UNIT GRAPHIC ORGANIZER

**SUBJECT**: Science **UNIT**: 2 **COURSE**: Fourth

**TEACHER**: Flor Alba Novoa – Luisa Ascencio **DATE:**  \_\_April 13th -2021\_\_

**The human body: A system in motion**

**TITLE**:

**THROUGHLINES**:

1. Why can I move?
2. Why I’m not like jelly?
3. How can food damage my body?

**GENERATIVE TOPIC**

**“AN AMAZING MACHINE”**

**UNDERSTANDING GOALS:**

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| The student will comprehend how ligaments, tendons, muscles and bones interact to produce movement making a didactic hand. | The student will comprehend how to care muscular and skeletal system with healthy food and doing exercise to prevent diseases. | The student will analyse a real case about osteoporosis writing a photo novel explaining symptoms, treatment and consequences. |

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|  | UNDERSTANDING PERFORMANCES | TIME | ASSESSMENT | |
|  | **ACTIONS** |  | **WAYS** | **CRITERIA** |
| **Exploration**  **Stage** | * To identify the different functions and organs of the skeletal and muscular systems in the human body. * To relate the importance of movement with the characteristics of the skeletal and muscular systems in the human body. | **Weeks: 2** | **Animated Videos:**  Watching animated videos that will help the student have a better understanding of the concepts and processes concerning to the skeletal system.  https://naturalhistory.si.edu/education/teaching-resources/featured-collections/forensic-mysteries-pathologies-human-femora.  https://www.youtube.com/watytch?v=ywDOiNEdJVc  **Creating a Nutritional Menu during a week:**  Writing a healthy lunch and explain the benefits  Doing different exercises to discover the relation between, muscles, ligaments, tendons. And bones.  **Synthesis project (1st sketch)**  **HEALTH “THE DOCTOR ARRIVED”**  Writing a photonovel using de case of Luciana.  Luciana is a 70-year-old woman sitting on the exam table in the doctor's office. She has her arm in a sling. Her husband Juan is standing next to her. Luciana and Juan are talking with the doctor about the fracture that Luciana has in her wrist and what she should do to improve her health.  (analyzing Luciana's story: How she and her family learned about osteoporosis and bone health). | * To know the relation between muscles and bones through collected information. |
| **Guided**  **Stage** | * To understand the relation between skeletal and muscular systems and the importance of these in their everyday life. * To comprehend the importance of good nutrition and how this can affect organs such as bones and muscles. | **Weeks: 3** | **Reading scientific news**  Reading and analyzing the importance of real situation and how can they relate to the topics seen in class.  **Mind Maps:**  Developing mind maps by creating brainstorms about skeletal and muscular systems, in which the students will have to use their pre knowledge and thinking abilities such as the relation to everyday activities.  **Making a didactic hand**  Using straws, wool, tape and the mold of a hand with the objective of observing the functioning of the joints and phalanges and comparing with the hands of the students.  **Laboratory**  Experimenting with bones and Coke to establish the relation between the type of diet and bone diseases.  **Synthesis project (2st sketch)**  **HEALTH “THE DOCTOR ARRIVED”**  what are Luciana's symptoms.  What medical tests does the doctor order?  Which were Luciana's habits that could cause her sickness?  Students will begin to design their photo novel. | - To answer questions with different valid arguments.  - To establish differences between description, explanation and evidences. |
| **Learning**  **Evidence** | * To analyse the different types of simple machines and explain their functions relating them with everyday activities.      * To identify some simple machines in skeletal and muscular systems, and its relation with the human body motion. | **Weeks: 3** | **Visiting the Gym**  Identifying some simple machines and making some movements in order to recognize the human body as a human machine. And observing some simple machines that students can find in the school.  **Infographic**  Describing how bad nutrition affects the human bones, and what types of diseases are produced***?***  **Synthesis project (final sketch)**  **HEALTH “THE DOCTOR ARRIVED”**  What is the treatment to follow?  How could Luciana's children prevent this disease in their lives?  How can stem cells therapy help to cure “Osteoporosis”?  The children will present the case of Luciana, symptoms and treatment through a photo novel. | * To apply concepts to different situations. |