



UNIT GRAPHIC ORGANIZER

SUBJECT: Science

TERM: 2

COURSE: Second

TEACHER: Adriana Mena – Estefania González

DATE: April 15th, 2024

TITLE: MATTER, PROPERTIES AND MAGNITUDES.

THROUGHLINES:

1. What is the meaning of matter?
2. Can I find mass and volume in my school supplies?
3. Are clouds part of the liquid or solid state?
4. What is the meaning of magnitude?

GENERATIVE TOPIC

“RANGO AT THE WATER MUSEUM”

UNDERSTANDING GOALS:

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| Students will learn the main characteristics of the different states of matter through experiential experiences in the laboratory, which show the permanence of the identity of the substances that compose it, using different elements (water, juice, plasticine, fan) managing to identify solids, liquids and gases. | Students will learn to use conventional elements such as a scale, a balance, a measuring jug and measuring spoons to identify the mass and volume of certain objects, being able to resolve their own doubts and collect important information in a descriptive table. | Students will recognize the use of magnitudes and their units of measurement in different situations of everyday life, for which they will use elements such as the ruler, the meter, and the thermometer with which they will be able to compare images and graphs related to them. |
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| | UNDERSTANDING PERFORMANCES | TIME | ASSESSMENT | |
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| | ACTIONS | | WAYS | CRITERIA |
| Exploration Stage | <ul style="list-style-type: none"> • To identify different objects from the classroom, related to the states to the matter. • To classify relevant information about mass and volume through recognition of the characteristics of different objects. • To compare and order objects with respect to measurable attributes, taking into account their magnitudes. | 3 Weeks | <ul style="list-style-type: none"> • Knowing the characteristics of a solid, liquid and gas through a significative video, then the students will play hot potato and they will answer questions related to each of the states of matter. • Singing the song “solid liquid or gas” with which the function of each of the states of matter will be recognized, afterwards, they will be shown some elements such as cubes, bottles, erasers, water, lemonade, images of steam, air and smoke so that they can identify the state of matter to which they correspond, giving an explanation about it. • playing a gamification game to practice the topic of mass and volume in an interesting way. • showing a fan that will work at different times with the help of the teacher who will guide the activity where when you turn it on, the air that will come out of it will enter a bag to thus identify the gaseous state. • observing a presentation of images with examples about mass and volume, where their concepts will be found. • Watching a power point presentation about units of measurement and their use in different contexts of daily life, after they will use related to measure some school supplies of interest. • Watching a video about units of measurement (scale, meter, measuring cup, hands and elbows) and their use in different contexts of daily life, then they will use their hands, elbows and the meter to measure their workplace, some school textbooks and classroom windows. <p>SYNTHESIS PROJECT: From the project "<u>Rango at the water museum</u>", we seek to answer the question: Have you imagined our planet without</p> | <ul style="list-style-type: none"> • To observe specific phenomena. • To collect information and present them in an organized and coherent way. • To Compare the concepts according to mass and volume in a coherent way. |

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| | | | water? where various dynamics focused on the care and good use of water will be shown, from the different subjects. Initially, the project will be presented, with its corresponding characters: Rango and Ranita. | |
| Guided Stage | <ul style="list-style-type: none"> • To differentiate the meaning of states of matter. • To demonstrate the learning obtained regarding the properties, giving different examples. • To measure the length with conventional and non-conventional tools. • To know the correct way to measure meter for length and seconds for time. | 2 Weeks | <ul style="list-style-type: none"> • Making an experiment in which students are going to in the laboratory where elements of every life day will be used to classify the various states of matter (containers with different shapes of water and a balloon). • Creating a concept map referring to the topic states of matter, giving certain examples. • Measuring the mass and volume, using balances and scales. • Taking glasses to measure different types of liquids. • Measuring objects using conventional (ruler, meter) and non-conventional tools (hands, feet, steps). • Writing in a comparative table information about the measurements taken on each object used. <p>SYNTHESIS PROJECT:</p> <ul style="list-style-type: none"> • Observing illustrative pictures in a video with different actions, the boys and girls will identify how we take care of water and how we contaminate it. • Using illustrative sheets relating to water care, which will be posted on the walls of the classrooms to raise awareness about it. | <ul style="list-style-type: none"> • To register the results in an organized way, without alterations. • To use math as a tool to organize, analyze, and present information. • To practice the use of some measuring instruments with nearby objects of daily use. |
| Learning Evidence | <ul style="list-style-type: none"> • To play board games using the topics: Units of measure, the volume of irregular objects, mass, and states of matter. • To put in practice the final part of the project | 2 Weeks | <ul style="list-style-type: none"> • Carrying out gamification games, interactive quizzes, and simple questionnaires where learning about the topics is evident: states of matter, properties and magnitudes. • Making a presentation where they will choose the topic that has caught their attention the most to explain what they have learned. <p>SYNTHESIS PROJECT:</p> <p>As a final product, two students along with others chosen from different areas will carry out the experiment regarding the creation of a homemade faucet, using the nozzle and a lid from a plastic bottle that have been previously recycled, they will also use a medium-sized pump, explaining step by step the use that will be given to ensure that the water comes out with little intensity when opening the faucet. The procedure will be explained at the Rango museum, where they will make known the importance of caring for water, giving guidelines to their colleagues so that they know how to properly manage it in different contexts, especially at home, with the idea that water is save and don't waste.</p> | <ul style="list-style-type: none"> • To design and propose experiences to put in evaluation the scientific knowledge. • To describe some concepts about the topics seen in class, demonstrating mastery of the matter. |

