



What's the Ideal Kool-Aid Concentration?

The molecular formula for Kool-Aid is $C_{12}H_{22}O_{11}$

How many grams of powder are need to make 150mL of a 0.1M Kool-Aid solution?

How many grams of powder are need to make 150mL of a 0.15M Kool-Aid solution?

How many grams of powder are need to make 200mL of a 0.5M Kool-Aid solution?

Part A - Making Solution Concentrations: (for every table group)

1. Label 3 cups: 0.1M, 0.15M and 0.5M
2. Add 150mL water to the 0.1M and 0.15M cups. Add 200mL water to the 0.5M cup.
3. Weigh the amount of Kool-Aid powder needed for each concentration (use a clean paper towel as your weigh boat if you plan on drinking the Kool-Aid!!!). Pour into the appropriate cup.
4. Stir with a straw
5. Write down your visual observations for each concentration
6. **SAVE at least half of your 0.7M solution.** If you would like - pour *a very small sample* into a mini cup and taste test each concentration - vote for your favorite concentration on the board.

	0.1M solution	0.15M solution	0.5M solution
Visual Observations			
Taste Observations (optional)			

The Kool-Aid directions say to add 88g of Kool-Aid powder mix to 946mL water. What is the molarity of this solution?

Part B - Making dilutions: (for every table group)

1. From your 0.5M solution, create 150mL of a solution with the concentration suggested by Kool-Aid (your answer to the question above). Decide as a group how you will do this. Show your mathematical work. (use $M_1V_1 = M_2V_2$)

2. Record your visual observations for your solution (and taste observations if you would like):

3. Do you agree with the Kool-Aid box directions? In your opinion, what is the perfect Kool-Aid concentration?

3. Clean-Up:

Drink, share, or pour the remaining Kool-Aid solutions down the sink.

Rinse all materials that your group used.

Throw away cups that you drank out of.

Save the mixing & measuring cups - put them back where you got them from.

Wipe your table clean of spills of liquid and powder.

Throw away used paper towels.

Make sure your table and floor area are spotless.