Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_

**Solubility Practice Questions**

1. What mass (in grams) of sodium chloride (NaCl) will dissolve in 100 g of water at 40°C?
2. What mass (in grams) of potassium chlorate (KClO3) will dissolve in 100 g of water at 40°C?
3. If we dissolve 10 g of potassium chlorate (KClO3) in 100 g of water at 40°C, how many additional grams of potassium chlorate must be added at this temperature to produce a saturated solution at 40°C?
4. If 50 grams of potassium nitrate (KNO3) has been dissolved in 100 g of water at 30˚C, what type of solution exists?
5. If 36 grams of sodium chloride (NaCl) has been dissolved in 100 g of water at 80˚C, what type of solution exists?
6. We dissolve 25 g of potassium nitrate in 100g of water at 30˚C, thus producing an unsaturated solution. How much more potassium nitrate (in grams) must be added to form a saturated solution?
7. What is the minimum mass (in grams) of 30˚C water needed to dissolve 25 g of potassium nitrate completely to produce a saturated solution?
8. The demonstration at the beginning of the lesson created a supersaturated solution of sodium acetate and water. The sodium acetate trihydrate solution was made up of 160 g of sodium acetate and 30 ml of water. It was heated until the solute (sodium acetate) dissolved completely into the solvent (water).

If we assume room temperature is 25°C, what was the saturation point for the sodium acetate in 30 g of water at that temperature?



1. How much more solute was dissolved in the supersaturated solution than at normal solubility at that temperature?
2. What temperature did the solution have to reach in order to dissolve all of the solute in the demonstration?

**Answer KEY**

**Solubility Practice Questions**

1. 38 g
2. 17 g
3. 17 g − 10 g = 7 g
4. Supersaturated
5. Unsaturated
6. 45 g − 25 g = 20 g

1. 25.5 g
2. 134.5 g
3. 156.9°C