

SECOND TERM

WEEKLY LESSON NOTES

WEEK 6

Week Ending:		DAY:	Subject: Science
Duration: 100mins		Strand: Systems	
Class: B9	Class Size:		Sub Strand: Solar system
Content Standard: B9.3.2.1 Demonstrate knowledge of other non-planetary bodies such as comets, asteroids, and their relationship with the solar system		Indicator: B9.3.2.1.1 Understand the movement of non-planetary bodies in the solar system.	Lesson: 1 of 2
Performance Indicator: Learners can identify and differentiate between asteroids and comets as non-planetary bodies in the solar system. Learners can understand the movement and potential risks posed by asteroids and comets.		Core Competencies: Critical Thinking and Problem Solving (CP), Communication and Collaboration (CC) Digital Literacy (DL), Creativity and Innovation	
References: Science Curriculum Pg. 103			
Key words:			
Phase/Duration	Learners Activities	Resources	
PHASE 1: STARTER	<p>Begin by asking learners what they know about the solar system.</p> <p>Introduce the concept of non-planetary bodies, including asteroids and comets.</p> <p>Show pictures or videos of asteroids and comets to familiarize learners with their visual characteristics.</p> <p>Share learning indicators and introduce the lesson.</p>		
PHASE 2: NEW LEARNING	<p>Discuss the composition and location of asteroids, primarily in the asteroid belt between Mars and Jupiter.</p> <p>Explain the different types of asteroids based on their composition (carbonaceous, metallic, etc.).</p> <p>Discuss the potential risks posed by asteroids colliding with Earth, citing historical examples like the Tunguska event.</p> <p>Briefly mention asteroid mining as a potential future resource for humanity.</p> <p>Explain the composition and structure of comets, including the nucleus, coma, and tail.</p> <p>Discuss the role of ice and dust in the formation of comets and their iconic tails.</p> <p>Show how comets' orbits around the sun cause their tails to change and lengthen as they approach.</p>	<p>Pictures and charts</p> <p>Pictures, diagrams, or videos of asteroids and comets</p> <p>Models of the solar system (optional)</p> <p>Materials for a creative project (e.g., construction paper, paint, glitter)</p>	

	<p>Explain the connection between comets and meteor showers, citing examples like the Perseids or Geminids.</p> <p><u>Assessment</u> Challenge learners to create a visual representation of an asteroid or comet using available materials.</p>	
<p>PHASE 3: REFLECTION</p>	<p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>	

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Performance Indicator: Learners can compare and contrast the orbits, motions, and characteristics of asteroids and comets. Learners can appreciate the dynamic nature of the solar system and the role of movement in shaping its features.		Core Competencies: Critical Thinking and Problem Solving (CP), Communication and Collaboration (CC) Digital Literacy (DL), Creativity and Innovation	
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Phase/Duration	Learners Activities	Resources	
PHASE 1: STARTER	<p>Begin by reviewing learners' knowledge of the solar system and its various components.</p> <p>Introduce the concepts of asteroids and comets as non-planetary bodies with distinct movements.</p> <p>Briefly mention other non-planetary bodies like meteoroids and dwarf planets for context.</p> <p>Share learning indicators and introduce the lesson.</p>		
PHASE 2: NEW LEARNING	<p>Show diagrams of the asteroid belt and typical comet orbits around the sun.</p> <p>Explain the elliptical nature of asteroid orbits, primarily concentrated between Mars and Jupiter.</p> <p>Discuss the highly eccentric and inclined orbits of comets, often taking them far beyond Pluto.</p> <p>Compare and contrast the orbital periods of asteroids and comets, emphasizing the shorter periods of many asteroids</p> <p>Divide learners into two groups: "Asteroids" and "Comets."</p> <p>Explain that each group will represent the typical motion of their assigned celestial body.</p> <p>Play excerpts of different types of music (fast, slow, chaotic, regular) and have each group move accordingly, mimicking the orbital characteristics of asteroids and comets.</p> <p>Discuss the differences in movement and how they relate to the orbital shapes and speeds of each body</p>	<p>Pictures and charts</p> <p>Diagrams and animations of the solar system, asteroid belt, and comet orbits</p> <p>Models of asteroids and comets,</p> <p>Crayons, markers, or other creative materials</p>	

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PHASE 2: NEW LEARNING	<p>Provide learners with a worksheet containing a table with categories like "Orbit Shape," "Period," "Location," and "Composition" for both asteroids and comets.</p> <p>Challenge them to research and fill in the table, comparing and contrasting the main characteristics and movements of each type of non-planetary body.</p> <p>Introduce the concept of comet tails formed by dust and ice as the comet approaches the sun.</p> <p>Provide learners with creative materials like crayons, markers, and paper.</p> <p>Challenge them to design and illustrate different types of comet tails, considering the composition, length, and direction based on the comet's orbit.</p> <p>Allow learners to share their creations and explain their artistic choices about the comet tails.</p>	<p>Pictures and charts</p> <p>Diagrams and animations of the solar system, asteroid belt, and comet orbits Models of asteroids and comets,</p> <p>Crayons, markers, or other creative materials</p>	

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