

Name: _____

Chemistry 30
Unit 4: Solutions
Assignment 2

1. Which substance would be the solute and which is the solvent in the following:

	Solute	Solvent
a) salt water	_____	_____
b) water vapour in the air	_____	_____
c) a brass alloy containing 75% copper and 25% zinc	_____	_____

2. What is the difference between “rate of solution” and “solubility”?

3. How does increasing the temperature affect

a) the solubility of most solids and liquids

b) the solubility of gases

4. How does increasing the pressure affect

a) the solubility of most solids and liquids

b) the solubility of gases

5. What does the term “hydration” mean with respect to the solution process?

6. Do some research on **one** of the following topics. Answer the questions given below for your topic. Your answers should not be longer than a page.

Write your answers in point form, rather than paragraphs. This is to help you learn to summarize information, rather than copy information directly from your reference material.

As an option your teacher may want you to prepare your research as a class presentation. See the Research Section of the Chem 30 Online Resources for some presentation ideas.

Topic A. Do some research on “the bends”, a serious problem that can arise during scuba diving. Answer the following questions:

- a. Write a short paragraph (or use point form) that provides a simple description of the bends, including what causes it and how to avoid it. Be sure to name the gas that is involved. Your description should give a clear explanation as it relates to the solubility of gases as pressure changes.
- b. What medical treatment is used for a diver that does get the bends?
- c. What are some other names for The Bends?
- d. Provide the reference(s) for your information.

Topic B. Potash mining is an important industry in Saskatchewan.

- a. What is the chemical make-up of potash?
- b. How did the large potash deposits found in Saskatchewan form?
- c. List several locations in Saskatchewan where there are major potash deposits and potash mines.
- d. Explain how potash may be obtained by solution mining. Describe this process.
- e. Be sure to provide the reference(s) for your information.