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| **TEXAS CTE LESSON PLAN**[www.txcte.org](http://www.txcte.org) |
| **Lesson Identification and TEKS Addressed** |
| **Career Cluster** | Architecture and Construction |
| **Course Name** | Architectural Design |
| **Lesson/Unit Title** | Architectural Design Proportion  |
| **TEKS Student Expectations** | **130.53. (c)** **Knowledge and Skills**(6) The student begins exploration, development, and organization of ideas from the surroundings. (B) The student is expected to begin comparing and contrasting the use of architectural elements such as color, texture, form, line, space, value, and architectural principles such as emphasis, pattern, rhythm, balance, proportion, and unity in personal architectural projects and those of others using vocabulary accurately |
| **Basic Direct Teach Lesson**(Includes Special Education Modifications/Accommodations and one English Language Proficiency Standards (ELPS) Strategy) |
| **Instructional Objectives** | The student will be able to:1. Identify proportion in architectural projects
2. Demonstrate the principle of proportion
3. Demonstrate the use of proportion for presentation
4. Identify proportion in real world situations
5. Describe principles of design as related to proportion
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| **Rationale** | The basic design principle, proportion, will be examined.  |
| **Duration of Lesson** | 25-30 minutes  |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | **Principles of Design** - Concepts used to organize or arrange the structural elements of design**Elements of Design** - Components or parts, which can be isolated and defined in a visual design**Proportion** - The correct or desirable relationship between parts of a whole; balance or symmetry**Golden Ratio** – A ratio between two portions of a line, or the two dimensions of a plane figure, in whichthe lesser of the two is to the greater as the greater is to the sum of both: a ratio of approximately 0.618 to 1.000**Balance** - The elements in the design creates a sense of equilibrium.**Emphasis** - Creates a focal point within the design.**Rhythm** - Repetition within a design that creates consistency.**Harmony** - The elements in the design complement each other. |
| **Materials/Specialized Equipment Needed** | **Instructional Aids:*** Reference Book
* Sample proportion design images
* Lesson Presentation
* Instructor Computer/Projection Unit

**Materials:*** Paper
* Pens, pencils
* Presentation boards (if needed)
* Construction paper

**Equipment:*** Cutting tools
* Adhesives
* Surface to hang presentations (if needed)
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | * Discuss safety rules for use of equipment and materials.
* Discuss rubric for presentations.
* Discuss expectations for presentations.

The main purpose of this lesson is to help students:* Understand there are existing principles of design (past)
* Understand proportion as a principle of design (present)
* Utilize proportion towards architectural projects (future)

**Ask** students if they have ever heard of the principles of design?**Tell** students that almost all works of art are based on some basic design rules—these are called theprinciples of design. These rules act as a “guide” to help designers create pleasing designs. One of these design principals is proportion.**Show** examples of proportion in art or architecture. Allow students to ask questions and discusspictures if they are unclear or curious.**Tell** students that proportion is used not only for visual designs, but also in building design. It isimportant to keep pleasing proportions within the design. You may have noticed the windows or openings are laid out in nice proportion to the building or house.**Ask** students if they have ever seen a picture where the content seemed out of proportion.**Tell** students that proportion deals with how things relate to each other. If something you know to beone size does not make sense, it can throw off the proportion of the design. Sometimes it is used on purpose to emphasis a point, but most designs have a pleasing proportion within the content. |
| **Direct Instruction \*** | I. Prior knowledge of the concept of proportionBegin discussion over proportion and what it means to students.II. Introduction of principles of design and proportionUse software presentation, images, Internet, etc. to introduce concept of proportion.III. Vocabulary and terms for principles of design and proportionUse software presentation, images, Internet, etc. to introduce concept of proportion.IV. Demonstration of proper use of tools and materialsDemonstrate the tools and materials available to you for cutting and gluing.V. Independent PracticeStudents will complete the proportion project.*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Guided Practice \*** | Demonstrate how to create the items for the proportion project to students.Model the proper techniques and safety for using the tools and materials for students.*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Have students create a layout using proportion.*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **Lesson Closure** | Have students present their proportion projects.Ask students to reflect on their knowledge and recall/describe where they have seen proportion used in design. |
| **Summative/End of Lesson Assessment \***  | **Informal Assessment** All the following can be used as informal assessments:* Spot check for vocabulary terms
* Check for progress on proportion project
* Participation in proportion project

**Formal Assessment** * Proportion project using grading rubric

*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*NONE |
| **References/Resources/****Teacher Preparation** | * D. K. Ching, F. (2007). *Architecture: Form, space, and order*. Hoboken, New Jersey: John Wiley and Sons.
* Understand that that project delivery and outcome will depend on teacher resources and equipment.
* Review and familiarize yourself with the terminology, materials, and principles of design.
* Have equipment, materials, supplies, and documents ready for distribution prior to the start of the lesson.
* Find and display various examples of proportion from web images, magazines, etc., if possible.
* Review lesson and become familiar with terminology and concepts.
* Prepare for this lesson to take 25-30 minutes.
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| **Additional Required Components** |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy****Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** |  |
| **Writing Strategies****Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication****90 Second Speech Topics** |  |
| **Other Essential Lesson Components** |
| **Enrichment Activity**(e.g., homework assignment) | **Extension/Enrichment** * Have the students develop an elevation using proportion as a guide.
* Turn the proportion design into a 3D model using materials of your choosing.
* Turn the proportion design into a 3D digital model using equipment/software of your choosing.
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| **Family/Community Connection** |  |
| **CTSO connection(s)** | SkillsUSA |
| **Service Learning Projects** |  |
| **Lesson Notes** |  |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)