living in is known as the \_\_\_\_\_\_\_\_\_ Era. 9. We use evidence from \_\_\_\_\_\_, \_\_\_\_\_\_, and \_\_\_\_\_\_ to show that the Earth is constantly changing. |
| **8.L.4 - Evolution and Genetics**   1. The Theory of \_\_\_\_\_\_\_\_ states that species change over time in response to changes in their environment. 2. When an organism’s environment changes they must \_\_\_\_\_\_\_\_ or they will become \_\_\_\_\_\_\_\_. 3. Genetic \_\_\_\_\_\_\_\_ increases a species chance for survival. 4. The ability of organisms to pass on favorable traits to their offspring is called \_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_. 5. A \_\_\_\_\_\_\_\_ structure is used to show that organisms share a common ancestor. 6. The wings of a moth, a bird, and a bat are examples of \_\_\_\_\_\_\_\_ structures. 7. A favorable characteristic passed on from parents to their offspring is called an \_\_\_\_\_\_\_\_\_\_. An example is the shell of a turtle or \_\_\_\_\_\_\_\_\_\_\_\_\_. 8. Beneficial mutations that result in the survival of a species and result in an entirely different organisms over time is known as \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_. 9. \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ is a system used to organize and show relationships between all organisms on Earth. | **8.L.1 - Structures and Functions of Living Things**   1. A \_\_\_\_\_\_\_\_\_ is any disease-causing agent. 2. The four types of pathogens are \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_. 3. A \_\_\_\_\_\_\_\_\_ is non-living. An example is the flu. 4. A \_\_\_\_\_\_\_\_\_ is used to treat bacterial infections. 5. A \_\_\_\_\_\_\_\_\_ is used to prevent viral infections. 6. A \_\_\_\_\_\_\_\_\_ is an outbreak of a disease that occurs in a localized area. 7. A \_\_\_\_\_\_\_\_\_ is an outbreak of a disease that affects a much larger region, usually global. 8. The best way to prevent epidemics and pandemics is by \_\_\_\_\_\_\_\_\_. |
| **8.L.5 - Molecular Biology**   1. \_\_\_\_\_\_\_\_ is a cellular process where the cell replicates in order to repair damaged cells or help the organism to grow. 2. Plants use the energy from \_\_\_\_\_\_\_\_ to make \_\_\_\_\_\_\_\_. 3. The reactants of photosynthesis are \_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_. The products of photosynthesis are \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_. 4. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ breaks down the glucose produced during photosynthesis to release \_\_\_\_\_\_\_\_. 5. The three molecules that serve as food for the cell are \_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_. 6. Food energy is measured in \_\_\_\_\_\_\_\_. 7. If one consumes more calories than the body uses, then \_\_\_\_\_\_\_\_. 8. A person who burns calories at a fast rate is said to have a high \_\_\_\_\_\_\_\_. 9. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ is the minimum number of calories that a person needs to maintain bodily functions while at rest. 10. The digestion of food provides the body with the necessary reactants to perform \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_. | **8.L.2 - Biotechnology**   1. Biotechnology is the use of \_\_\_\_\_\_\_\_ organisms to solve problems and make useful products. For example: creating pest resistant crops and producing new medicines. 2. The two main areas where you see biotechnology used are \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_. 3. Some the \_\_\_\_\_\_\_\_ of biotechnology are: gene crossing, cancer, unknown side effects. 4. Some the \_\_\_\_\_\_\_\_ of biotechnology are: finding cures to diseases, reducing the use of pesticides on crops, increasing crop yields, and discovering new medicines. |

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| **8.L.3 - Ecosystems**   1. A \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ factor affects large populations and are often caused by overcrowding. For example: competition for food, water, shelter, space, and the quick spread of disease through a population. 2. A \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ factor affect all populations regardless of their size. For example: natural disasters and human activities (pollution). 3. \_\_\_\_\_\_\_\_ is an interaction between species in which one species eats the other. 4. A \_\_\_\_\_\_\_\_ relationship exists between organisms of two different species that live together in direct contact. 5. \_\_\_\_\_\_\_\_ is a symbiotic relationships in which one organisms benefits at the expense of the other organism. For example: a flea and a dog. 6. \_\_\_\_\_\_\_\_ is a symbiotic relationship in which both organisms benefits. For example: a crocodile and a bird. 7. The \_\_\_\_\_\_\_\_ is the ultimate source of the energy in an ecosystem. 8. The first trophic level includes \_\_\_\_\_\_\_\_. 9. Another name for a producer is an \_\_\_\_\_\_\_\_. 10. The second trophic level includes \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_. 11. Another name for a consumer is a \_\_\_\_\_\_\_\_. 12. As you move up an energy pyramid, energy is \_\_\_\_\_\_\_\_. 13. In an ecosystem there are more \_\_\_\_\_\_\_\_ than \_\_\_\_\_\_\_\_. | **8.P.2 - Energy: Conservation and Transfer**   1. Energy resources that can be replaced or reused are called \_\_\_\_\_\_\_\_ energy. 2. Examples of renewable energy resources are: biomass, wind, water, and \_\_\_\_\_\_\_\_. 3. \_\_\_\_\_\_\_\_ is organic matter such as plant and animal waste that can be used as fuel. 4. Energy resources that cannot be replaced or are used at a faster rate than which they are formed at are called \_\_\_\_\_\_\_\_ energy. 5. Examples of nonrenewable energy resources are: coal, natural gas, and \_\_\_\_\_\_\_\_. 6. Burning fossil fuels releases \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ which can lead to \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_. 7. \_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_ are three ways that humans can conserve natural resources. |
| **8.E.1 - Earth Systems, Structures, and Processes**   1. The Earth is \_\_\_\_\_% saltwater and \_\_\_\_\_% freshwater. 2. Most of the freshwater on Earth is \_\_\_\_\_\_\_\_. 3. A \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ is the land drained by a river and its tributaries. 4. \_\_\_\_\_\_\_\_ is an area where nutrients are drawn to the surface of the ocean by the movement of cold water from the bottom of the ocean to the top. 5. As you move from the open ocean to the deep ocean the amount of \_\_\_\_\_\_\_\_ decreases. 6. \_\_\_\_\_\_\_\_ are areas where fresh and saltwater mix. These areas have a wide variety of life and are more protected than the open ocean. 7. Very \_\_\_\_\_\_\_\_ water may not contain enough dissolved oxygen for organisms to survive. 8. Dissolved \_\_\_\_\_\_\_\_ is a measure of the amount of oxygen in water that is available for aquatic organisms. 9. \_\_\_\_\_\_\_\_ is a measure of how acidic or basic water is. When this measure of water quality is 7, the water is \_\_\_\_\_\_\_\_. 10. \_\_\_\_\_\_\_\_ are nutrients for plants that most often get into our water from agricultural runoff. 11. \_\_\_\_\_\_\_\_ is a measure of how clear water is. 12. \_\_\_\_\_\_\_\_ turbidity can lead to \_\_\_\_\_\_\_\_ water temperature and \_\_\_\_\_\_\_\_ dissolved oxygen. 13. \_\_\_\_\_\_\_\_ are living organisms in a body of water that are sensitive to pollution. A wide \_\_\_\_\_\_\_\_ indicates healthy water. 14. Water that is safe to drink is called \_\_\_\_\_\_\_\_ water. 15. \_\_\_\_\_\_\_\_ are large deposits of groundwater that can be extracted and used. 16. \_\_\_\_\_\_\_\_ source pollution comes from a single known source. For example: a factory is dumping nuclear waste into a river. 17. \_\_\_\_\_\_\_\_ source pollution comes multiple unknown sources. For example: agricultural runoff. 18. To help protect our limited water supply, water must be \_\_\_\_\_\_\_\_ to remove contaminants like bacteria and chemicals. | |