**LEARNING ACTIVITY SHEET IN SCIENCE 9**

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| Name of Learner; | John Russel A. Jandonero | Score: |  |
| Grade and Section: | Grade-9 TAE | Week & Date: | **2.1.21** |

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| **Title of the Topic:** | **Organic Chemistry** | | |
| **Most Essential Learning Competency:** | | **Code:** | **S9MTIIg-17** |
| * Explain how the structure of the carbon atoms affects the type of bonds it forms; * Recognize the general classes and uses of organic compounds | | | |
| **I. Learning Activities:** | | | |
| 1. Learning Activity 1:   **1A: Organic compounds naming (20 points)**  **Objective:** Name common organic compounds.  **Direction:** Name and draw the structure of the following organic compounds.   |  |  |  | | --- | --- | --- | |  |  |  | | 1.***propionaldehyde*** | 2. ***2-butanol*** | 3.***Propanoic Acid*** | |  |  |  | | 4.***Pentane*** | 5. ***2-butene*** | 6. ***Butanal*** | |  |  |  | | 7. ***Acetic Acid*** | 8. ***l-pentyne*** | 9.***Pentanone*** | |  |  |  | | 10.***Pentanal*** | 11. ***pentane*** | 12.***Acetone*** | |  |  |  | | 13 Propanol | 14 Nicotine | 15 Diethyl ether | |  |  |  | | 16 Ethyl acetate | 17 Methanoic acid | 18 Propyne | |  |  |  | | 19 2-butanol | 20 Octane |  | | | | |
| 1. Learning Activity 2:   **2: Short answer (20 points)**  **Objectives:** Explain how the structure of the carbon atoms affects the type of bonds it forms;  **Directions:** Answer the following questions.   1. What are the physical properties of organic compounds? Explain each properties. (10 points)   ***Organic chemistry is a branch of chemistry that studies the structure, properties and reactions of organic compounds, which contain carbon in covalent bonding.Study of structure determines their chemical composition and formula. Study of properties includes physical and chemical properties, and evaluation of chemical reactivity to understand their behavior. The study of organic reactions includes the chemical synthesis of natural products, drugs, and polymers, and study of individual organic molecules in the laboratory and via theoretical (in silico) study.***  ***The range of chemicals studied in organic chemistry includes hydrocarbons (compounds containing only carbon and hydrogen) as well as compounds based on carbon, but also containing other elements, especially oxygen, nitrogen, sulfur, phosphorus (included in many biochemicals) and the halogens. Organometallic chemistry is the study of compounds containing carbon–metal bonds.***   1. What makes carbon so unique that organic chemistry has become an altogether branch of science? (5 points)   ***Carbon is the only element that can form so many different compounds because each carbon atom can form four chemical bonds to other atoms, and because the carbon atom is just the right, small size to fit in comfortably as parts of very large molecules.*** ***Also carbon is also unique due to its*** ***ability in forming covalent bonds which are very strong in nature. The small size of the carbon atom makes the compounds of Carbon exceptionally stable. Hence carbon as an element has the ability to form a variety of stable compounds, which can exist freely in nature.***   1. Are organic compounds the same as organic foods? Support your answer. (5 points)   ***In my opinion organic compounds are not the same as organic foods, instead organic foods are composed of organic compounds. Each food has its unique compound combination which makes that kind of food unique.*** | | | |
| 1. Learning Activity 3:   **3: Poem (30 points)**  **Objectives:** Recognize the general classes and uses of organic compounds  **Directions:** Make a three stanza with four sentences that shows the disadvantages and advantages of organic compounds.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **RUBRIC FOR POEM** | | | | | | ***Criteria*** | ***Excellent (5)*** | ***Very Good (4)*** | ***Average (3)*** | ***Needs Improvement (2)*** | | **Ideas (x2)** | Clear and focused on the situation/problem/ theme. Catches the teacher’s interest with relevant details. | Mostly focused and had some good details. | Started to define the topic regardless of the generality of the ideas. Provided basic answer. | Not well-defined with too many ideas that confuses the main details. | | **Organization** | Enhances and showcases the main theme or ideas are well organized forming into a cohesive structure. Moves the teacher through the flow of the texts. | Mostly organized, in order and make sense to the teacher. | The organizational structure is strong enough to convince the teacher without too much confusion. | Sentences in between paragraphs make sense but not the order of the paragraph. | | **Sentence Fluency** | Essay has an easy flow, rhythm and cadence. Sentences are well-built with no grammatical errors. | Sentences flows with few grammatical errors. | Sentences are coherent but with 50% grammatical errors. | Most of the sentences were grammatically incorrect. | | **Originality** |  |  |  |  | | **Creativity** |  |  |  |  |   Organic Compounds are very important  And water is a key component  Water covers 60% of Earth  Water is essential to quench our thirst  Compound named Amine  Used in creating medicine  They may be useful  But it can also be dreadful  Ethanol sure are helpful  Clean those dishes with fluffy bubble  But do be careful  This compound is also painful | | | |
| **III. Reflection: (20 points)** | | | |
| I have learned a lot in this lesson, like the Organic Chemistry and the compounds, it is a branch of chemistry that studies the structure, properties and reactions of organic compounds, which contain carbon in covalent bonding. I also learned about the general classes and the uses of the organic compounds.  Carbon is the unique compound among all, this is because it has the ability to catenate, millions of organic compounds are known. The study of the properties, reactions, and syntheses of organic compounds comprises the discipline known as organic chemistry.  The LAS gave me opportunity to understand more about the topic and use my knowledge to answer all the questions. | | | |

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