TEMA 2: Science and Technology (La ciencia y la tecnología)

Content Area: **World Language**
Course(s): **AP Spanish Language and Culture**
Time Period: **Semester 1**
Length: **10 weeks**
Status: **Published**

Standards

7.1.AL.IPRET.1	Identify main ideas and significant details in a range of oral, viewed, and written texts.
7.1.AL.IPRET.4	Demonstrate an understanding of most content of other academic disciplines.
7.1.AL.IPRET.6	Analyze a radio/television program, movie, or podcast for theme, purpose and tone, and inferences.
7.1.AL.IPRET.7	Infer the meaning of some unfamiliar words and phrases in academic and formal contexts.
7.1.AL.IPRET.8	Analyze elements of the target language that do not have a comparable linguistic element in English.
7.1.AL.IPERS.2	Describe, respond to, and negotiate a complication that occurs in a familiar situation, using paragraph-level speech and writing across major time frames.
7.1.AL.IPERS.3	Maintain conversations by comparing and contrasting preferences, opinions, and advice using paragraph-level speech and writing across major time frames.
7.1.AL.IPERS.5	Interact in a variety of familiar and a few unfamiliar situations using culturally appropriate verbal and non-verbal communication strategies.

Enduring Understanding

Enduring Understanding 1: Technology & Social Impact (Los efectos de la tecnología en la sociedad) Technological breakthroughs alter daily human habits, redefine social connectivity, and reshape individual identity. Access to digital infrastructure varies drastically across distinct regions of the Spanish-speaking world, determining a community's level of socio-economic equity and global inclusion. (WL.AL.7.1.AL.IPRET.1 & .4)

Enduring Understanding 2: Health, Medicine, & Ethics (El cuidado de la salud y la ética) Healthcare structures and medical practices reflect deep cultural values, balancing ancestral botanical traditions with modern bioethics and institutional advancements. Ethical decision-making in scientific innovation requires a constant negotiation between technological progress and the preservation of human rights and dignity. (WL.AL.7.1.AL.IPRET.6)

Enduring Understanding 3: Sustainability & Innovations (La sustentabilidad y los fenómenos naturales) Communities adapt to environmental transformations and natural phenomena through technological innovations and local sustainable practices. Scientific resistance and eco-engineering are vital tools used by societies to face global climate crises and protect regional resources. (WL.AL.7.1.AL.IPRET.7)

Essential Questions

1.

- Essential Question 1: Technology & Social Impact How do developments in science and technology reshape daily habits and interpersonal connections, and what determines a community's level of access to these innovations? (Aligns with WL.AL.7.1.AL.IPRET.1)
- Essential Question 2: Innovation & Discovery Drivers What socio-economic, environmental, or cultural factors drive innovation and scientific discovery across different Spanish-speaking societies? (Aligns with WL.AL.7.1.AL.IPRET.4)
- Essential Question 3: Science & Ethics What role does ethics play in scientific and medical advancements, and how do communities balance modern biotechnology with moral responsibility? (Aligns with WL.AL.7.1.AL.IPRET.6)
- Essential Question 4: Sustainability & Environmental Adaptation In what ways do communities deploy green technology, technological innovations, and local sustainable initiatives to protect resources and adapt to natural disasters? (Aligns with WL.AL.7.1.AL.IPRET.7 & WL.AL.7.1.AL.PRES.2)
- Essential Question 5: Digital Equity & Global Collaboration How do non-profit initiatives and global technical frameworks bridge the digital divide to support education and development in underserved regions? (Aligns with WL.AL.7.1.AL.IPERS.3)

Knowledge and Skills

I. Knowledge

1. Interpretive Reading & Auditory Systems (MCQ Parts A & B)

- Textual Architecture & Register: Recognizing structural layouts and vocabulary variations across scientific reports, environmental essays, medical text dialogues, and automotive technological journalism.
- Acoustic Adaptation: Decoding specific technical nomenclature, academic pacing, and varied regional accents (e.g., European Spanish in automotive reports, Caribbean or Central American registers in public health announcements).
- Graphic/Textual Interconnectivity: Understanding and interpreting quantitative scientific charts, environmental impact graphs, and digital access maps to reinforce or challenge an accompanying prose piece.

2. Synthesized Composition Foundations (Argumentative Essay FRQ)

- Triangulated Evidence Mechanics: Extracting, categorizing, and aligning explicit scientific claims from three conflicting formats (Source 1: Technical Article, Source 2: Statistical Chart, Source 3:

Auditory Interview or Podcast) to formulate a precise thesis statement.

- Voice Separation: Demonstrating strict delineation between global institutional data and regional media opinions using formal third-person citations ("A base de los datos gráficos...", "Como destaca el informe científico de la ONU...").

3. Course Project & Interactive Frameworks (Presentation & Q&A)

- Localized Scientific Factors: Identifying specific environmental, public health, or digital access variables that impact a targeted Spanish-speaking community.
- The 3Ps Framework: Understanding how a community's technological Products (green infrastructure, telemedicine networks) and Practices (sustainable farming, traditional medicine use) stem from deep internal Perspectives (respect for nature, communal responsibility).

II. Skills

1. Interpretive Mode: Multiple-Choice Mechanics (NJSLS-WL.AL.7.1.AL.IPRET.1, .4, .6)

- Isolating Scientific Main Ideas: Extract and synthesize central themes, hypotheses, and supporting ecological/medical data from dense prose and audio selections without getting hindered by advanced technical terms.
- Deducing Author Intent & Rhetorical Tone: Analyze the objective or persuasive stance of an author (e.g., identifying warning tones in environmental podcasts or advisory tones in bioethical reporting).
- Cross-Referencing Multi-Modal Data: Correlate quantitative data markers on innovation distribution with qualitative arguments regarding societal development.

2. Presentational Mode: Writing & Outlining (NJSLS-WL.AL.7.1.AL.PRES.2, .3, .5)

- Constructing Triangulated Arguments (Argumentative Essay): Type out a highly organized, multi-paragraph essay in a digital environment, integrating three authentic scientific sources using complex transition words (por consiguiente, en contraste con, con el fin de).
- Structural Outline Compression (PPR Reference): Select and condense critical independent research data onto the official template, observing the mandatory constraint of a maximum of 10 words or 70 characters per text box.
- Scriptless Oral Delivery (Project Presentation): Deliver an unassisted 3-minute oral presentation demonstrating strong control of advanced tenses (subjunctive and conditional hypotheses) relying only on the PPR outline.

3. Interpersonal Mode: Spontaneous Communication (NJSLS-WL.AL.7.1.AL.IPERS.2, .3)

- Negotiating Sudden Auditory Prompts (Project Q&A): Process unexpected, unscripted oral questions testing the student's research and recommendations on scientific issues, formulating a cohesive response within the strict 40-second recording window.

- Audience-Driven Technical Inquiries: Formulate impromptu, paragraph-length follow-up questions targeting peer research presentations to maintain analytical conversational flow in the classroom.

Transfer Goals

Students will be able to independently use their learning to:

1. Critical Cross-Cultural Analysis & Global Citizenship: Investigate and navigate complex global challenges by exploring how scientific Products and Practices are shaped by a society's deep cultural Perspectives. Evaluate the global implications of technological disparities and climate change, acting as informed global citizens who can engage with diverse scientific communities.

2. Autonomous Academic Inquiry & Media Literacy: Conduct independent, self-directed research on cross-disciplinary global topics (such as bioethics, sustainability, and technological access), successfully extracting, validating, and citing data from target-language databases, charts, and news media.

3. High-Stakes Professional and Academic Communication: Synthesize multi-modal scientific data to defend an authoritative argumentative stance on ethical or environmental developments. Restructure dense investigative arguments into concise outlines under rigid parameters, and speak spontaneously to defend claims or negotiate complications during unexpected professional discussions.

4. Digital Competence & Adaptation: Leverage cloud workspaces and computer-based applications to produce grammatically accurate, orthopedically correct, and complex technical texts under timed digital testing conditions.

Resources

1. Core Textbook & Program Materials (Aligned with Temas 3rd Edition)

- Primary Text: Temas: AP® Spanish Language and Culture, 3rd Edition (Vista Higher Learning).

- Digital Learning Platform: VHL Central Supersite (utilizing the interactive digital environment for computer-based reading, listening, and keyboard-input composition practice).

- Exam Prep Companion: AP® Spanish: Language and Culture Exam Preparation workbook (Vista Higher Learning).

2. Authentic Print and Multi-Modal Selections (MCQ & Argumentative Essay Alignment)

- Context 1: Technology & Society: Gamer, se nace o se hace (Feature article on digital identity) and accompanying statistical infographs on regional technology distribution.
- Context 2: Health Care & Medicine: La medicina tradicional en la era moderna (Sociological essay exploring indigenous botanical treatments in Latin America).
- Context 3: Science & Ethics: El dilema ético de la edición genética (Scientific reporting on biotechnology and moral constraints).
- Context 4: Natural Phenomena & Sustainability: Sustentabilidad ambiental en Costa Rica (United Nations feature report on biodiversity engineering).
- Context 5: Access to Technology: Casas inteligentes para todos (Journalistic prose on technical democratization).
- Context 6: Innovations: Innovaciones tecnológicas latinoamericanas que cambian vidas (Tech reporting on low-cost adaptive tools).

3. Authentic Audio & Cinema Selections (MCQ Listening & Synthesis Prep)

- Automotive Technology Reporting: Proyecto MARTA: El coche del futuro con tecnología española (Audio selection exploring automotive innovations and eco-efficiency).
- Public Health Debates: Escepticismo y medicinas alternativas (Radio broadcast conversation on alternative vs. institutional medicine registers).
- Environmental Documentaries: Las sequías: El peligro natural más destructivo del planeta (United Nations Podcast exploring climate crises, water scarcity, and communal resistance data).
- Authentic Cinema (Visual/Interpretive): Short film Un atajo, un camino (Explores rural engineering, technological resource limits, and community-led problem-solving).

4. Official College Board Course Project Scaffold Packets

- Phase 1 (Sourcing Analysis): Source Material Graphic Organizer (Day 2) — Used by students to extract the 3Ps and identify contextual factors in regional tech resources.
- Phase 1 (Initial Reflection): Initial Written Reflection Feedback Form (Day 5) — Framework for assessing the initial integration of scientific source notes.
- Phase 2 (Inquiry Planning): Research Action Plan Template (Day 6) — Guide for drafting localized science/environmental SMART Objectives.
- Phase 3 (Reference Skeletons): Personalized Project Reference (PPR) Template (Day 10) — The official word-limited and character-limited outline interface (max 10 words or 70 characters per box).
- Phase 3 (Presentational Training): Practice Presentation Feedback Form (Day 11) — Used to audit the 3-minute unassisted oral report.

- Phase 4 (Interpersonal Interactivity): Organizador para preparar el Project Q&A (Day 13) — Template used by students to anticipate ethical/technical questions and script spontaneous transitions.

- Phase 4 (Interpersonal Assessment): Formulario de Feedback para el Practice Q&A (Day 15) — Criteria checklist for evaluation of the timed 40-second spontaneous response windows.

5. Technology & Digital Environment Resources (NJSLS-WL.AL.7.1.AL.PRES.5)

- AP Digital Portfolio & Bluebook App Environment: Simulated interfaces used for computer-based testing, keyboard shortcuts, and character inputs during mock exams.

- Digital Text Editors: Cloud platforms (such as Google Docs) with active Spanish keyboard layouts used for 100% of paragraph and essay compositions to build typing fluency.