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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Agriculture, Food and Natural Resources |
| **Course Name** | Mathematical Applications in Agriculture, Food, and Natural Resources |
| **Lesson/Unit Title** | Determining the Rate of Feed Consumption |
| **TEKS Student Expectations** | **130.5 (c) Knowledge and Skills**  (7) The student demonstrates mathematics knowledge and skills to solve problems related to animal systems and career opportunities.  (A) The student is expected to use mathematical operations and knowledge of relationships to solve problems such as the calculation of purchasing, marketing, and production costs; housing requirements; conversion of units; average daily gain; topical and injectable medication dosages; USDA grades; feeding schedules; volumes; stocking rates; and breeding and gestation cycles related to animal systems |
| **Basic Direct Teach Lesson**  **With Special Education Modifications/Accommodations and**  **one English Language Proficiency Standards (ELPS) Strategy** | |
| **Instructional Objectives** | **The students will be able to:**   * Describe independent and dependent quantities in a function. * Write an equation in slope-­‐intercept form * Use symbols to represent unknowns * Make a connection among descriptions * Solve a problem involving direct variation |
| **Rationale** | This lesson encourages students to use mathematic operations and knowledge of relationships to solve problems inherent to animal systems. In this lesson students learn to determine the Rate of Feed Consumption. |
| **Duration of Lesson** | Teacher’s Discretion |
| **Word Wall/Key Vocabulary**  *(ELPS c1a,c,f; c2b; c3a,b,d; c4c; c5b) PDAS II(5)* | Average  Dependent and Independent variables  Direct variation  Slope-­‐intercept form  Constant-­‐rate of change |
| **Materials/Specialized Equipment Needed** | **Materials:**   * Calculator * Working the Problem - Feed Consumption – Work Sheet (Attached) |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | I’m preparing to show my animals at the fair. How much do I need to feed my animals to have them at the desired weight and body condition for show time? |
| **Direct Instruction \*** | * Present the problem * What is the question? * What do you know? Dependent and Independent, constant rate of change * What facts are missing? * Set up the problem by writing equations in slope-­‐intercept form. * Solve and verify the answer   *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 \*** | *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 \*** | *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** |  |
| **Summative/End of Lesson Assessment \*** | *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** | * Algebra to Go, Geometry to Go, Math at Hand * Texas A&M AgriLife Extension Service * IMS Materials, Texas A&M University * Texas Education Agency curriculum resources * *Mathematics for Agriculture*, Betty Rogers, Interstate Publishers * When Are We Ever Gonna Have to Use This, Hal Saunders TI Agrimath Curriculum, Texas Instruments * TI Agrimath Curriculum, Texas Instruments |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** |  |
| **College and Career Readiness Connection[[1]](#footnote-1)** | **Mathematics**  C.1.c  I.B.1.b  II. C.1.a  II. D.2.b  VII. A.1.a  VII. C.1.a  VIII  IX  X |
| **Recommended Strategies** | |
| **Reading Strategies** |  |
| **Quotes** |  |
| **Multimedia/Visual Strategy**  **Presentation Slides + One Additional Technology Connection** |  |
| **Graphic Organizers/Handout** | Working the Problem - Feed Consumption – Work Sheet (Attached) |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** |  |
| **Communication**  **90 Second Speech Topics** |  |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) | * How can this problem be applied in an agricultural setting? * Consider budget, time constraint, mixture of feed and types and palatability of feed. * Make a table to show the connection between feed and weight gain. |
| **Family/Community Connection** |  |
| **CTSO connection(s)** |  |
| **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)