

**UNIT GRAPHIC ORGANIZER**



**SUBJECT:** Science

**UNIT:** 4

**COURSE:** Fifth

**TEACHER:** Noelia Vega – Diana Totena – Flor Alba Novoa

**DATE:** September 12<sup>th</sup> -2022

**The universe**

**THROUGH LINES:**

1. How was our Earth planet formed?
2. What objects can I find in the outer space?
3. How do astronomers explore the universe?

**GENERATIVE TOPIC**

**Galileo Galilei an inventor on my way...!**

**UNDERSTANDING GOALS:**

The student will comprehend the origin of the universe and the origin of the life taking into account different theories like the Big Bang and Spontaneous generation. Students will create timelines in order to show important moments of universe formation.	The student will recognize the characteristics of different celestial bodies in the universe by analyzing composition, distance from the sun and gravity. Students will make math exercises to determine the relation between mass, weight and gravity on different planets.	The student will understand the importance of scientific and technological advances in the explanation of the universe, exploring different NASA'S platforms. Students will make a spaceship papercraft model in order to show the importance of these advances to explore the universe.
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	UNDERSTANDING PERFORMANCES	TIME	ASSESSMENT	
	<b>ACTIONS</b>		<b>WAYS</b>	<b>CRITERIA</b>
<b>Exploration Stage</b>	<ul style="list-style-type: none"> <li>•To recognize evidence that supports theories about the origin of the universe and life on Earth.</li> <li>•To identify different scales in the structure of matter, related to the Big Bang theory. To understand the organization of our current solar system.</li> </ul>	<b>Weeks: 3</b>	<ul style="list-style-type: none"> <li>•Analyzing videos about the origin of the universe <a href="https://es.educaplay.com/juego/10392196-the_beginning_of_everything.html">https://es.educaplay.com/juego/10392196-the_beginning_of_everything.html</a></li> <li>• Creating a timeline to show the characteristics from the creation of the universe in the Big Bang until the proliferation of life on the Earth.</li> <li>• Learning about theories that explain the origin of the life (Spontaneous generation, Panspermia, Abiogenesis.)</li> <li>• Solving activities from the science guide</li> </ul> <p><b>SYNTHESIS PROJECT</b></p> <ol style="list-style-type: none"> <li>1.Students will investigate about Galileo Galilei. They will look for information about, personal life, science contributions and important inventions.</li> <li>2.Students will create a biography report about Galileo Galilei, they will be creative to show the information found.</li> </ol>	Explain how the universe and life on Earth could be originated.
<b>Guided Stage</b>	<ul style="list-style-type: none"> <li>•To compare characteristics of different celestial bodies such as stars, planets, comets, asteroids, meteors, etc.</li> <li>•To describe the effect of gravity in the change of weight on different planets.</li> </ul>	<b>Weeks: 3</b>	<ul style="list-style-type: none"> <li>•Analysing videos about the characteristics of planets <a href="https://es.educaplay.com/recursos-educativos/10208480-solar_system.html">https://es.educaplay.com/recursos-educativos/10208480-solar_system.html</a></li> <li>• Exploring NASA'S platforms <a href="https://spaceplace.nasa.gov/menu/solar-system/">https://spaceplace.nasa.gov/menu/solar-system/</a></li> <li>• Making a solar system scroll, to scale the distance between planets of the Solar System.</li> <li>• Calculating the weight of each student on the 8 planets of the Solar System, taking into account their mass and the gravity of other planets.</li> <li>• Solving activities from the science guide.</li> </ul> <p><b>SYNTHESIS PROJECT</b></p> <ol style="list-style-type: none"> <li>3.Students bring recyclable materials to make their own microscope.</li> </ol>	Describe properties and compare graphs about different celestial bodies.

<p><b>Learning Evidence</b></p>	<ul style="list-style-type: none"> <li>•To distinguish functions and structures of the needed components of artificial satellites.</li> <li>•To understand the importance of scientific and technological advances in the exploration of the universe.</li> </ul>	<p><b>Weeks: 2</b></p>	<ul style="list-style-type: none"> <li>• Exploring NASA'S platforms  <a href="https://eyes.nasa.gov/curiosity/">-https://eyes.nasa.gov/curiosity/</a>  <a href="https://hubblesite.org/mission-and-telescope/the-telescope">-https://hubblesite.org/mission-and-telescope/the-telescope</a></li> <li>• Discussing some facts and hypotheses about potentially habitable exoplanets, based on an inquiry about the NASA's Exoplanet Exploration Program.</li> <li>• Modeling the creation of an artificial satellite, pointing its purpose out, as well as the linked wavelengths, instruments, and optics.</li> </ul> <p style="text-align: center;"><b>SYNTHESIS PROJECT</b></p> <p style="text-align: center;"><b>Galileo Galilei an inventor on my way</b></p> <p>Students will design a biography report about Galileo Galilei. They will describe the most important facts, science contributions and inventions. Students will create their own telescope using recyclable material.</p>	<p>Design a spacecraft, applying technological advances to explore the universe.</p>
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