

AP HUMAN GEOGRAPHY

Architectural School Site Improvement

Subject Area: Human Geography

Grade Level: 9th – 12th

Date: August 1st

Lesson Overview

Students will work in groups to create a school site improvement project based on an analysis of the architectural features of the school. Students will gain an understanding of the architectural process of idea, conception, planning and proposal.

Materials Included in This Lesson	Other Materials For This Lesson
Worksheets Computers Poster Board	Video: Introduction to Architecture

Skills the Student Will Learn	Student Deliverables
<ul style="list-style-type: none">• Drafting a proposal in writing• Creating an electronic survey and generating information to be used in planning.• Creating a presentation using technology.	<ul style="list-style-type: none">• School Site Tour Worksheet• Individual School Site Improvement Proposal• Public Review Packet• Final group proposal• Presentation Power Point or Presentation Board• Project Reflection

Length of Lesson: Minimum Two Weeks

*The lesson is organized in to parts rather than days because the lesson is a long term project.

Activity Part One

Objective: Students will learn about the field of architecture, define architectural features, tour the school site, conceptualize a plan and write a proposal.

Teacher will introduce the field of architecture through a case study of a local architectural firm, alternatively the teacher can provide students with an article that describes the field of architecture. Teacher will help students identify specific architectural features from **School Site Tour Worksheet** with the students. Students will begin their tour of the site in the classroom and then go outside of the classroom keeping notes on their **School Site Tour Worksheet**.

For homework each student will complete a one paragraph proposal of an architectural site improvement for the school. Within the paragraph students should identify what the current feature is, what the improvement or addition is and defend the need for the improvement or addition. The students will turn in their proposals to the teacher.

Activity Part Two (this part of the lesson will take place over a minimum of 3 days)

Objective: Students will learn about working in groups and developing survey questions to engage the public in the architectural planning process.

Prior to class the teacher should review the proposals and organize the students in to groups of at least 4. Place students in groups whose proposals are least alike so that students have to use communication and problem solving skills to determine which proposal they will go forward with as a group.

After students are organized in to groups using their proposals they need to develop an electronic survey or survey that will generate student input on their site improvement proposals. For homework students will distribute their survey to at least 25 students and 5 teachers/staff and/or administrators. Groups will organize their data in to a chart or table and analyze their data in 1-2 paragraphs. Based on the data the group will decide which proposal they will present to the class. Groups will present their proposal in writing to the teacher for final approval. The teacher must ensure there are not duplicate projects in the same class.

Activity Part Three (this part of the lesson should take place at least a week after the completion of Part Two)

Objective: Students will work in groups to create a professional level presentation of their architectural school site improvement proposal.

Students can be given classroom time to complete their project or students can be required to complete all of the project outside of the classroom.

Prior to the start of presentations one student from each group will be selected as a member of the planning commission. During presentations the planning commission will rate the projects based on aesthetics, efficiency and safety and at the end of the presentations the planning commission will determine which one project will move forward. During presentations those students who are not part of the planning commission will rank the top two projects based on aesthetics, efficiency and safety, they will be prohibited from voting for their own group. The highest ranking project from the class will move forward.

The two projects that have been selected from each class will be displayed in a prominent area for viewing by students and staff. Students and staff will vote on which site improvement plan they think is the best for the school.

Activity Part Four

Objective: Students will reflect orally and in writing about what they have learned regarding architecture and the process or project conception, planning and proposals.

For homework or in class students will write a one-page (or 3-5 paragraph) reflection regarding their understanding of the architectural process and specifically working on the project. Students can share portions of their reflection in class.

Enrichment Suggestions

Field trip to an actual architecture firm.

Architect Guest Speaker

Students present their presentations to an administrator or district School Board Meeting in order to implement their plan.

Student Resources

SketchUP (on-line)

CADD (on-line)

Survey Monkey (on-line)

Lowe's

Osh

Home Depot

Foundation Academic Standards

9th -12th History and Social Science Analysis Skills

Historical Interpretation

5. Students analyze human modifications of landscapes and examine the resulting environmental consequences.

2.0 Communication

2.2 Writing (specific applications of Writing Strategies Standards)

(1.4) Plan and conduct multiple step information searches by using computer networks.

(2.6) Deliver multimedia presentations.

2.3 Written and Oral English Language Conventions

(1.1) Demonstrate control of grammar, diction and paragraph and sentence

structure and an understanding of English usage.

(1.2) Produce legible work that shows accurate spelling and correct punctuation and capitalization.

2.4 Listening and Speaking Strategies and Application

(1.7) Use props, visual aids, graphs and electronic media to enhance the appeal and accuracy of presentation.

2.5 Multimedia

CTE Pathway Standard

Engineering and Design Industry Sector

A. Architectural and Structural Engineering Pathway

1.2 Understand the development of architectural and structural systems in relation to aesthetics, efficiency and safety.

2.1 Understand the ways in which socio-cultural conditions and issues influence architectural design.

2.2 Understand the theoretical and practical effects of human and physical factors and cost analysis on the development of agricultural designs.

2.3 Use the necessary equipment for producing an architectural design and the appropriate methods and techniques for employing the equipment.

3.3 Develop a proposal for a simulated architectural design.

B. Computer Hardware, Electrical, and Networking Engineering Pathway

5.1 Understand the steps in the design process

5.2 Determine what information and principals are relevant to a problem and its analysis.

5.3 Chose between alternate solutions in solving a problem and be able to justify the choices made in determining a solution.

Lesson Plan Relevance to Externship

I was an extern at CH & D Architects Inc. and while I was there I learned about the field of architecture, architectural features and the extensive process that architects must endure for project completion. What I have created is a lesson that will give students a basic background on the field of architecture as well as recognizing the role of architecture in their everyday lives. I have created a simulation that will give students an understanding of the process that architects go through when creating or working on a project. The students will work on communication skills both in writing and orally as well as working in groups which are very important skills that I viewed in the workplace.

Rubric for the Architectural School Site Improvement

Student Deliverables	(1) Exceeds Expectations	(2) Meets Expectations	(3) Approaches Expectations	(4) Fails to Meet Expectations
School Site Tour Worksheet	All boxes filled out and complete	Nearly all boxes filled out and complete	More than half of the boxes are filled out and complete	Less than half complete
Individual School Site Improvement Proposal	Proposal includes all information (current status of architectural feature, proposed improvement, need for improvement) with no grammatical or spelling errors.	Proposal includes all information (current status of architectural feature, proposed improvement, need for improvement) may contain minimum errors in grammar or spelling.	Proposal includes information (current status of architectural feature, proposed improvement, need for improvement) but may not be complete or includes major spelling or grammar errors.	Proposal does not include all information (current status of architectural feature, proposed improvement, need for improvement) or significant grammatical or spelling errors.
Public Response Packet Survey, Data Chart/Table and Analysis	Survey meets all requirements, chart/table is neat and clearly depicts relevant information, analysis is clear and connected to the data with no grammar or spelling errors.	Survey meets all requirements, chart/table is neat and clearly depicts relevant information, analysis is clear and connected to the data with minimal grammar or spelling errors	Not all aspects are met in at least one of the areas is complete either the survey requirements, chart/table or analysis may include grammar or spelling errors	More than one area of the activity is incomplete or missing or contain significant grammar and/or spelling errors.
Group School Site Improvement Proposal	Proposal includes all information (current status of architectural feature, proposed improvement, need for improvement) with no grammatical or spelling errors.	Proposal includes all information (current status of architectural feature, proposed improvement, need for improvement) may contain minimum errors in grammar or spelling.	Proposal includes information (current status of architectural feature, proposed improvement, need for improvement) but may not be complete or includes major spelling or grammar errors.	Proposal does not include all information (current status of architectural feature, proposed improvement, need for improvement) or significant grammatical or spelling errors.
Presentation	Multi-media presentation with models or tri-fold and models. At least five minutes in length.	Multi-media presentation or tri-fold without model at least five minutes in length.	Presentation fails to meet length requirement and project contains minor errors.	Project fails to meet length requirements and project contains major errors.
Project Reflection	Written reflection meets length and content requirements and is shared in class.	Written reflection meets length and content requirements is not shared in class.	Written reflection has minor grammar, spelling or content errors.	Written reflection has significant grammar, spelling or content errors.

School Site Tour Worksheet

Directions: As you tour the school facility please complete the chart below. Rate your feelings of the architectural features of the school as positive, neutral and negative. If you mark neutral or negative identify possible improvements that would give you a more positive feeling.

Location	Architectural Feature	Positive	Neutral	Negative	Possible Improvement
Classroom Interior	Wall Paint Color				
	Carpet				
	Windows				
	Ceiling				
	Door Paint				
	Blinds				
	Identify an architectural feature that is missing from the classroom that should be included in the box to the right.				
Exterior Building	Paint Color (Door)				
	Brick Façade				
	Shape of Building				
	Wall Texture				
	Identify an architectural feature that is missing from the exterior that should be included in the box to the right.				
Bathrooms	Entry/Exit				
	Paint Color				
	Sinks				
	Mirrors				
	Floor				
	# of bathrooms				
	Location				
	Identify an architectural feature that is missing from the bathrooms that should be included in the box to the right				
Landscape	Number of trees				
	Open grass areas				
	Cement walkways				
	Asphalt				
	Type of trees				
	Identify an architectural feature that is missing from the landscape that should be included in the box to the right				

Multi-Purpose Room	Interior Paint				
	Floor				
	Types of chairs/tables				
	Set-up				
	Windows				
	Identify an architectural feature that is missing from the multi-purpose room that should be included in the box to the right				
Outdoor Space	Amount of outdoor sitting space				
	Identify an architectural feature that is missing from the exterior that should be included in the box to the right				
Exterior of School	Staff Parking Lot				
	Library Parking Lot				
	Front Staff Parking Lot				
	Student Parking Lot				
	Chain Link Fence				
	Front Gate				
Identify an architectural feature that is missing from the exterior that should be included in the box to the right					

Homework Assignment:

Review your notes from the walking tour and identify the area of improvement you are most interested in. Write a one paragraph proposal in which you identify the agricultural feature in its current state, how it can be improved (must be very specific) and why the improvement is necessary and/or beneficial to the school community.

Public Review Packet

Directions: Architects are often required to have their work evaluated or reviewed by the public, especially if those projects are for municipal, city or state governments and/or if they will have an effect on the community. This process can happen during the initial conception of a project in order to generate input from the community or can take place later in the planning process reflecting public review of the proposed project. In order to elicit public input your team will be creating a survey and gathering information from the people in your community, which includes students, teachers, staff and administrators. After reviewing your individual proposals in groups select one of the following options:

1. If your group cannot decide on one proposal design a survey with a minimum of five questions that will elicit input from those who take your survey. Whichever proposal is most popular based on your survey results will be the proposal that your group will use for the project.
2. Select one proposal from the group and design a survey with a minimum of five questions to elicit reviews from those who take your survey.

Survey Requirements:

Survey must be done using survey monkey or another on-line survey creator that easily is easily accessible. (For credit you must send the link to your teacher)

Survey must include a minimum of five questions.

Survey must be taken by a minimum of thirty people (approximately 10% of the school population). At least five teachers/staff or administrators must complete your survey.

Chart/Table and Analysis

Create a color chart or table depicting the data obtained from your survey. Write a one-two paragraph analysis of the data.

Final Group School Site Improvement Proposal

After reviewing the data, write a one paragraph school site improvement proposal. Be prepared to defend your proposal to the teacher.

After your proposal has been approved by the teacher you can begin work on your presentation.

School Site Improvement Project Presentation

Directions: As a group you will be creating a professional presentation representing your proposed School Site Improvement Project.

All projects will be presented on the same day in an order determined by the teacher.

On presentation day, one student from each group will be selected to represent the planning committee. During presentations the planning commission will rate the projects based on aesthetics, efficiency and safety and at the end of the presentations the planning commission will determine which one project will move forward to a public school vote. During presentations those students who are not part of the planning commission will rank the top two projects based on aesthetics, efficiency and safety, you will be prohibited from voting for your own group. The highest ranking project from the class will move forward to a public school vote.

Project and Presentation Requirements:

Multi-media presentation (minimum six slides) or tri-fold poster that includes the following (these are the minimum requirements)

- Title of School Site Improvement Proposal
- Depiction of current architectural feature (use photos or models)
- Description of proposed change (use photos, samples, models)
- Examination of the need for the proposed change, the benefits of the proposed change and the costs of the proposed change (include charts tables, photos or models).

Length of presentation: 5 minute minimum/ 7 minute maximum

Remember you want to persuade the planning commission and the class that you have the best idea for school improvement so the more creative, complete and convincing your presentation is the more likely your presentation will rank high enough to move forward to the public school vote.

