

SCH3: Chemistry, Grade 11, University Preparation

Unit 3: Quantities in Chemical Reactions

Activity 1: Chemistry in Science, Technology, Society and the Environment

A Career in Pharmacy

Professionals who in chemistry related careers possess a multitude of skills that enable them to perform their duties in chemistry-related fields. Strong academic and technical backgrounds, as well as interpersonal skills, are the critical tools necessary for success in their profession.

Pharmacists are a great example of a chemistry related profession that demands both strong academic and technical skills as well as the ability to deal well with the public. A commitment to life-long learning is also important, and allows pharmacists to keep up with advancements in the field. Some of the skills a pharmacist might be expected to possess are:

- A desire to keep updated in the following areas: disease state (anatomy, physiology, pathology), drug therapy, drug literature evaluation, psychology;
- An ability to be a “team player” who counsels patients and families, dialogues with physicians and other health-care professionals;
- The ability to make informed decisions and judgments as part of their daily work in a clinical practice;
- The ability to know where to look for information when unfamiliar problems present themselves and act promptly; and
- A strong passion for their career.

The ability to perform complex calculations is also important. A pharmacist might be asked to calculate the number of tablets that need to be dispensed to a patient. For example: For Drug X, a dose of 500 mg is prescribed four times daily for seven days. Drug X is available as 250 mg capsules. How many capsules should be dispensed? The answer is 56. This is a simple calculation for a pharmacist. Here is an example of a more complex calculation a pharmacist might perform:

Drug B is available as 10 mg tablets. A child is prescribed a dose of 2 mg twice daily. The pharmacist has to calculate how many 10 mg tablets would be required to compound 100mL of 4 mg/mL liquid. Forty tablets will need to be crushed by the following calculated steps: $100\text{ mL} \times 4\text{ mg/mL} = 400\text{ mg}$. Drug B divided by 10 mg table strength and then dissolved in a medium to keep the drug chemically stable.