

## **Through the Eyes of Our Students: Exploring and Discovering Houston's Architecture**

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### **INTRODUCTION**

In the school where I teach there is a diverse community of students from Latin America, Vietnam, China, Africa, Europe and other nations. Our student population consists of a mixture of all types of ethnic and socioeconomic backgrounds. Currently we have the largest number of "English as a second language" classes in all of Houston Independent district's middle schools.

Our students demand a lot of attention and preparedness from the teaching staff.

### **Intentions**

For the regular English-speaking teenager, the middle school years are often a time of emotional and intellectual confusion. These problems, compounded with an adjustment to a different school system and culture, create a lot of added stress for the non-English speaking student.

Between the ages of 10 and 14, adolescents experience more changes than at any other time in their lives. Knowledge of the emotional, physical, social and intellectual "metamorphosis" that adolescents undergo enables teachers to understand their needs and implement instructional programs to meet these needs. (Goldfluss, B-2)

This unit's intent is to provide a comprehensive collection of lessons, projects, vocabulary, and teaching skill strategies that will provide the means to explain by example to all students why it's important to discover one's city and explore its architecture. This unit keeps in mind the different needs of each student's level of learning.

In an effort to provide distinctive educational content for my students, I have been researching how I can provide substantial lesson opportunities for middle school children. I've found that art and architecture are a great catalyst for any kind of learning. The integration of art and architecture with core subjects is a natural!

Integration is a tool that benefits all involved – student, teacher, educational system, and society. Our day-to-day activities are not separated into subject matter areas. Instead, many learnings are naturally integrated as we go about the business of living. Well-educated individuals constantly use the thinking and problem-solving skills essential to their understandings of science, math, social

studies, language arts, etc. Teachers therefore have a responsibility to show students how these disciplines relate to each other, and to their daily lives. (Goldfluss, B-4)

### **Mixing it up**

There is great benefit for all teachers interested in architecture or design to combine it within their own subject matter. In using Houston or their own city, as a focal reference and conveyance, one can integrate actual facts, their surroundings, and create relevance for students to discover through using their very own senses. As teachers we know to have as many samples or multi-sensory activities available in the lesson in order to have students grasp what is being taught. With what better method can one embed the core knowledge materials while you have their attention?

As kids get older and the curriculum gets overstuffed with content-area mandates, smart teachers incorporate art activities into integrated curriculum units (Zemelman, 163). In every subject, doing the arts can provide new ways of exploring and expressing ideas about practically anything—the Civil War, triangles, photosynthesis, or *To Kill a Mockingbird*. The Arts should be integrated across the curriculum, as well as taught as separate disciplines. (164)

The ease of implementation, considerations for core subject matter and their relationship to architecture are included. The lesson plans to be flexible for any fine art teacher as well as any core subject instructor. Standard materials, equipment and lesson preparation are inclusive of the important objectives that the state of Texas provides as guidelines to cover within all the curriculums taught. These objectives are “common sense” requests that can be assumed in any subject matter by any school in our nation.

### **PURPOSE AND STRATEGY**

Presently, our school is offering a three-year Graphic Art and Architectural Design Magnet program for the students who are interested in either career. In three years, our students will cover both of the components, graphics and architecture design. I wrote this architectural unit so that I could use it in my graphic design classes. It was written to augment and to blend design with architecture so that my students would see a correlation. I specifically want them to realize that the skills in the act of designing have similarities in approach and that the elements and principles of both subjects stem from a basic formula in art.

I wish to convey to my students that design is an integral and an *active* element in architecture. You cannot separate great architecture from good design. I hope to provide the students with exposure to the great architectural designs that can be found in Houston and information about its architects affirmatively. In order to have the students derive satisfaction and grow perceptually from the lessons provided, my unit will accentuate

sensory learning. In having to pay attention to their own senses, they will be asked a lot of perceptual questions as they become introduced to their city. It will be chance for them to develop insight or aesthetic awareness, grow in experience and obtain a better grasp of what design really is.

Growth is an ever-changing continuum, and this is very true in the area of aesthetics. The organization of our thinking abilities, the development of our perceptual abilities, and the close relationship to our emotional capabilities can be considered aesthetic growth. (Lowenfeld, 316)

Young adolescents are rarely exposed to their home cities. By experiencing the city through observation and inquiry the students will enhance their understanding of *their daily lives*, the *historical richness* of their city, and *appreciation of art* through the *design* in their city's architecture. Since many of the students are from other countries, this will also serve as a connective strand to realize that their city has been made by different people from around the world or, in other words, Houston has been made by the infusion of many ideas and many cultures.

*One of the most important and most neglected subjects of real education is that of children regarding the city environment in which they find themselves living. Can they as children have any effect on the evolution of the massive physical items surrounding them? Yes, they can. For a number of years it has been demonstrated that this subject is intensely interesting to both the children and teens. Classes in city planning are enormously stimulated by actual designing, fabricating, and operating various building structures and above all, by building classroom size models of the cities the students plan. I recommend that City Building Education be included in elementary and high school curricula.*

– Buckminster Fuller  
May 8, 1983  
(Nelson, v)

The city of Houston will act as the vehicle to expose my students to design through architecture. There will be a presentation of the history and its relevance, understanding the designs of the past and present, and practice of a working vocabulary. There will be activities to distinguish the elements and principles of art being employed as they study a building as well as ways to enhance their critical thinking skills.

In choosing Houston's architecture, I hope to provide an exciting and welcome change in content for my classes. After reviewing the beginning objectives in their lessons I can then gear my students to the next set of objectives, which are to stimulate curiosity and develop insight skills. They will look at possible career paths and use their curiosity to research the architects who interest them. They will discuss how they perceive their city now, what buildings affected them, or how they think citizens of a metropolis can be affected by their surroundings.

Ultimately, this will provide an added opportunity for young people to develop an interest in architecture or design. Their interest may lead their undeveloped skills forward. Perhaps this awareness could even lead a student towards a new avenue in life choices and possibly a career. There may be questions that they will consider for the first time like "Where and what kind of city or style of home would I like to live in?" There may be questions about environmental concerns that they'll ponder. It may be that by starting to develop a sense of aesthetics they will begin to embrace and have a sense of being part of this city now. All these are all bonuses created through exposure to architectural studies. Again, by exposure, examples, and demonstrations we as humans all absorb and decipher information best. The added key here is to provide more multisensory elements that can lead these students toward these types of critical thinking results or inspirations.

Adolescents begin to function at a more abstract level, using critical and reflective thought processes to a greater extent. However, not all young adolescents reach a consistent higher level of reasoning; some continually oscillate from concrete to the abstract, while other students remain at the more concrete level for the duration. It is important for educators to keep this in mind as they prepare curriculum materials. The inclusion of concrete, real-life situations to which adolescents can relate is an important stage of learning. (Goldfluss, B-2)

Often middle school children do not know how to express newfound interests and/or appreciation. Providing a working vocabulary that will support their curiosity and thoughts is crucial to enable students to assimilate, interpret, and express emerging opinions relating to their comprehension as they investigate or explore their home city. This unit will provide a comprehensive collection of lessons, projects, vocabulary and teaching strategies that will enable students to do just this.

To stimulate or increase interest from my students, I will include step-by-step interactive exercises in presenting the subject matter. Group and team type practices will be mentioned in the lessons. Featured with the topics covered are many activities such as field trips, slide shows, visiting architects, seeing construction sites, using the Internet, books for student use, or manipulating materials; all options that can be added to embellish the learning experience.

Presently, there is little if any instructional material written to teach young students to explore or discover their city. Initiating this unit will assist in filling the needs that exist for many teachers who have interest in the subject.

In studying Houston through field trips, I will convey some of the city's history; its past and current styles of architecture; and how design, function, and purpose work together. I will cover some interesting information about the architects, include problem-solving techniques, strategies in improving the student's abilities to design, practice higher level thinking through probing questions and the use of new terminology. I will include writing to reflect additional knowledge absorbed through critiques after each new exposure. By delving into this exploration unit I hope to have them wondering, asking questions, both about design and architecture and provide the answers.

Discussions of art appreciation are often concerned with the principles of design. These are not always given the same names, but are essentially concerned with the surface pattern of a design or composition; such words as harmony, balance, rhythm, unity, center of interest, and so forth are often mentioned. There is often the notion that learning these particular words bears some relationship to developing an awareness of the good and bad qualities to look for in compositions, and that therefore an appreciation of art will result. (Lowenfeld, 319)

### **The Thinking Process**

How do buildings get their style? How do architects get their inspiration? Why do our buildings look the way they do now? Why are they taller and taller? What kind of buildings do you enjoy seeing or do you think they are too simple looking? Could they put back the outside decoration? How does downtown Houston look compared to other cities? Are we a good-looking city? Are we progressive? What makes a city look ready for the future? Do you admire any of the older type buildings? What would you do

different if you designed our city? These are some of the questions I hope to have students examine, and of course, come up with more of their own.

I am compelled to devise lessons that provoke my students to analyze, augment, elaborate, connect, associate, define, interpret, pattern, predict, problem-solve, relate, question, and synthesize as regular procedures to use during class discourse.

The arts should be used as a tool of thinking. While students need plenty of chances to create final, polished artworks, the arts should also regularly be employed as tools for the exploration of ideas, without being pushed to final, edited, and exhibited forms. These informal, tentative, exploratory applications of the arts can help kids engage and grapple with ideas in any subject area. (Zemelman, 165)

There are still more questions that may come up in studying Houston's buildings. The city's life, society's choices, the architect's view of our city, his/her beliefs about style and structure could be brought into the dialogue. Other options could include the architect's mentor, who has influenced their style, the client's wishes, the materials used, and then after all that, it is really what our students will think that will **matter**. Questions should be put to them often about how they are being affected by the information imparted. It will be essential to have discussion time-outs to be able to check their perception and feelings as they are progressing in these lessons.

Although architecture has been classified as part of art, it is more than that. Architecture that lasts must be successful; it must work. Looking great isn't sufficient. We are surrounded by these man-made inventions; we live and work in them. How do we know when they are marvels of ingenuity, just efficient buildings, or worthless hunks of concrete? The word we are looking for is *design*.

It is clear from the classroom observations that design experiences invigorate teachers and students, transform the nature of teaching, and foster success for all types of learners. Design-based teaching strategies support a broad range of student achievement by transforming the teacher authority to facilitator, reaching all learner types, making learning active, and using technology in the service of ideas. (Davis, 41)

Activities having to do with design reinforce students to draw from richer supply of information and require a variety of abilities or skills in finding the solutions. The very act of planning requires students to think how to achieve objectives and prioritize. That is something in itself a great activity and a huge undertaking for some students at this age. The plan now has new requirements. It must not just be efficient but faster, sleeker, more dynamic, unique-looking, attractive, exciting, and so many more explicates. By adding design, you are adding an extra quality to the components of the plan.

Design activities develop the ability to enhance and transform ideas through the visualization, manipulation, and application of data to problem solving. Through design projects, students learn to reveal meaning in facts, to view the same information from many viewpoints, and to expose various dimensions of data through alternate forms of presentation. Design projects encourage the invention of new ways of doing work more efficiently. (Davis, 99)

### **Making the Connection**

What is architecture? Is it just buildings? Is it part art, part function? To me it is the combination of many disciplines. It is using the subject matters we learn in school and bridging them to design our human environment. Expressing words like immense, restful, strength, prosperous, awe-inspiring, ominous, good, exciting and more, buildings talk to us about the place and its people. It is math, it is science, and it is art. Whether to create an image of success or humble surroundings, architecture's design tells a story and it's about history. As time goes on, a structure can leave impressions of what was, how people lived and what was important to them. Were they practical? Did they value beautiful surroundings? Were they spiritual? Were they good?

Understanding the power of architecture on a higher level--the power of it is to lift our spirits or drag us down, to intimidate or inspire, to make us healthy or sick, to make us function efficiently or poorly--leaves no room for doubt that this is a force which deserves our attention-a force to understand and control. (Driskill, foreword)

What is design? Design is a word with different meanings. It reflects the intuition of man's desire to organize data. In regards to art or architecture, it is an intellectual process by which you can plan visual information. It's also a way to engage one to plan for functional or decorative purposes. It can be a combination of function, decoration, and expression. The *act of designing* is also the result, or termed a "*design*." For example: Michelangelo designed the fresco on the ceiling of the Sistene Chapel. Or, Michelangelo's most famous design is a fresco on the ceiling in the Sistene Chapel. The word *design* is used interchangeably from the *act* to the *deed*.

There are principles of design that artists and architects use as selected options that affect the way one can improve, project an idea, change the look of a building, or help the artist or architect in finding his/her solution. The principles of design – unity, emphasis, balance, variety, pattern, and proportion – are the variables that can alter a drawing (vision or goal) in the act designing.

The purpose or intention in planning is called *concept* or *theory*. The right combination of art elements and the use of the principles can exude the very "concept" that the architect wants to interpret or express. This is the language of the artist when he

designs. This is also the language that an architect uses when he designs in order to make buildings speak.

The analysis of the design principles is intended to reveal the theoretical goals on which a particular collection of architectural concepts or individual buildings are based. (Schirembeck, 6)

So, what is an architect? Is he just a person that plans buildings for fabrication? Are his structures just made out of man-made materials or a combination of his visions and style?

How to build beautiful buildings, how to plan cities that function, how to plan an environment that works well is a challenge. It is a challenge that requires expertise on the part of the creator (the design professions) and the user (the consumer). Only this partnership of the designer and user can raise architecture to the art form it can be. (Driscoll, foreword)

### ***Why study Houston's architecture?***

Architecture is all around us. We live and work in buildings. Unless you are living in a large rural area you are surrounded by a man-made environment. We, as citizens of this city, need to get an awareness that we have choices to make in the future about our environment. If for that alone, we should be familiar with our immediate world.

When we look at our cities, we see ourselves. We hope our children will like what they see. (Graves, 11)

Houston is a city that has its own characteristics. Houston is different from most cities in that you can find tall modern buildings and skyscrapers not just in the downtown area. Houston has embraced most architectural styles. It's unusual to find a city in which you can cover with your students most types of buildings, old and new, without having to travel very far.

One can tell the difference between modern and older buildings and new styles from old styles. But other than knowing that a style usually has the "ism" on the end of the word, the novice does not have the identifying tools to depict the differences. If one is new to architecture, Houston is great to explore. You can find as many styles and eras all in the same downtown area. With these basics the teacher can begin.

## **PRE-LESSON**

*What do we know already know about Architecture?*



This will be a group cooperative activity. The class is broken into groups of two or three. The purpose for this assignment is to have the student review or prepare for a walk around the city (field trip). In order to have the students succeed in future lessons, they need to have a good grasp of the general vocabulary, elements and principles. This prep will allow time to practice what they already know and articulate what they think through the implementation of ideas and terms revisited. Well-known styles of architecture will be discussed as well as architectural terms for awareness.

## **Objectives**

The students will be able to:

- ❑ Participate in their group discussions interpreting the elements and principles in well-known architecture;
- ❑ Work cooperatively with group members to resolve, share and compare idea/solutions; and
- ❑ Engage in using new vocabulary and terms given to build understanding and familiarity.

## **Materials**

*Teacher:* In preparing for the lesson, you will need to obtain architectural slides that will serve your purpose, create overheads or prepare samples on poster board. Choices depend on what's available for your use; slide projector, overhead, or computer.

*Student:* paper, pencil, magazines, computer and printer, index cards, scissors, glue

## **Core Subject Variations**

*Math:* Find the geometry in ancient buildings, collect pictures of buildings that show symmetry, algebraic concepts by looking at the parts of buildings, measuring perimeters, and discuss patterning.

*Science:* Flying buttresses and why it caused stress relief, rain and gargoyles; do they have a function or are they there for decoration? Let's bake some bricks! Friction and stuff like concrete or plaster...

*Language Arts:* Read and learn about the early architects or famous artist. Find out how funny words, expressions or sayings were started and have been kept in our language for hundreds of years. For example, "raining cats and dogs" is architecturally related and this comment has been used since early medieval ages.

*History:* Create a timeline with the categories created on the index cards. Play, "stump the history student." Have the students put a time line together by pictures of architecture. Design your own gargoyle.

## **Procedures**

### **Part A**

A presentation of slides by projector or posters shown. Discussion with every slide presented. Students will be given a chance to show confidence in their acquired knowledge. Terms will still be introduced to make sure that everyone is familiar with the parts of ancient buildings. Questions in relation to balance, pattern, and proportion can be brought out for confirmation that the students are following along with the terms.

#### *Suggested types of buildings to show*

An Egyptian pyramid, Greek temple, monuments, a Roman aqueduct, a Roman building with rotunda, a castle, a gothic cathedral

#### *Suggested Q & A session*

*What are these?*

Columns, arches, atriiums, beams, bracket, canopy, capital, dome, façade, frame, frieze, elevation, gargoyle, gallery, gazebo, porch, relief, pedestal, pier, pavilion, boss, corbel, cornice, finial, hood, pediment, transom, etc.

*What have been the uses of these buildings from the past?*

Temples, theater, arenas, tombs, palaces, castles, forts, water transportation, fountains

*What building materials were used in ancient architecture?*

Marble, stone, limestone, brick wood

*What materials are used in modern buildings today?*

Brick, glass, steel, cast iron, granite, limestone, wood and aluminum

*What are the ways we utilize buildings today?*

City hall, hotels, hospitals, homes, corporate business, fountains, theater

*What can you recognize what we still use today?*

Fountains, monuments, palaces, columns, rotundas, façades

### **Part B**

Students will then get into their groups and work together to *define, associate, and comment* with classmates as they work together in regards to the project set before them. From research (either magazines or Internet printouts) the students will cut and paste on index cards a picture from the category set for their group by their teacher. On the back of

card they will fill out the answers found from that category's questions, given by their teacher.

### ***Suggested categories to derive questions from***

Famous architecture, ancient buildings, parts of buildings, and what were these buildings used for? Styles of architecture, symmetrical buildings, asymmetrical buildings.

### ***Activities to add***

Create a time line  
Design your own column  
Design your own gargoyle  
Vocabulary game  
Create a façade building front in clay

## **LESSON ONE**

### **A Visit to Downtown Houston**

Students will spend the day walking downtown. They will get the opportunity to relate, analyze, comment, associate, interpret and synthesize a lot of information given to them about their city. They'll employ their senses to understand most of it. A day in downtown will allow them to feel the energy of the area, see citizens about their daily routines, have time to observe close-up details of architecture that they didn't know, learn about the history of buildings, old and new or maybe feel the textures from carved stone.

The students will be given certain requisites to complete while they are studying Houston's architecture. Among them will be a list of pictures that they will take with their cameras. They will be advised to do all that is listed because future lessons will depend on their having these items completed.

### **Objectives**

The students will:

- Record and take photos of buildings from a requisite list;
- Interpret data and make comments in regard to significance from information given;
- Participate in group discussions, ask questions, and show curiosity;
- Connect design efforts with architect's ideas;
- Identify architectural styles;
- See connections and influences of different cultures;
- Take good notes for future projects; and
- Use growing vocabulary.

## Materials

Notebook pad, pen, camera, and film

## Added Resource

- Internet research
- *Houston Architectural Guide*, by Stephen Fox  
(field trip source for locations, buildings and architectural information)
- *Inside Art*, by Rebecca Brooks, Ph.D.  
(Chapter 17, Careers in Art and Architecture)

## Core Subject Variations

*Math:* Geometry in buildings, symmetry, measuring perimeters. Develop questions about scale and height in skyscrapers, weight relationships in different building types (older vs. newer). How much glass do they need to create a building?

*Science:* Compare building modern skyscrapers to buildings in the past. See the differences in materials used in Houston since the early 1800s to current. Discover how the knowledge of materials use has been by trial and error. Compare the elements of science with the elements of art. Do they have any similarities when it comes to making architecture? Find out how buildings got taller and taller. It has something to do with designing!

*History:* Texas history found through Houston building. Discover old downtown Houston. Walk into the past. Tour the Julia Ideson building has historical murals about this state's past and is one of Texas history's finest research libraries. See how different cultures left their mark by the creating of different style buildings through the city.

### **Vocabulary:** *Styles of Architecture*

|                     |                  |
|---------------------|------------------|
| Gothic              | urban            |
| Renaissance         | Bessemer process |
| Victorian           | masonry          |
| Greek and Roman     | facade           |
| International Style | ornate           |
| Brutalism           |                  |
| Post-Modern         |                  |

## Procedures

During the field trip, the students will be asked to write down notes about buildings, answer questions as they acknowledge the answers, and take photos.

***Suggested questions to answer after each building is featured***

What impression did you get from learning about this building?  
What fact or information interested you the most? What did you learn?  
What do you think about the design?  
Did the architect have a concept to relay to us?

***Questions to answer after field trip is over***

After seeing all these buildings, who currently is your favorite building or architect?  
How does his building affect you? What do think of your city? What do you think most  
Houston citizens think of their city? What did you learn about design today?

***List of Architecture photographs to take***

|   |                      |
|---|----------------------|
| Best designed building  | Most ornate building |
| Worst designed building                                       | Most simple building |
| International style   | Spanish style        |
| Renaissance style   | Post-modern style    |
| Oldest building   | Greek or Roman style |
| Building that combined two types of materials on the exterior |                      |
| Detail masonry or decoration on the outside of the building   |                      |

***Architects from different cultures that have contributed to the Houston skyline***

Ludwig Mies van der Rohe  
Philip Johnson  
I.M. Pei

**Design information: A mini-Teacher's aide**

*The Art Teacher's Book of Lists*, by Helen D. Hume

**Reviewing the Principles of Design**

*Value:* Value is the measure from light to dark stretch of a color in any given context. Differences in a hue or neutral ranging from the lightest to the darkest. For example, white to gray to black.

*Patterning/repetition:* Patterning or repetition refers to the creation of harmony, rhythm from the repeating of lines, shapes, form and color. It is a natural way that artist and architects organize in the act of designing or creating.

*Contrast:* Contrast shows differences between the elements of art, which are line, color, shape, value, space and texture.

*Unity:* Unity is the harmony of all visual elements in a design or composition.

*Emphasis:* Emphasis is giving to a center of interest, which may be created by a choice of an element in art.

*Balance:* Balance is the equilibrium of various elements used. There are various types of balance. There is equal balance on each side and that is usually called *symmetrical*. Balance that is created with the unequal distribution on each side is called *asymmetrical*.

*Proportion:* Proportion refers to the mathematical relationships that relates to the real dimensions of form and space. It also can give a sense of visual order. Proportions use ratios, scale and axis to look at the parts and their whole. It can increase to imply symmetry or balance and show a sense of unity or lack of it in an architectural design.

*Variety:* Variety is the implementation of variety of size to any given element such as having a variety of different shapes, forms, and color in a composition.

## **LESSON TWO**

The following lesson can be a great opportunity for students to express what they have internalized and synthesize their thoughts. From notes taken at the field trip, they will prepare a speech and samples of what they as archaeologists have discovered as ancient relics. The student will then be able to do a lot of critical thinking in a fun activity. A chance to present and critique others will enhance the activity.

### **Objectives**

Students will:

- ❑ Interpret notes and research from books and Internet;
- ❑ Use growing-vocabulary;
- ❑ Find connections and influences from our city, its people, its mixture of cultures;
- ❑ Produce an original speech that integrates information from a variety of sources and demonstrates sustained, self-directed investigations into the specific theme;
- ❑ Analyze a wide range of information to form conclusions about formal qualities, historical and cultural contexts, intents, and meanings; and
- ❑ Respond to and evaluate. The student will make an informed opinion in critique procedures.

## **Materials**

Notes, reference books, Internet, copy paper, printer and word processor

## **Core Subject Variations**

This project primarily offers history, math, and language arts a substantial integrated lesson

## **Procedures**

It might be interesting to contemplate what a future archaeologist would think about our society if he uncovered it 500 years from now. What were our values, what does our city say about us and our culture? Would he be confused? What would he be confused about?

### *OUR SENSE OF STYLE?*

The archaeologist would find homes and commercial buildings with “false-fronts” called façades. Many of our buildings are a combination of different styles. A Greek type building here, an International Style there, a skyscraper next to a much older building. All of these found in the city of Houston and all pretty much mixed-up!

### *OUR USE OF TECHNOLOGY?*

Conveniences and use of technology would be evident, right down to having plastic inserts of glass that can be taken off when you need to wash a window!

Seems like everything is color coordinated. All appliances in the house match even our dishes. We have the technology to create “look-a-likes” in furniture, matching appliances, coordinated clothes, in make buildings look old or new, and practically make anything look futuristic.

Our homes and other interiors can look like any century desired. Embellishments and the looks of the outside of a building do not necessarily *unify* with the inside decor of the same building. Technology does save the day because even when you see a Victorian gas lamp or candle chandelier, nowadays, you’ll see them converted to electric!

### *What about design in architecture?*

If the archaeologist found our contemporary buildings what would he think? Ah, but what would he think if he also saw a barrio or saw homes and buildings in Third Ward? What would he think of us as a people and a city then?

Do we take design as a top consideration in every part of our city? So what would he think of us? What does our city say about us? What do we value?

### ***Instructions***

Make believe you are this archaeologist from the future. You have just discovered the lost city of Houston. You are also discovering parts of residential areas, factories, banks, malls, and other architecture. You are finding artifacts like plates, plastic glass, vases and appliances. You are going to write a paper to be read at the London Institute about your findings. There will be a lot of famous architects of the future going to hear you. They are most anxious to hear about your latest discoveries related to art and architecture of Houston!

### ***Prepare your speech***

Write as if you were going to present these findings to people who have never heard of Houston. Remember that Houston is an ancient city and the people at the symposium are trying to find out what kind of city and people were we. Use the vocabulary and terms you have been learning as much as you can in your speech.

Spelling and grammar count. The speech must be at least two pages long. *Prepare picture samples.* You'll want to use them to support your findings!

### **Variations to the Theme**

#### ***Be a future art historian or critic:***

Standards of good taste and beauty constantly change with the times. A car could be just the best design and then after 10 to 20 years it will have no interest from people whatsoever. If you wait 50 to 100 years that old car can have a different appeal and can suddenly be appreciated again. What we think is good architecture today may become not unaccepted in the future and people may want to tear it down just because it is old looking and has lost its appreciation.

Pick out a building that you saw in our tour that you believe will stand the test of time! Tell me why this building has what it takes to be a classic and why people in Houston (or the world) will still think of it as a great design for years to come.

Use any of the principles of design, anything you know about the function or the materials of this building that will prove your beliefs about this building. Add any information that you know about the architect, or ideas about what the architect thought in order to design this building. Tell me how one feels when they see this building. Is it because of the way it looks? Materials used? What will people say about the architect in the future? Is he a great designer? Did he create other great buildings that we will remember?



## Vocabulary

|              |             |                     |            |
|--------------|-------------|---------------------|------------|
| boom-town    | rural       | progressive         | metropolis |
| entrepreneur | urban       | restoration         | artifacts  |
| city planner | applied art | innovation          | embellish  |
| architect    | mural       | landscape designer  |            |
| zoning       | motif       | industrial designer |            |

## LESSON PLAN THREE

### Objective and Activity:

Students will *analyze* their photographs of buildings they took in a previous architectural field trip. They will choose a building that they consider has flaws in design or dislike for specific reasons. After choosing their picture, the student will *interpret, define, and relate* through new vocabulary, the principles of design, and personal opinions, why they think the building is a disappointment in their estimation.

Students will then *problem-solve* and get a chance to think through what they would change to solve the problems they *perceive* through an illustration.

### Materials:

Student's photo of a building, notebook or copy paper, drawing paper, textured or construction paper, pencil, or colored pencils, scissors, ruler, and glue.

### Added Resource:

Internet research  
*Houston Architectural Guide* by Stephen Fox  
Architectural Digest magazine

### Core Subject Variations:

*Math:* Can include drawing with grids, using scale as consideration, measuring and proportioning. Use of geometry in drawing a three-dimensional building.

*Science:* Environmental concerns for the surrounding area, stress-factor and balance of building due to the type of materials in construction. Are there caustic materials involved like asbestos? Does the design take into account airflow/natural ventilation inside or is there sufficient light? Could you design for natural illumination (by natural light)?

*Language Arts:* Compare and contrast what works as a good design and what does not can be compared to a good paragraph. Verbs and nouns work together to build words into sentences (foundation). Good designs can be compared to a good use of expressive adjectives or adverbs. They are needed in creating good form in your writing. They help to have the paper read well (function) and express or embellish (decorate) the work.

|   |                         |
|---|-------------------------|
| <b>Vocabulary:</b> <i>Principles of Design:</i> | <i>Elements of Art:</i> |
| Repetition                                      | Line                    |
| Pattern   | Shape                   |
| Contrast  | Form (mass)             |
| Proportion (scale)                              | Space                   |
| Balance   | Color                   |
| Unity   | Texture                 |
| Rhythm  |                         |
| Emphasis  |                         |
| Value   |                         |
| <br>  |                         |
| Symmetrical                                     | Asymmetrical            |
| Rendering                                       |                         |

**Assessment:** Informal: Use of vocabulary verbal and written, questions being asked, personal initiative in researching.

Formal: Quiz on rudimentary knowledge of elements and principles  
Project presentation  
Critique from classmates

## Procedure

The following is a statement made by a person that was born without the ability to see or hear. Read and think about what she meant by this statement.

*“If I can get as much pleasure from touch, how much more beauty must be reached by sight. Yet those who have eyes apparently see little. The panorama of color and action is taken for granted. It is a great pity that the gift of sight is used as a convenience rather than as a means of adding beauty to life.”* –Helen Keller

**This project is going to test your sight and awareness.** Look for the art elements, design principles and vocabulary that can help answer the questions below. In your photo collection of architecture in Houston, you were assigned to take a photograph of a building you disliked. Take this photo out and study the picture.

**Requirements:** Hand in a minimum of three well-written paragraphs on one or two sheets of paper. The chosen photo will be pasted on copy paper. Use drawing paper for

the rendering. Please center your drawing before starting. Neatness in both drawing and writing is expected. Correct spelling is required. Write legibly or use of word processor.

- a) *Explain and write* why you chose this building. Write why you feel the building fails to meet your standards. Think in terms of what you picked as your most favorite building. Why is it that you believe it's great? Is it due to the design, form, function, or placement of it? Use the vocabulary we've been practicing to explain. Describe by using the principles of design or anything else we have discussed in class to demonstrate your point.
- b) *Re-design* this building on an 8x10 drawing paper. Render a drawing with your solutions. You have a choice of just pencil or a combination of papers or pencils to add to your idea. You can cut and paste to create if you wish.
- c) *Describe* on a separate piece of paper in a paragraph or more, the reasons for the improvements you've made. Tell me by using vocabulary words and terms used in class, how you improved the looks or design of the building? Describe the reasons for the improvements, whether for decoration, form or function.
- d) *Present*. Be ready to introduce this to the class as your presentation.

## ANNOTATED BIBLIOGRAPHY

- Allen, Edward. *How Buildings Work*. Oxford University Press, 1995.  
How can good design create a great building? General concepts that should be a consideration to architects are relayed. From the balance, material-knowledge, water-seal, air circulation, illumination and much more. Chock-full of facts that can be understood by students and teachers.
- American Institute of Architects, Houston Chapter and Houston Independent School District partnership. *Architecture Is Fun!* Houston: Houston ISD publication, 1989.  
Workbook for teachers that prepare in the introduction of Architecture to students from grades one through twelve. Lessons and vocabulary prepared in a six-weeks constructive unit.
- Anderson, Stanford. *The Education of the Architect*. Cambridge, Mass.: MIT Press, 1997.  
An extensive book, straightforward about teaching architecture. Historic references are valuable, modern ethics are discussed briefly,
- Barford, George. *Modern Architecture*. Worcester, Mass.: Davis Publications, 1986.  
A comprehensive book on modern architecture and its architects. Black and white; shows elements of design through large clear pictures. Excellent for showing how buildings and structures of today appear.
- Conti, Flavio. *The Grand Tour Individual Creations*. New York: HBJ Press, 1978.  
Distinctive architecture throughout the ages. Very large color pictures showing many views of these buildings and good clear information of the architects. This book is excellent for student introduction to distinctive styles and design in architecture.
- Driskill, David A., Marvin R. Platten, and James T. Davis. *Architecture across the Curriculum*. Lubbock, Tex.: Texas Tech University Press, 1998.  
Very useful design-oriented programs created through the Architects College of Fellows at Texas Tech University and Texas Society of Architects. Prepared for teachers that are looking to incorporate architecture into their curriculum.
- Field, William Scott. *Last of the Past, Houston Architecture 1847 to 1915*. Houston: Harris County Heritage Society, 1980.  
Photographic album of past architecture from 1847 to 1915, showing the emerging styles and growth of the city of Houston. Excellent guidebook to the past. A must for both students and teachers to use as a beginning point reference.
- Fox, Stephen. *Houston Architectural Guide*. Houston: American Institute of Architects, Houston Chapter and Herring Press, 1999.  
A comprehensive publication, with an excellent orientation of Houston, its

architecture, and surrounding area. The city's information, growth history and maps are available. Informative and invaluable in getting to discern and perceive Houston.

Gardiner, Stephen. *Inside Architecture*. Englewood Cliffs: Prentice Hall, 1970.

Introduces past architecture, the styles around the world, its uses, and minimal start to modern movements. Three architects are discussed that have had the greatest influence on the forms and appearances of twentieth century architecture. Le Corbusier, Frank Lloyd Wright, and Mies van de Rohe.

Glancey, Jonathan. *The Story of Architecture*. London; New York: Dorling Kindersley, 2000.

A great introductory book for middle school children, full of large color photos that include timelines, styles, terms, concepts and influential architect's information.

Goldfluss, Karen J., Julia Jasmine, and Dona Herweck Rice. *Interdisciplinary Units*. Westminster, Calif.: Teacher Created Materials, Inc., 1994.

An architectural program from Los Angeles school district. Created in the 1990s, a program to explain the city, its planning and architecture to LA's students. An excellent example of students learning about city government, city planning and how buildings play a large role in the city's function.

Hume, Helen D. *The Art Teacher's Book of Lists*. Pramus, N.J.: Prentice Hall, 1998.

A good resource for vocabulary, terms and art historical themes that a teacher may need to prepare any lesson.

Khan, Hasan-Uddin. *International Style, Modernist Architecture from 1925 to 1965*.

Taschen, 1998.

Modernist movement, how it came about, developed and was accepted around the world.

Le Blanc, Sydney. *20<sup>th</sup> Century American Architecture*. New York: Watson-Guption Publications, 1996.

A guide to America's most important architecture with great written depictions of the chosen building's design. Quite a few buildings from Houston are presented.

Lowenfeld, Viktor W. and Lambert Brittain. *Creative and Mental Growth*. 5th ed. New York: McMillan Company, 1970.

A voyage of cognitive and creative learning from elementary through secondary school. Recognition of brain growth and development through several cognitive stages in a developing child.

Nelson, Doreen. *Transformations: Process and Theory*. Los Angeles, Calif.: Center for the City Building Educational Programs, 1984.

Program presented and teaching methods discussed. An architectural program for middle school children in Los Angeles, California.

Norberg-Schulz, Christian. *Principles of Modern Architecture*. London: Andreas Papadakis Publisher, 2000.

A new look at the modern city... Where are we going? What is a healthy city? Questions and a few new ways to see what man is doing with his surroundings. Futuristic and optimistic book for the new century.

Rice Design Alliance. *Cite, The Architecture and Design Review of Houston*. (Winter, 1997-98).

Articles such as; "New Brutalism: The Houston Interpretation," "SOM in Houston," "Design, Industry and Architecture: Houston at Mid Century," has concise information needed to know and be able to interpret Houston as a leader in American architecture.

Rice Design Alliance. *Cite, The Architecture and Design Review of Houston* (Summer 2001).

Magazine contains pertinent information about downtown Houston. Articles that are worth their weight of information are; "Reading Room, The Houston Public Library Plans for the Future", and " Past Imperfect: Can Modern Design and Historic Preservation Mix?"

Schirmbeck, Egon. *Idea, Form and Architecture: Design Principles in Contemporary Architecture*. New York: Van Nostrand Reinhold Company, 1987.

Success of well-designed buildings reviewed. Relations to the user's needs, relations to other buildings, surroundings, construction principles and design are all considered equally important. This book can assist in talking about how design is important to the creating process of an architect.

Smith, G. E. Kidder. *Architecture in America*. New York: American Heritage Publishing Company, 1976.

Specific black and white pictures that dedicate architectural information to American works. The photographs are clear, precise, detailed and instructional in nature. The information is not at junior high level but it is still a good reference book for both students and teachers.

Smith, Hank Todd. *A History of The Texas Society of Architects*. Texas Society of Architects, 1983.

Articles give a sense of what rich history Architects in Texas have and how it developed.

Stern, Zoraya B., Julia Nolte, Maria C. Gomez, and Sharon Tyler Hoover. *Architecture is Fun: Architecture for Kids, Teacher's Aid*. American Institutes of Architects Houston, 1996.

A manual for teachers that are looking to use architecture and include it in their lessons. It is very teacher friendly.

Taylor, Anne, PhD.; George Viastros, architect; and Alison Marshall, Ph.D. *Architecture and Children: A Teacher's Guide*. Albuquerque, N.M.: School Zone Institute, 1991.

Developed guide that encourages children's confidence to develop and communicate ideas. The objectives of these lessons are to increase visual communication and refine it. Excellent progressive lessons that are formatted to introduce, encourage and have students perform their growing knowledge of how buildings work, their structure, materials, and performance.

Thomas, Robert D. and Richard W. Murray. *Pro-growth Politics: Change and Governance in Houston*. Berkley, Calif.: IGS Press, 1991.

Written by two Houston professors of Political Science, it covers the political side of the city of Houston. It discussed the history of policy and what is now called "pro-growth" politics. The governing of the fourth largest city and its decisions over the years, explains a lot about the way Houston has developed differently from other city governments in the United States.

Welch, Frank D. *Philip Johnson & Texas*. Austin: University of Texas Press, 2000.

A visually exciting book, an architect's journey. Black and white, a career re-visited. A good look at the life of a very famous architect. Many buildings were built in Texas. Houston is one of the Texas cities featured.

Winters, Nathan B. *Architecture is Elementary: Visual Thinking through Architectural Concepts*. Salt Lake City, Utah: Utah Heritage Foundation, 1985.

Self-instruction based book that discusses principles of architectural design, elements and visual thinking lessons. Perfect reference book for teachers or novice.

Zemelman, Steven, Harvey Daniels, and Arthur Hyde. *Best Practice, New Standards for Teaching and Learning in America's Schools*. Westport, Conn.: Heinemann, 1998.

State of the art methods and practices reviewed. A critical review of subject matter and key documents released since 1993. Emphasis is on kindergarten through twelfth grade curriculum integration. The Arts are reviewed along with regular core subjects.