The Science Teachers' Association of Ontario (STAO) is an excellent resource for safety. One of their most powerful tools is["Learning by Accident"](http://stao.ca/res2/safety.php/)  and "[Safety Questions and Answers"](http://stao.ca/res2/safety.php). Please choose EITHER a Learning by Accident article OR a Safety Question and Answer of your choice. Please **summarize** this accident or the question and **provide ways to best handle the situation**. It is okay if there is some overlap - please choose something that interests you.

**Please comment on two other responses.**

A substitute teacher had to conduct an experiment with a grade 9 applied Science class. The purpose of the experiment was to identify the physical properties of various chemicals that were found in several containers. She conducted a pre lab talk with the class that consisted of her providing safe ways to observe the chemicals. During the experiment, a student tasted one of the chemicals.

Best way to handle the situation: Immediately contact the principal and let he/she know of the situation. Then I would ask the student, how they are feeling and how much of the chemical was swallowed. If the student didn’t remember, I would ask students nearby, if they saw how much he/she ingested. If I had no idea, what to do with the student and couldn’t find a MSDS document, I would quickly search the internet to see if I could find any information about the chemical the student ingested. This may take some time though so I would first contact another Science teacher in the building immediately because they would most likely know what steps to take to help the student.

If I were the teacher that was absent, I would leave the substitute teacher a binder containing the following: students who regularly misbehave in the lab (to keep an extra eye on these students), MSDS sheets for chemicals found in the lab, and emergency procedures for that particular lab. This information would be stored in a red binder and would be beside the day book or somewhere the substitute teacher can easily find. This would ensure that the appropriate procedure is conducted if there is an emergency in the classroom.

**What is science?**

Science is learning about the world around us. What we know so far about Science helps us discover new things on this earth and the universe we live in. Science affects our environment and society.

**Why study science?**

We should study Science so that we can develop a greater appreciation and understanding of the natural world.

**Why teach science?**

We should teach Science so that students begin to wonder and question how the world works. Teachers should teach science in a way that makes students curious about the world we live in. We should provide students with direct experience with materials, events, and ideas that are connected and related to science.

**What are the strands in 7/8 science?**

- Understanding Life Systems

- Understanding Structures and Mechanisms

- Understanding Matter and Energy

- Understanding Earth and Space Science

**What are the strands in 9/10 science?**

- Scientific Investigation Skills and Career Exploration

- Biology

- Chemistry

- Earth and Space Science

- Physics

**What makes a good science lesson?**

A good science lesson provides students with the opportunities to ask questions, investigate and make connections to the environment and society. It should stimulate their curiosity for exploration and discovery while increasing their basic knowledge. Students should have ample opportunities to use tools and equipment to investigate ideas.

**How do we inspire our students to pursue science?**

We should teach it in a way that will show students that science connects to the world around us. In order to understand the world, we must understand Science.

**How does the ministry statement on the nature of science impact your teaching?**

I can teach students that scientific theories are a part of history, but they can always be investigated and modified because the world is always changing.

1. What are the 3 goals of the science program in Ontario?

1.  To relate science to technology, society, and the environment.

2.  To develop the skills, strategies, and habits of mind required for scientific inquiry.

 3.  To understand the basic concepts of science

2. Strands in secondary science are divided into Biology, Chemistry, Physics and Earth and Space Science, which elementary strands correspond to each strand in secondary science?

Understanding Life Systems corresponds to Biology.

Understanding Matter and Energy corresponds to Chemistry.

Understanding Earth and Space Systems corresponds to Earth and Space Science

Understanding Structures and Mechanisms corresponds to Physics.

3. Grade 9 and 10 Science Courses are offered at the D, P and L levels. Differentiated between the 3. How do the expectations differ? (You may answer in general terms.)

The Academic level focuses on theory and abstract problems to deepen the understanding of students' knowledge and skills.

The Applied level uses a practical and hands on approach to teach students scientific concepts.

The LDCC level allows students to take a workplace grade 11 (if takes grade 9 LDCC) or 12 (Grade 10 LDCC) science course.

4. Strand A is common to all Sciences. What is it? Why is this critical for meeting the goals of the science program?

Strand A is Scientific Investigation Skills. It is critical for meeting the goals of the science program because these skills are considered the foundation for scientific investigation and can be applied to all areas of course content. Without these skills, students won’t be able to solve scientific problems effectively. These skills are essential in becoming a true scientist.

5. What are the four broad areas of scientific investigation as outlined by the ON Science Curriculum? Give an example of what each might look like in your classroom.

The four broad areas of scientific investigation are: initiating and planning; performing and recording; analysing and interpreting; and communicating

In the classroom:

Initiating and planning

Performing and recording

Analysing and interpreting

Communicating