

### Basic Definitions

1. For a mixture of 3 grams of salt and 2 kg of water, what is the mass fraction of salt? What is the mass fraction of water? What is the weight percent of salt?
2. When 8.7 grams of salt is added to 12 L of water, what is the mass fraction of salt? What is the mass fraction of water? What is the weight percent of salt?
3. An experiment needs a salt water mixture that is 0.08 weight percent salt. If the mixture is created with 2 US ounces (weight) of salt, how many gallons of water are needed to achieve the desired salt concentration? How many liters of water is needed?
4. To prepare calibration of a salinity sensor, an engineer plans to create four batches of salt water solution with 0.05, 0.10, 0.15 and 0.20 weight percent salt. How much (in total) salt is needed to create the four samples if each sample is made with 2 L of water? What is the recipe (mass of salt) for each 2L sample? Report the mass of salt in grams