Introduction to Solutions and Concentration

Answer questions 1 and 2 before you make the three solutions.

1. In this activity you will create three solutions by dissolving CuSO₄ (a blue substance into water). What do you think happens when the solid is dissolved in water? Use both sentences and a sketch of the microscopic view.

2. In the first solution you will dissolve 1 g of CuSO₄ in 100 ml of water, in the second, in the second 2 g in 200 ml of water and in the third 1 g in 50 ml of water. Which one do you think will be more concentrated? How can you tell? Can you make a rule/formula that can help you predict?

3. Now make the three solutions? Which one is the most concentrated and which one is the least? How can you tell?
4. If I give you 5 grams of CuSO$_4$, how much water will you need to create a solution with the same concentration as the most concentrated form the ones above? Explain your thinking.

(If you finish early):

5. Now assume that you had two salt solutions (water plus salt), since the salt solution has no color how can you tell which one is more concentrated?