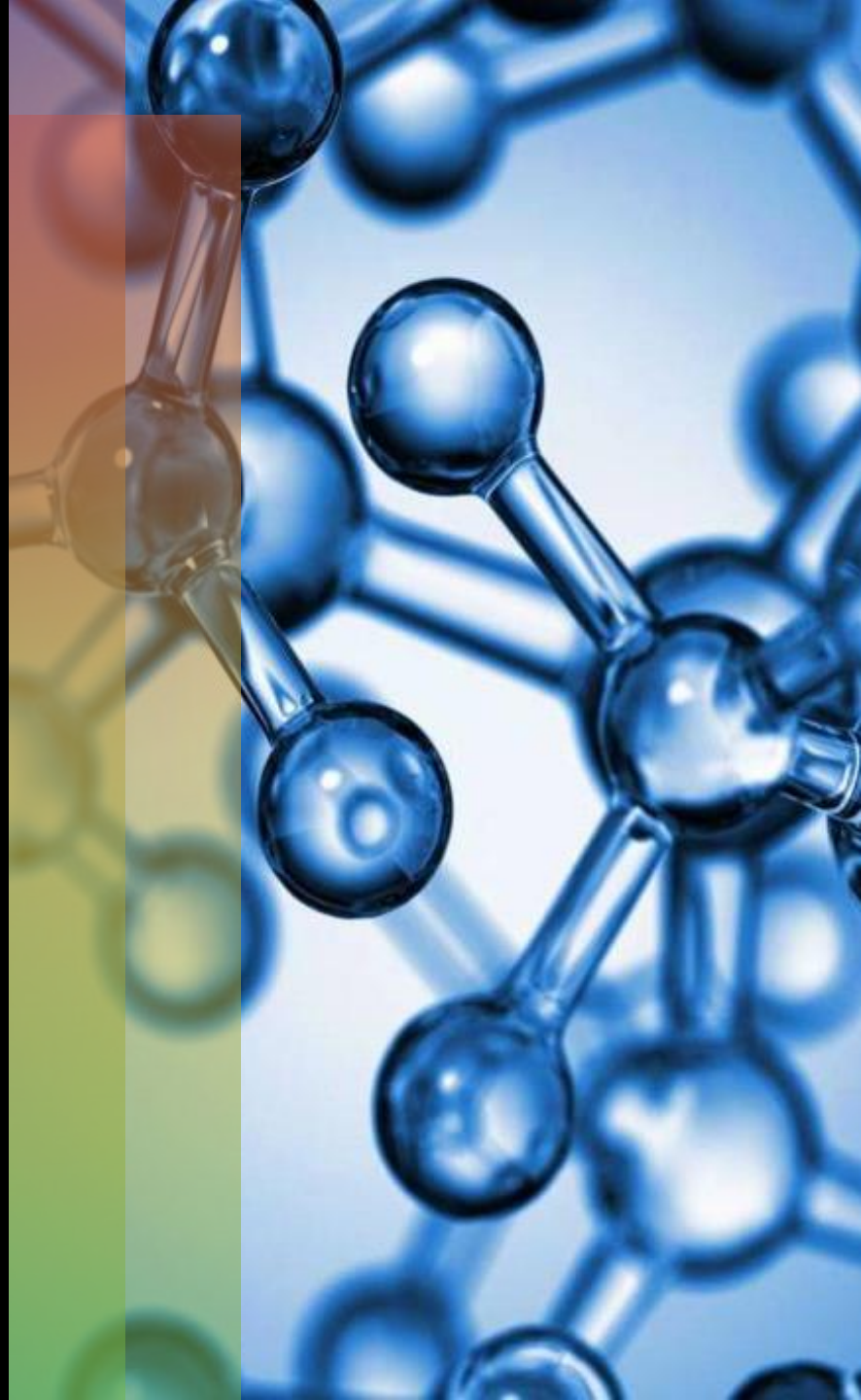
STEM Education and the S & T Industry

Ms. Leneka Rhoden

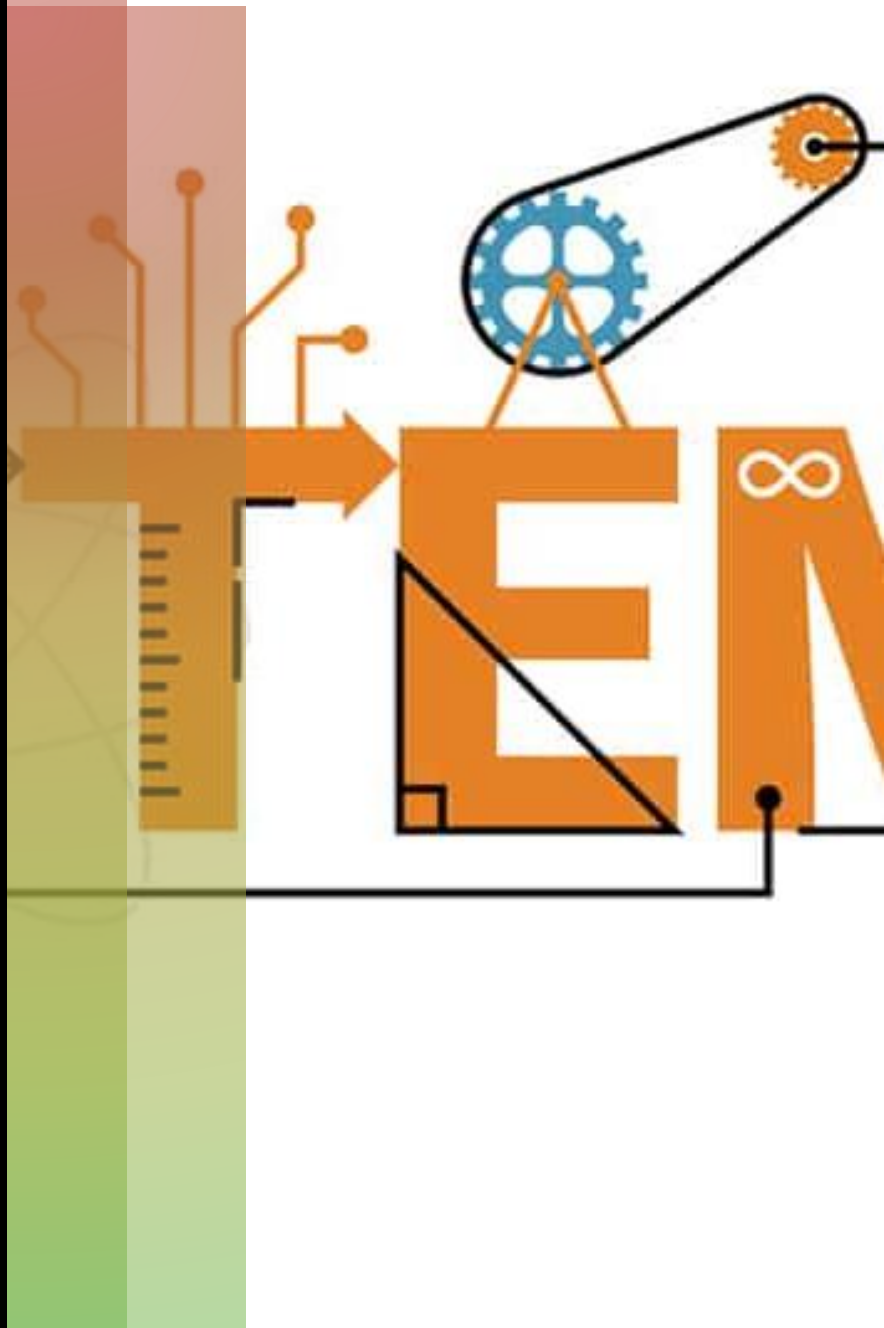
Outline

- STEM Education
- Role of STEM Education in Society
- S & T Industry
  - Its Value and Growth Trajectory
- STEM Education and the S & T Industry
  - Exploring the Relationship
  - The Need for Synergy
  - Benefits of Partnerships
- STEM Educators as Agents



STEM Education

- Simply means educating students in four specific disciplines, namely:
  - Science (the intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment)
  - Technology (the application of scientific knowledge to the practical aims of human life)
  - Engineering (the design, building, and use of engines, machines, and structures)
  - Mathematics (topics as numbers (arithmetic, number theory), formulas and related structures (algebra), and shapes)
- Collectively shortened as STEM.



Role of STEM Education

STEM education gives people skills that make them more employable and ready to meet the current labour demand (Industry Needs).

Each STEM component brings a valuable contribution to a well-rounded education.

Role of STEM Education

It helps them to become better at research and critical thinking. Technology prepares young people to work in an environment full of high-tech innovations (Industry Needs).

Engineering allows students to enhance problem-solving skills and apply knowledge in new projects.

Mathematics enables people to analyze information, eliminate errors, and make conscious decisions when designing solutions.

The Silver lining

STEM education provides students with a well-rounded foundation of skills to help them understand a wide range of concepts and thrive in many industries.

STEM Education and the S & T Industry

Developments in Science and Technology influence the creation of new occupations and subsequent changes in educational programmes can help decision makers at all levels of our society.

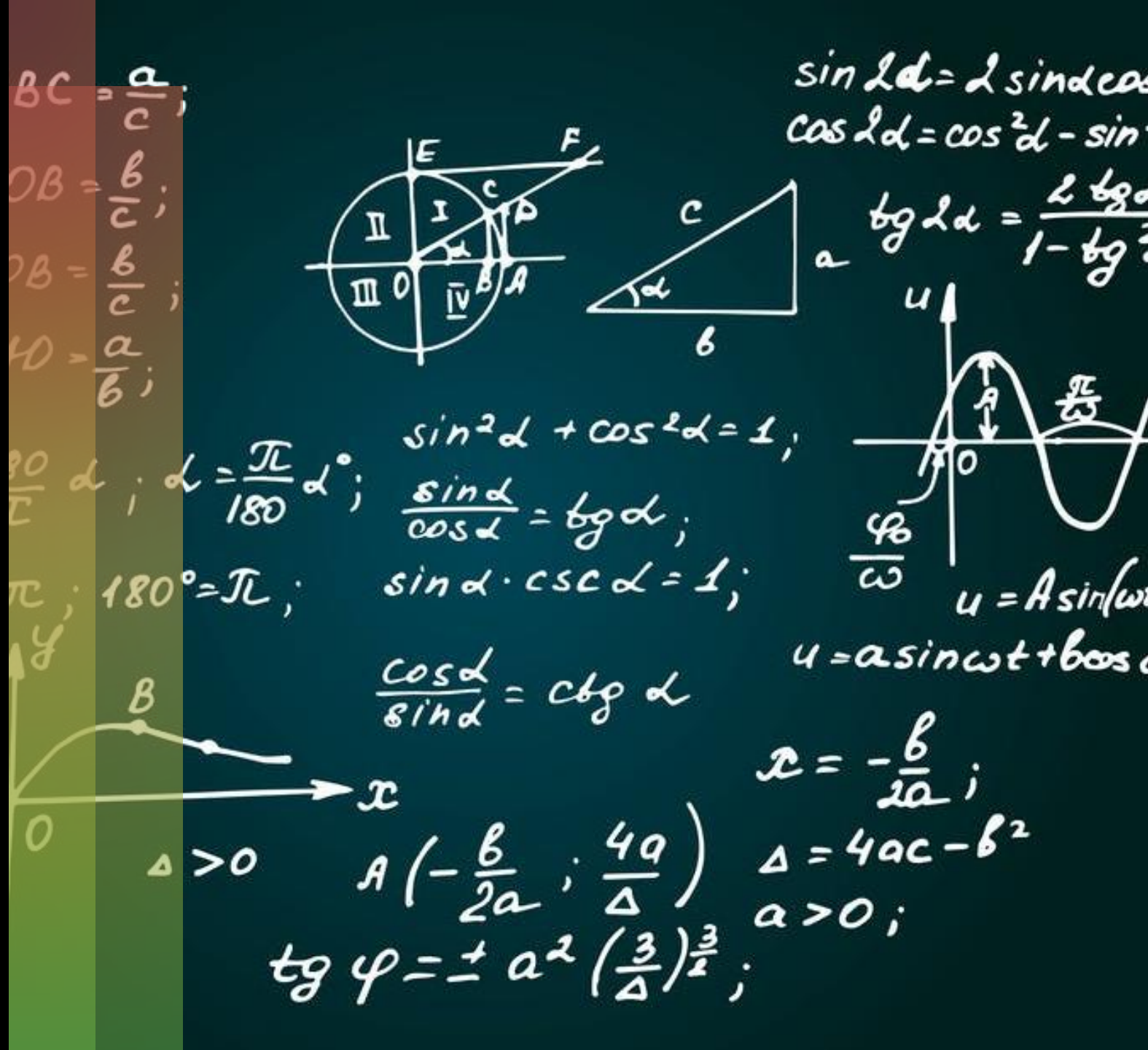
As a result of research and development efforts, innovations are achieved, resulting in the creation of new occupations and the demand for employees with expertise in these new areas.

To fulfill the demand, universities and colleges often revise their programmes to address these needs.

Following the Trends

The Bureau of Labour Statistics (BLS) has been publishing employment projections since 1960, with the goal of providing information on career opportunities to students, jobseekers, and policy makers.

Every 2 years, the BLS publishes projected employment 10 y into the future for over 300 different industries and 800 occupations.



STEM Education and Industry

Science, technology and innovation are now key to improving economic performance and social well-being.

However, if governments want to obtain the benefits from this transformation, they will have to put the right policies in place.

Scenario

Teacher Brown realized that there is a growing trend in Nutraceutical Development and the need for Natural Product Research Scientist. Teacher Brown doesn't have expertise in this area and decided to ignore industry trends and move on with teaching nutrition, the next item on the CSEC Biology Syllabus to cover.

What did Teacher Brown do wrong/right?

What would you have advised Teacher Brown to do differently?