

Lab Framework

Text:CORD

Unit number and title:

Short Description: Unit 9. Working with Ratios and Proportions

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Contact Information: Cusick School District 509-445-1125

Date: 24 June 2009

Lab Title
Picasso

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
Have students understand and use Ratios/Proportions. This will be accomplished by: Making/matching a color with tempura paint and hardware store color samples.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)
Conversions, Knowledge of Color Wheel. Understanding Color Samples. Ability to measure. Ability to mix paint with a stick.
- **Vocabulary**
Ratio, Proportion, Complementary Colors, Paint, Reducer
- **Materials List**
Tempura Paint, Water, Popsicle sticks, Mixing boards
- **State Standards addressed**
Math: A1.1.B:A1.8.A,B,C
Reading: (Reading)
Writing: (Writing)
- **Leadership Skills**
Team Leader for each group, Scribe(s) to record paint ratio's
- **SCAN Skills/Workplace Skills**
- **Set-up information**
Explanation of how to use a Color Wheel and what complementary colors are. Mixing boards with paint, stir (popsicle) sticks, water (reducer).
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
One student as Team Leader, another as scribe, students in group confer/decide what and how much paint to add.
Timeline: 2 class periods. 1 class period for determining ratio. 2nd class period for setting up and calculation proportions.
- **Teacher Assessment of student learning** (scoring guide, rubric)
Instructor observation
Completion of Lab
- **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**

- **Career Applications**

Farmer, Rancher, Automotive Painter, Chef, Engineer, Chemist, Draftsman,
Architect

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LAB TITLE: Picasso

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Determine the different amounts of different colors to add so that you can create a “color match”. Then, be able to calculate how much of each you need to create 1 gallon of your color.
- **Grouping instructions and roles**
Instructor will select a Team Leader who is in charge of directing their crew. Team Leader will select a Scribe who writes down measurements, drawings. All in the group will determine amount/mix paint.
- **Procedures – steps to follow/instructions**
Decide from the Color Samples which color your group wants to make. Using the: Color Wheel, paint, mixing board and stick re-create that color. **Keep very careful track of which color(s) and how much you use.** *Use a small ruler to measure the amounts.* Ex: Squeeze out some white in a straight line, like toothpaste, and then measure how long the line is
- **Outcome instructions**
Present preliminary color and calculations to instructor/entire class. Re-check measurement/calculations as necessary. Once you are satisfied with your data, set up a ratio/proportion and calculate how much of each color you need to make 1 gallon of your paint.
- **Assessment instructions (peer-teacher)**
Clean, Clear, data sheet with appropriate measurements and calculations.

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Lab Data Collection

Student: _____ Date: _____

Unit: _____

Lab Title:

Criteria: Write the problem/objective in statement form

Data Collection: Record the collected/given data

Calculations: Complete the given calculations to solve for an answer(s)

Summary Statement:

Other Assessment(s)

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