

# Curriculum for Enhanced Math/CTE Class

## Area & Floor Plans

### Math Work

- Math worksheets on area of Triangles, Circles, And Irregular Shapes.
- Have the student's measure the room including walls, floor and closets.  
Find the square feet as well as area.
- Calculate areas and costs for their housing plans.

### CTE Work

- Draw on a piece of paper a kitchen and a bathroom using a  $\frac{1}{4}$ " scale. List the amount of Square feet for both rooms.
- Break students into groups of two and have the students build a stick model of each room using a  $1'' = 1'$  ratio. They must agree on a joint floor plan

### CTE Standards

- C-9 Math
- C-10 Read & Interpret Prints
- C-11 Properly use Hand Tools
- C-14 Apply Adhesives to material
- C-3 Solve problems using critical thinking
- C-13 Sand materials by hand

### Math Standards

- 6.4.B – Finding areas of irregular shapes
- 7.2.D – Scale Drawings
- 7.3.C – Changing scale factor
- A1.8.E – Interpreting Diagrams

# **Curriculum for Enhanced Math/CTE Class**

## **Equations & Concrete Pour**

### **Math Work**

- Math worksheets on ratios, volume, surface area, and square feet.
- Do calculations on the amount of concrete it would take to fill certain sizes of forms. (Quiz)
- Supplement with worksheets on solving equations.

### **CTE Work**

- Give each student a different size footing to build. Have the students build a footing and then calculate the amount of concrete it will take to pour the footing. Once the calculations are done give them the amount of concrete they said they needed and pour the footing.
- Only give the students the amount of concrete they calculated and figure the cost.

### **CTE Standard**

- C-9 Math
- C-15 Estimate the cost of a project
- C-11 Proper use of hand tools
- C-3 Solve problems using critical thinking

### **Math Standards**

- A1.8.A – Reasoning
- A1.4.A – Solving linear equations
- 7.3.A - Volume and Surface Area
- G.6.D – Predicting changes to Volume and Surface Area when changing a side length.

# **Curriculum for Enhanced Math/CTE Class**

## **Slope & Stair Build**

### **Math Work**

- Do math worksheets on Linear Equations, Graphs, and Slope.
- Explain how to layout stairs. (Rise/Run)

### **CTE Work**

- Bring in a Transit and shoot points in the school and calculate the slope of the area.
- Break into groups of 2 and have each group build a 3 step stairs. Give each group a different height and length for each set of stairs.

### **CTE Standards**

- C-9 Math
- C-15 Estimate the cost of the project
- C-17 Safely set up, operates and maintains power equipment relating to construction
- C-3 Solve problems using critical thinking

### **Math Standards**

- A1.4.B – Graphing lines in slope-intercept form
- A1.4.C –Identify and interpret slope

# **Curriculum for Enhanced Math/CTE Class**

## **System Equations & Storybook/Checkerboard**

### **Math Work**

- Do multiple worksheets that apply system equations.
- Students must calculate cost vs revenue to determine their break even point if they had a business.
- Graphs of Cost v Revenue
- Tables of data
- Quiz on Systems of Equations and their checkerboard production

### **CTE Work**

- Have the student cut five different type of wood all the same size and make a small book out of them.
- Calculate the cost, labor, material, and equipment cost. Find your break even point and when you would make \$1000.
- Repeat process making a checker board.

### **CTE Standard**

- C-9 Math
- C-15 Estimate the cost of the project
- C-3 Solve problems using critical thinking
- C-17 Safely set up, operates and maintains power equipment relating to construction
- C-13 Sand materials by hand

# **Curriculum for Enhanced Math/CTE Class**

## **Math Standard**

- A1.4.C – Identify and interpret slopes of lines
- A1.4.D – Write and solve systems of linear equations
- A1.4.A – Write and solve linear equations
- A1.1.C – Solve problems that can be represented by a system of linear equations
- A1.8.A – Analyze a problem and represent it mathematically
- A1.8.E – Interpret graphs

# **Curriculum for Enhanced Math/CTE Class**

## **Planning & Jewelry Box**

### **Math Work**

- Produce a clear plan of work including procedure of work. This will also include calculations of cost and surface area.

### **CTE Work**

- Produce a clear plan of work including procedure of work. Including steps to complete project and equipment needed to produce jewelry box.
- Follow plans directly to create jewelry box.

### **CTE Standards**

- C-9 Math
- C-10 Read & Interpret Prints
- C-11 Properly use Hand Tools
- C-14 Apply Adhesives to material
- C-3 Solve problems using critical thinking
- C-13 Sand materials by hand

### **Math Standards**

- 7.2.D – Scale Drawings
- A1.8.E – Interpreting Diagrams
- A1.8.F – Summarizing Information for a given audience and purpose
- 8.5.F – Apply a previously used mathematical idea to a new situation.

# Curriculum for Enhanced Math/CTE Class

## Math Supplements

- Distributive Property Practice
- Combining Like Terms
- Skill Drills #1-3
- Factoring Game – “Magic Square”
- Gizmos (online program)
  - [www.explorellearning.com](http://www.explorellearning.com)
  - Quadratic Exploration
  - Pythagorean Theorem
  - Distance Between Two Points
  - Areas of Parallelograms

# **Curriculum for Enhanced Math/CTE Class**

## **CTE Equipment Used**

- Chop Saw (equipment test)
- Jointer (equipment test)
- Planer Sander (equipment test)
- Hand Sander
- Hand Drills
- Glue