

# Grade 7 Science

## Unit 3: Pure Substances and Mixtures

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A graphic showing a molecular structure with blue spheres representing atoms and lines representing bonds, set against a light blue background with faint molecular patterns.

### Concentration

In the last two lessons we have looked at the idea of quantifying the amount of solute in a solution. Today, we will look at calculating these values. Here is an example:

As a joke, Jake mixes 20 g of salt into Sam's juice. If Sam's juice is in a 500 mL bottle, and he had not yet taken a drink, what is the concentration of salt added into the drink?

$$m_{\text{solute}} = 20 \text{ g} \quad C_{\text{solution}} = \frac{m_{\text{solute}}}{V_{\text{solvent}}}$$
$$V_{\text{solvent}} = 500 \text{ mL} \quad C_{\text{solution}} = \frac{20 \text{ g}}{500 \text{ mL}}$$
$$C_{\text{solution}} = ?$$
$$C_{\text{solution}} = 0.04 \text{ g/mL}$$

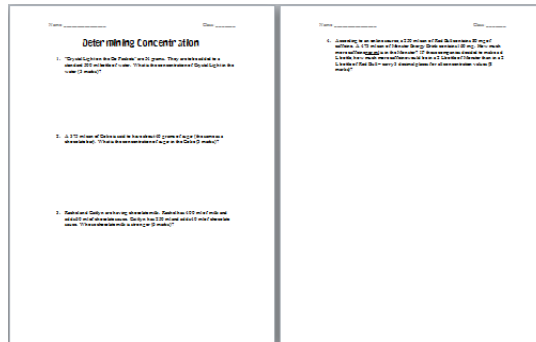
∴ The concentration of salt in the juice is 0.04 g/mL.

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# Concentration

It is important that you follow the layout of the solution shown. This is not math class, and so it is your understanding of the material, as well as your knowledge of what to do with it, that are marked, not just your ability to come up with the numerical answer.

Please take a copy of the "Determining Concentration" worksheet. You have the remainder of today's class to work on this worksheet. After that it becomes homework, we will be taking it up \_\_\_\_\_ . Be sure you follow the answer style of the example solution.



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## Attachments

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3-19 Concentration Calculations.pdf