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| **TEXAS CTE LESSON PLAN**[www.txcte.org](http://www.txcte.org) |
| **Lesson Identification and TEKS Addressed** |
| **Career Cluster** | Arts, A/V Technology and Communication Career Cluster |
| **Course Name** | Practicum in Fashion Design |
| **Lesson/Unit Title** | Math in Fashion Design |
| **TEKS Student Expectations** | **§130.115. Knowledge and Skills** (2) The student applies academic knowledge and skills in fashion, textile, and apparel projects.(B) The student is expected to apply mathematics knowledge and skills such as using whole numbers, decimals, fractions, and knowledge of arithmetic operations (11) The student describes fundamentals of fashion buying. (A) The student is expected to explain processes for retail buying (B) The student is expected to identify wholesale market resources (C) The student is expected to compare various apparel markets (D) The student is expected to analyze how timing and pricing of fashion apparel and accessories are determined (E) The student is expected to analyze the price of a fashion product |
| **Basic Direct Teach Lesson**(Includes Special Education Modifications/Accommodations and one English Language Proficiency Standards (ELPS) Strategy) |
| **Instructional Objectives** | Upon completion of this lesson, each student will be able to perform the mathematical formulas to correctly compute fashion garment production costs and sell prices.* Students will analyze single garment costs.
* Students will calculate single garment profit costs.
* Students will differentiate overhead and marginal costs.
* Students will calculate costs using an apparel production sample cost sheet.
* Students will differentiate wholesale and retail mark ups.
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| **Rationale** | Students should know and understand the cost and mark up of fashion garments in the retail market to be smart consumers.  |
| **Duration of Lesson** | This lesson should take 10-12 class days to complete. |
| **Word Wall/Key Vocabulary***(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* |  |
| **Materials/Specialized Equipment Needed** | **Preparation*** Copy the handouts
* Multimedia presentation

**Instructional Aids*** Student Notes sheet
* Costing Garments Student Worksheet and Key
* Single Garment Costing Worksheet and Key
* Apparel Production in Bulk Costing Worksheet and Key
* Costing Garments Test and Key

**Materials Needed*** Copies
* Pencils

**Equipment Needed*** Teacher computer
* Projector (for slide presentation)
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| **Anticipatory Set**(May include pre-assessment for prior knowledge) | No special preparation is needed for this lesson. |
| **Direct Instruction \*** | * Ask students to recall a recently purchased fashion garment. Encourage students to discuss what the garment was, the cost and if the item was on sale.
* Ask students to hypothesize how much it would cost to make their item.
* Have students brainstorm a list of why designers mark up the price of their merchandise.
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| **Guided Practice \*** | * Students will use the provided slide presentation to complete the notes handouts pages.
* Students will complete worksheets.
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| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | * Students will complete single garment cost worksheet.
* Students will complete apparel production in bulk cost worksheet.
* Students will complete costing garments test.
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| **Lesson Closure** | * What are the purposes of adding overhead and marginal costs to the price of production?

 * Why is there a standardized markup added to all apparel production costs?
* What is the difference between wholesale and retail?
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| **Summative/End of Lesson Assessment \***  | * The teacher will check frequently for understanding.
* Very small work group option (peer tutoring).
* Worksheets and test over the material.
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| **References/Resources/Teacher Preparation** |  |
| **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) |  |
| **Family/Community Connection** |  |
| **CTSO connection(s)** | FCCLA |
| **Service Learning Projects** |  |
| **Lesson Notes** | Interdisciplinary CorrelationsEnglish110.42(b) Knowledge and skills1. Reading/word identification/vocabulary development. The student uses a variety of strategies to read unfamiliar words and to build vocabulary. The student is expected to:
	1. expand vocabulary through wide reading, listening, and discussing; and
	2. rely on context to determine meanings of words and phrases, such as figurative language, idioms, multiple meaning words, and technical vocabulary.
2. Reading/comprehension. The student comprehends selections using a variety of strategies. The student is expected to:
	* 1. identify main ideas and their supporting details;
		2. summarize texts; and

(J) read silently with comprehension for a sustained period of time.Speech110.56 (b) Knowledge and skills(1)(A) Explain the importance of communication in daily interaction.(2)(E) Participate appropriately in conversations for a variety of purposes.(3)(A) Use appropriate communication in group settings.1. Use appropriate verbal, non-verbal, and listening strategies to communicate effectively in groups.

(5)(B) Use language clearly and appropriately |

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)