



DREAMSCAPE
LEARN™

HAGIA SOPHIA

CINEMATIC IMMERSIVE EXPERIENCE

FOR HIGH SCHOOL PROJECT-BASED LEARNING

Step inside the Hagia Sophia and move through a monumental space shaped by centuries of change. As you explore, the structure transforms around you. The domes, mosaics, and architectural elements shift and reconfigure as the building evolves across cultural and historical eras. The experience reveals a structure that is never static, continuously reinterpreted, repurposed, and reimagined across generations.

IMMERSIVE PROJECT-BASED LEARNING EXPERIENCES

The Hagia Sophia immersive experience serves as a catalyst for standards-aligned, project-based learning across disciplines, engaging students in authentic systems of inquiry.

Inside this guide, educators will find a range of interdisciplinary PBL concepts and lesson ideas designed to spark inquiry, support meaningful exploration, and connect learning to real-world contexts, , with students taking on the roles of:



preservation technicians



architects



political leaders



creative writers

Flexible classroom use

Educators can seamlessly incorporate these immersive, project-based learning experiences into existing curricula to:

- Boost student engagement
- Foster inquiry-driven learning and critical thinking
- Connect disciplines through meaningful, cross-curricular experiences
- Bring authentic, real-world learning into the classroom





ELA: Place-Based Creative Writing

How can a physical space inspire character, story, or mood?

Writers often use real places as anchors for imagination, and the same place can generate completely different stories depending on perspective, time period, and narrative choice.

Students will explore the Hagia Sophia and then read some writing inspired by it, such as poems, travel writing, or an excerpt from a modern novel. They will then choose a place (Hagia Sophia or other) that inspires them to create an **original piece of creative writing**.

Students may write fiction, poetry, drama, or other forms, using descriptive language, sensory details, and atmosphere to evoke a sense of place.

Standards (Common Core — ELA):

W.9–10.3 — write narratives to develop real or imagined experiences or events

W.9–10.3d — use precise words, sensory detail, and narrative techniques

Social Studies: Syncretism and Power

Why do new rulers often adapt existing buildings, symbols, and traditions instead of fully replacing them?

When new groups take power, they inherit existing cultures, traditions, and sacred spaces that predate them. Effective rule often depends on how leaders balance change with continuity, adapting symbols and practices rather than replacing them outright.



Students examine how the Hagia Sophia and other global sites have been repurposed across time, identifying what is preserved, what changes, and how those choices reflect strategies of cultural continuity, respect, and political practicality.

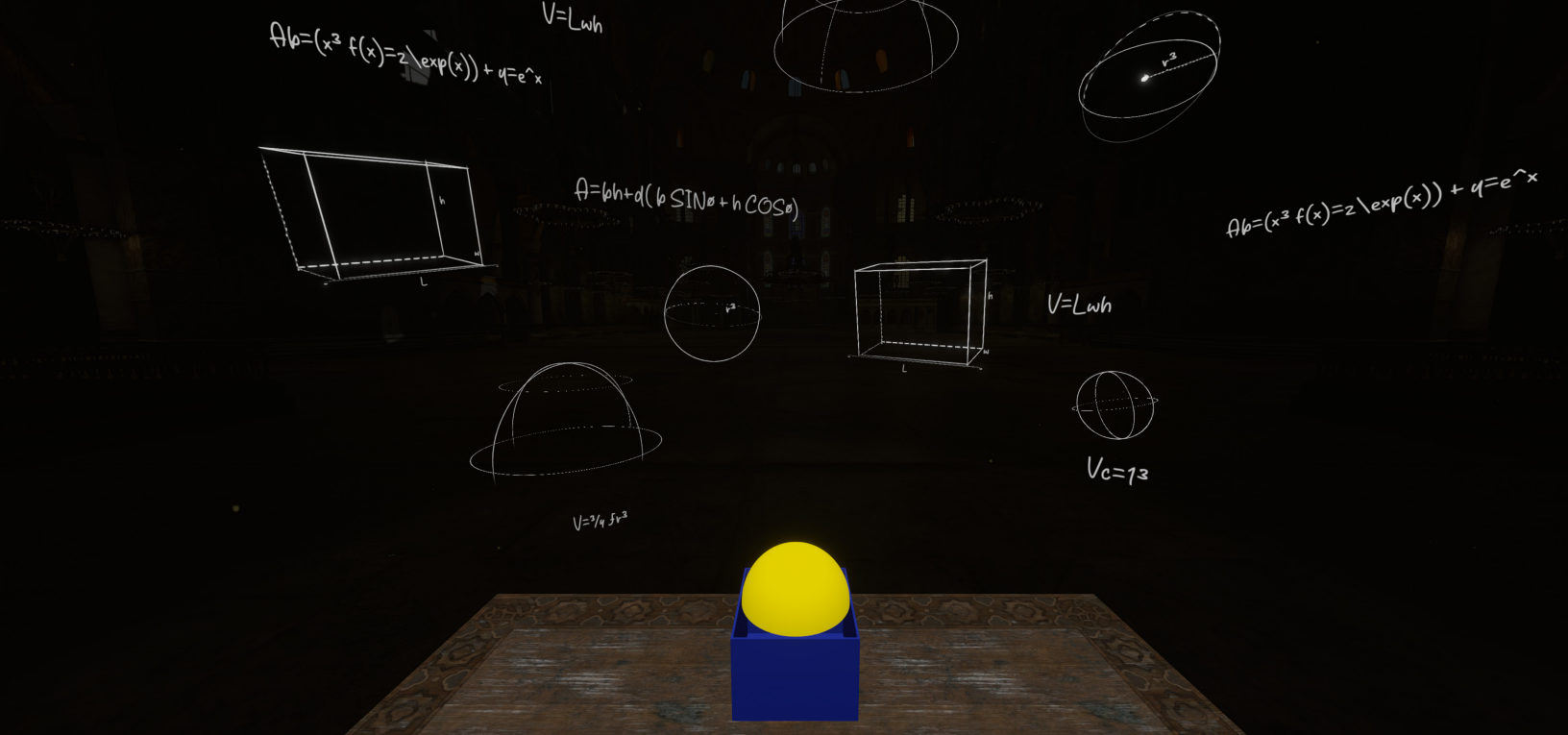
Students then imagine themselves as leaders of a fictional world (such as a literary or film setting) and design a **one-year plan** for what buildings, symbols, and traditions they would to retain, adapt, or replace, justifying their decisions using real historical examples. This may take the form of a presentation, essay, video, or model, with documented research and reasoning.

Standards (C3 Framework for Social Studies):

D2.Civ.3.9-12 — analyze the influence of symbols, traditions, and institutions on civic life and legitimacy

D2.His.14.9-12 — analyze patterns of continuity and change across historical contexts





Geometry: Circle on a Square

How do squinches and pendentives compare when designing a dome over a square base?

In geometry and design, the most visually solid or simplest-looking structure is not always the strongest. The strength of a system depends on how its shape distributes forces, transitions between forms, and responds to constraints like scale and material limits.



Students **design and build scale models of dome structures** using pendentives and squinches. Using paper-based materials and a standardized dome template (fixed diameter), students construct a square base that transitions into a circular dome.

Like architects, students work under real constraints including a fixed dome size, minimum height requirement, and limited materials. They test their designs for stability, spatial openness, and material efficiency, then compare how pendentives and squinches perform under the same conditions. They then determine which geometric system is more effective depending on scale, structural demands, and resource limitations.

Standards (Common Core — Geometry):

G-CO.1 — define and identify geometric objects and properties in context

G-CO.9 — use transformations and reasoning to explain geometric relationships

G-MG.1 — apply geometry to model real-world design problems

Chemistry: Material Systems and Preservation

How do different materials respond to environmental stress, and how can experimental evidence guide preservation decisions?

The preservation of historic materials depends on interacting environmental factors—including temperature, light, moisture, and human activity—that collectively shape material degradation over time.

Students test how different materials respond to environmental stress by exposing three related materials to light, moisture, temperature, and physical interaction. They document visible changes using photos and structured observations.

Students then use their results to create a **preservation guide** that explains which conditions damage each material and what should be avoided or controlled in conservation settings.



Standards (NGSS — Physical Science and Engineering):

HS-PS1-5 — explain how environmental conditions affect material stability

HS-ETS1-3 — design solutions using evidence and constraints

