INTERDISCIPLINARY ECO-ADVERTISING CAPSTONE

Mrs. Kirk | Gifted & Talented | 6th - 8th Grades

Project Title: Global Eco-Advertising Capstone Project

Target Launch: Quarter 2 (Ongoing through Second Semester Exhibition)

Student Cohort: 6th–8th Grade Combined Gifted & Talented Advisory /
8th Grade Visual Arts (TBD)

Interdisciplinary Tracks: Visual Arts, Mathematics, Digital Literacy (ISTE), World History, Science, ELAR, and Career Explorations [1.md].

Project Synopsis

This capstone project frames students as junior creative directors working within a professional media and marketing firm. Confronted with an authentic design brief from an international environmental Non-Governmental Organization (NGO), students will choose a modern global environmental crisis to research, analyze, and communicate to the public.

The structural engine of the project relies on 7th-grade mathematical proportional logic and 8th-grade art ethics benchmarks. Students will translate text-based scientific research into physical, proportionally precise 7:24 aspect ratio thumbnail layouts via the MAPS problem-solving method, subsequently mapping that data into graphic software like Canva or Adobe Illustrator to establish distortion-free digital large-format billboard displays.

The project culminates in a high-visibility, community-facing Eco-Advertising EXPO showcase during the second semester, coinciding with the school's science fair season.

Administrative Guardrails & Schedule Integration

To ensure this project seamlessly integrates into current school routines without disrupting mandated structures or overloading the student schedule, the framework includes three major administrative protections:

- **Zero Impact on Mandated Interventions:** This plan completely protects daily advisory requirements. Mondays (Khan Academy) and Tuesdays (Lexia) remain 100% untouched.
- **Curriculum Compacting via Wednesday D.E.A.R.:** The initial research phases are integrated into the mandated Wednesday D.E.A.R. reading passages. Students select non-fiction environmental articles to complete their required literacy minutes while compiling their project data.
- **Teacher-as-Consultant Execution Model:** Because production time is strictly limited to 1.5 open weekly blocks (Thursday, Friday, and the back half of Wednesday), the project follows a slow, macro-timeline. Core content teachers do not have to manage the project or sacrifice their instructional blocks—they act as intermittent expert consultants, verifying student calculation sheets, historical briefs, or persuasive slogans during standard checkpoint intervals.

New Mexico State Standards

Subject	6th	7th	8th	Notes:
Math Mathematics Progression (Spatial Structures & Ratios)	Target: **NM 7.G.A.1** Solve problems involving scale drawings of geometric figures, including computing actual lengths from a scale drawing and reproducing a scale drawing at a different scale. *(Used to convert small concept sketches into a large-format scale multiplier).*			
Visual Arts *Primary Focus*	Art Ethics **NCAS/NM VA:Cr2.2.8a** Demonstrate awareness of practices, issues, and ethics of appropriation, fair use, copyright, open source, and creative commons as they apply to creating works of art and design.			
English Language Arts The Rhetoric	Writing Anchor **NMCCSS.ELA-LITERACY.W.8.1** Write arguments to support claims with clear reasons and relevant evidence.			Used to construct the 1–2 page persuasive essay to develop the campaign message
Science The Data	**Human Impact Standard** **NM STEM Ready! MS-ESS3-3** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.			Used to analyze how, why, and when the assigned environmental issue came to fruition.
World History The Context	**Human-Geography Standard** **NM SS 7.19 / 8.27** Describe how environmental factors affect human activities and resource use over time, and how the local environment impacts cultures. *(Used to research the historical origins and past management attempts of the crisis).*			
Career Exploration	**Section 1.6** **NM CR.1.8.A**			*Used to frame the entire capstone as a professional*

New Mexico State Standards

Subject	6th	7th	8th	Notes:
	Investigate and evaluate career opportunities within various industry sectors and analyze the skills, education, and credentials required for entry and success.			*advertising agency pitch.*
ISTE Student Standards	**1.6.b - Creative Communicator** Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models, or simulations.			
	1.2.b - Digital Citizen: Students demonstrate a safe, legal and ethical practice when using and sharing digital resources, including intellectual property. *(Tied to the Master Citation Ledger and Artwork Captions)*.			*Tied to the Master Citation Ledger and Artwork Captions*
	1.3.d - Knowledge Constructor: Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.			*Tied to Global Environmental and Historical Research.*

Interdisciplinary Learning Outcomes

Subject	Core Learning Outcome & Assessment	Notes:
Science & World History	Students will choose an environmental problem happening in the world today and research how, why & when the problem came to fruition. What methods have already been attempted to solve the problem? Were they successful? (A list will be provided)	**Grades:** 6, 7, 8 *Students have the option to work in a small group or independently*
ELAR	Students will write a persuasive essay (1-2 pages) to help develop the ad campaign.	
Visual Arts	Students will problem-solve/brainstorm ideas to solve the problem, raise awareness and gain community involvement by creating an advertising campaign. **Deliverables:** Students choose how they will pitch their campaign: commercial, newspaper/magazine article, brochure, etc.	
Math	**Mandatory:** Students will apply their knowledge of scale factor, aspect ratios, coordinate grids by designing a billboard. **Learning Outcome 1 (Math & Tech Precision):** Students will analyze, calculate, and execute a proportional scale transformation by using the MAPS method on paper to solve grid scale equations, subsequently inputting these conversion dimensions into the graphic software to design a final billboard that is proportionally accurate with no distortions.	
Career Explorations & GT - EXPO	**Learning Outcome 2 (Research, Ethics & Career Application):** Students will evaluate global environmental data from a provided resource list to construct an ad campaign, integrating scaled-down copyright disclaimers directly onto both the mandatory billboard and their choice deliverable, while generating a dedicated master citation document to verify real-world legal compliance for their EXPO presentation. **Presentation:** Students will "market" their campaign by presenting their projects at an EXPO (science fair-like).	

Visual Arts & Technology (Primary Anchor)

- *How do media designers manipulate graphic elements and digital tools to shift public perception and drive community action?*
- *What ethical responsibilities do creators face when sourcing and sharing digital media in a global landscape?*

Mathematics

- *How do geometric ratios and scale factors allow a small, localized concept to transform into massive, public-facing media without losing its structural truth?*

Science & World History

- *How do historical, industrial, and political root causes over time compound into a modern environmental crisis?*
- *How can we translate complex, overwhelming scientific data into an immediate, emotionally compelling human story?*

ELAR

- *How does an author weaponize rhetoric and concise language to persuade a diverse audience to care about a problem happening thousands of miles away?*

Process Portfolio:

- Environmental Issue
- Research Notes
- Research Citations
- Thumbnail Sketches
- Math: Pencil-Paper
- Essays
- Final Graphics

To achieve mastery on this Capstone Project, your complete **Design Portfolio and Exhibition Board** must meet the following precise criteria. Use this checklist to audit your work prior to the final EXPO presentation.

1. Mathematical Scaling & Precision (Math Grading Data)

- **The Paper MAPS Proof:** Every thumbnail sketch includes documented calculations on the back or margin using the MAPS problem-solving method. No mental math shortcuts are used.
- **Aspect Ratio Enforcement:** The thumbnail boundary box is drawn to a strict 7:24 ratio layout (e.g., exactly 3.5 inches tall by 12 inches wide).
- **Scale Multiplier Application:** The final digital canvas dimensions in Canva or Illustrator reflect a precise scale factor multiplier of 100 based on the paper math (e.g., custom canvas set to exactly 1200 × 350 pixels).
- **Zero Visual Distortion:** The final printed billboard graphic shows perfect proportional accuracy. Images and text elements are unwarped, pixelation-free, and fit the custom boundary lines seamlessly.

2. Visual Hierarchy & Digital Literacy (Art/ISTE 1.6.b Grading Data)

- **Visual Dominance:** The layout establishes a clear focal point. The main graphic asset or illustration catches the viewer's eye first from a distance.
- **Typography Contrast:** Font choices are highly legible for a moving vehicle audience. Slogans and text headers contrast strongly with the background colors.
- **Media Extension Cohesion:** The secondary choice deliverable (brochure, commercial script, or flyer) utilizes the exact same color palette, typography styling, and branding assets to maintain campaign unity.

3. Ethical Sourcing & Digital Citizenship (Art/ISTE 1.2.b Grading Data)

- **Micro-Caption Disclaimers:** Every external image, icon, or patterned layer featured on both deliverables includes a scaled-down, low-opacity caption giving legal attribution directly beneath the asset.
- **Master Citation Document:** A separate, formal documentation sheet is provided, linking back to the origin of all visual elements and verifying 100% compliance with Creative Commons or public-domain filters.

4. Rhetorical & Global Impact (ELAR/Science/History Grading Data)

- **Persuasive Argumentation:** The accompanying 1–2 page essay utilizes clear evidence to analyze the historical "how, why, and when" the environmental crisis began.
- **Slogan Punchiness:** The extracted billboard headline is concise, memorable, and paired with a clear, 3-sentence action prompt.

Phase 1: Research, Rhetoric & Global Data
January - Mid-February

Goal: Construct the factual and written backbone of the ad campaign using your limited blocks.

Advisory Literacy Strategy: On Tuesdays (Lexia) and Wednesdays (D.E.A.R.), students choose environmental and historical articles about their selected country to maximize reading minutes.

Milestone 1.1 (The Selection & Cause Brief): Students finalize their country and crisis. They research the *how, why, and when* it came to fruition to draft their World History historical context brief.

Milestone 1.2 (The Data & Slogan Index): Students extract 2–3 raw scientific statistics from a provided resource list. In ELA, they compile these into their 1–2 page persuasive essay and extract a single, high-impact campaign slogan.

Phase 2: The Math Blueprint & Digital Layout
Late February

Goal: Execute the visual hierarchy of both deliverables under strict legal ethics.

Milestone 2.1 (The Paper MAPS Matrix): No computers allowed. Students sketch 3–4 rough layouts of their billboard. On the back, they use the **MAPS method** to calculate their 7:24 billboard aspect ratios and scale factors.

Milestone 2.2 (The Distortion-Free Canvas Setup): The teacher audits the paper math. Once signed off, students open Canva/Illustrator and input their exact calculated pixel dimensions to create a mathematically proportional workspace.

Phase 3: Media Production & Copyright Compliance
March

Goal: Execute visual hierarchy of both deliverables under strict legal ethics.

Milestone 3.1 (The Billboard Build): Students design their mandatory billboard graphic file, ensuring clear visual focus and typography alignment.

Milestone 3.2 (The Differentiated Choice Asset): Students select their secondary campaign tool (Brochure, Commercial Script, Flyer, etc.) and remix their existing text

and images into the new format.

Milestone 3.3 (The Legal Audit): Students insert scaled-down, low-opacity copyright captions beneath all imagery and finalize their dedicated Master Citation Document.

Phase 4: Exhibition Assembly & After-School Showcase
April

Goal: Compile the physical showcase and pitch the campaign to the community panel.

Milestone 4.1 (The Expo Trifold Assembly): Students print their graphics and mount their essays, gridded paper math thumbnails, and citation directories onto a science fair trifold board.

Milestone 4.2 (The Professional Pitch Rehearsal): Students draft and practice their 2-minute verbal "Media Pitch," presenting to peer design firms to ensure they can confidently defend their data.

Milestone 4.3 (The Grand Finale Showcase): Students market their campaigns at the after-school Expo event to parents, peers, administrators, and guest judges.

The Direct Instruction Step: "The Aspect Ratio Blueprint"

Phase 2: Direct Instruction — Translating Ratios to Media Layouts

Before touching any design software, students will participate in a direct instruction mini-lesson tracking how mathematical ratios dictate professional media layouts.

- **Step 1 (The Math Concept):** The math teacher will demonstrate the standard 6th–8th grade ratio and proportion rules, showing how a 1:2 ratio means a canvas width must be exactly double its height.
- **Step 2 (The Art Translation):** I will visually bridge this concept to the art world by introducing standard commercial billboard dimensions (typically 14 feet high by 48 feet wide). Together, we will calculate the simplified aspect ratio of a standard billboard ($14:48$), which reduces down to roughly a $1:3.4$ ratio matrix).
- **Step 3 (The Application):** Students will apply this exact ratio rule to their thumbnail sketches, ensuring that if their paper sketch is 4 inches tall, it must be exactly 13.6 inches wide (4×3.4). This directly proves that their physical sketch is mathematically identical in proportion to a real-world highway billboard before they input those dimensions into Canva or Illustrator.

Step-by-Step Mini-Lesson Breakdown: The Billboard Ratio Conversion

Step 1: Establish the Real-World Baseline (The 14 × 48 Standard)

- **The Action:** Introduce the standard physical dimensions of a highway billboard: **14 feet high by 48 feet wide**.
- **The Math:** Write this as a raw fraction/ratio: $\frac{14}{48}$ or 14:48.

Step 2: Simplify to Find the Aspect Ratio (Finding the "Unit")

- **The Action:** Show students how to reduce the fraction to find the relationship between height and width.
- **The Math:** Divide both numbers by 2 to simplify the fraction. $\frac{14\div 2}{48\div 2}=\frac{7}{24}$
- **The Translation:** This means for every **7 units of height**, the billboard *must* have exactly **24 units of width**. This is the locked aspect ratio (7:24) that prevents the artwork from looking stretched or squished.

Step 3: Apply the Ratio to the Thumbnail Sketch (The Paper Blueprint)

- **The Action:** Students choose a manageable height for their pencil-and-paper thumbnail sketch (for example, **3.5 inches tall**). They must calculate the exact width required to keep it perfectly proportional using equivalent fractions.
- **The Math (The MAPS Equation):** $\frac{7}{24}=\frac{3.5}{\text{width}}$
    - *How they solve it:* Since 7 ÷ 2 = 3.5, they must also divide 24 by 2. $24\div 2=12\text{\ inches}$
- **The Rule:** Their physical thumbnail sketch box *must* be drawn as exactly **3.5 inches tall by 12 inches wide** on their paper.

Step 4: Scale Up to the Digital Canvas (The Multiplier)

- **The Action:** Once the paper sketch is complete, students calculate their digital canvas size for Canva or Illustrator using a **Scale Factor multiplier of 100** so the file handles high-resolution printing.
- **The Math:** Multiply the thumbnail dimensions by the scale factor.
    - $\text{Height: } 3.5 \text{ inches} \times 100 = \mathbf{350 \text{ pixels/points}}$

    - $\text{Width: } 12 \text{ inches} \times 100 = \mathbf{1200 \text{ pixels/points}}$
- **The Output:** Students input exactly **1200 × 350** into their custom digital canvas settings.

Phase 4: Exhibition Assembly & After-School Showcase

April

Goal: Compile the physical showcase components and pitch the finished advertising campaign to the school community and panel.

Milestone 4.1 (The Expo Trifold Assembly): Students print their final digital graphics and physically mount their 1–2 page persuasive essays, gridded paper math thumbnails (showing their complete MAPS equations), and master citation directories onto a science fair trifold board.

Milestone 4.2 (The Professional Pitch Rehearsal): Students draft, edit, and practice their 2-minute verbal "Media Pitch," presenting to peer design firms to ensure they can confidently defend their scientific data, historical context, and math metrics.

Milestone 4.3 (The Grand Finale Showcase): Students market their completed campaigns at the after-school Expo event, acting as professional creative directors to present their work to parents, peers, administrators, and guest judges.

Website Platform: Wix (Custom Domain)

Format Decision: Interdisciplinary Curriculum Case Study

Written Justification

I am using Wix with a custom domain to showcase my capstone project. On the main page there will be a portfolio that consists of thumbnails and brief descriptions of each so viewers can see my design process but not gain “freebie” lesson plans. The master files will be password-protected to safeguard my intellectual property and will be used only for my professors and administrators to view.

This project idea is entirely my own creation. I used AI as an educational assistant and a thinking partner to help organize my thoughts, check for typos, and elaborate on the official New Mexico State standards, but the entire curriculum concept, grade-level pacing, and classroom management rules came directly from my personal teaching experience.