# Lab Framework

## Text: CORD
## Unit number and title: Unit 1 Learning Problem Solving Techniques
**Short Description**:  To assist students in learning how to determine holding capacity of an electronic storage device.
## Developed by: Giovanni Colombo
**Contact Information**: Elma High School gcolombo@eagles.edu
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## Lab Title
## "My Ipod's bigger than your Ipod!"

# LAB PLAN

**TEACHER:**  Teacher Prep/ Lesson Plan
- **Lab Objective**

    To be able to determine the electronic storage capacity of different music players while learning about how to measure and calculate how many songs can be loaded onto a music player.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

    Knowledge of decimals, percentage, averages, Algebraic functions, knowledge of electronic measurement, metric system, calculator usage, different music formats.
- **Vocabulary**

    Giga, Mega, Kilo, Bytes, Rip, Mp3, iTunes, capacity, compatibility, freespace.
- **Materials List**

    Computer, projector, whiteboard and markers, calculators, pencils, and of course, a music player of some kind, correct connection cable, music CD.
- **State Standards addressed**

    Math: A1.6.A, A1.6.B, A1.8.A, A1.8.B.
- **Leadership Skills**

    Group collaboration, practice for team and math related competitive events.
- **SCAN Skills/Workplace Skills**

    Transporting electronic data and business presentations for use in the workplace.
- **Set-up information**

    Most students carry their music players with them, ask them if they can bring them to the lab.
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required)**

    Students will work together on this project, this lab can be done in one period.
- **Teacher Assessment of student learning** (scoring guide, rubric)

    Students will turn in their lab worksheets with their calculations and proof on how many songs they can put on their music players.
- **Summary of learning** (to be finished after student completes lab)

    -discuss real world application of learning from lab

    -opportunity for students to share/present learning

- **Optional activities**
  Discuss implications of copyright issues.
- **Career Applications**
  How different professions use various storage devices.

Washington Applied Math Council

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**LAB TITLE: "My iPod's bigger than your iPod!"**
**STUDENT INSTRUCTIONS:**

- **Statement of problem addressed by lab**

  How much music can put into my music player? Find out what the storage capacity of the music player is and how many songs you can put in it using the Mp3 format only.

- **Grouping instructions and roles**

  Students will pair up and compare music players and record storage capacity.

- **Procedures** – steps to follow/instructions

  Teacher will rip a song from a CD to either a music player or the desktop of the computer. Teacher will then look up what the size of the ripped song is and then the students will use that information to do their worksheet.

- **Outcome instructions**

  Students will use problem solving skills and mathematics to determine storage capacity on their music players.

- **Assessment instructions** (peer-teacher)

  Students will calculate how many CDs their music players hold.

# Lab Data Collection

**Student:** _____ **Date:** _____

**Unit:** 1

**Lab Title:** "My Ipod's bigger than your Ipod!"

**Criteria: Write the problem/objective in statement form**
    How much music will your music player hold?

**Data Collection: Record the collected/given data**
    Size of ripped song in Mp3 format:
    Size of music player storage:

**Calculations: Complete the given calculations to solve for an answer(s)**
    Average song size:
    Average size of 10 song CD:
    After 10 CDs are loaded how much freespace left:
    How many CDs can be loaded on a 4G music player:

**Summary Statement:**
    What did you learn from this project?

    How will you use this information or not and why?