

UNIT 1: INTRODUCTION TO SCIENCE

Brainstorm - List the first 5 to 10 ideas that come to mind when you consider each of these words:

Science →

Technology →

Society →

Environment →

1. Science, Technology, Society & the Environment (STSE)

What is Science?

- a **process** used to acquire new knowledge
 - = an ongoing method of learning
- information gathered through observations is **proven & tested** by further investigation
- **changing** body of information

What is Technology?

- an **application** of science used to extend human capabilities
 - = using scientific knowledge & understandings to make our lives better

Are Science and Technology the Same Thing?

- No
 - :Scientific knowledge is used to **create** technology
 - :Science **depends on** technology (uses technology in present studies)
- Ex. Computers
 - :creation of the silicon chip = **science**
 - :computers used in research = **technology**

What is a Society?

- A **group** of people that share common goals or interests
- Ex. Prince Albert Citizens, SLC, etc,

What is an Environment?

- the **surroundings** and **conditions** in which a person or group of people live

Goals of Science?

- improve our **lifestyles** (inventions and resource management)
- increase our **understanding** of the world around us

What is a Real World Example That Connects All Four of These?

Nuclear Energy

- Science = nuclear fusion ($E = mc^2$, how much energy is released)
- Technology = nuclear reactor providing electricity for a certain area
- Environment = nuclear waste
- Society = nuclear weapons

STSE Assignment

1. Which of the following refer to **SCIENCE** or to **TECHNOLOGY**?

Put an **S** beside those that are science and a **T** beside those that are technology.

- _____ a. Diamond is the hardest known substance.
- _____ b. Diamond is used to cut glass.
- _____ c. X-rays are valuable in detecting tooth decay.
- _____ d. Some eye operations are made, possible by the "invention" of lasers!
- _____ e. When exposed to oxygen, hydrogen gas can become explosive!
- _____ f. Nitrogen can be liquefied at -196°C .
- _____ g. Extension cords contain copper wire.
- _____ h. Coal is formed from ancient plant material.
- _____ i. Hydrogen is an ideal rocket fuel.
- _____ j. Metals conduct electricity.

2. Describe how each of the technological developments affected society in a positive way:

- a) television: _____
- b) electricity: _____
- c) telephone: _____
- d) jet aircraft: _____

3. Describe 1 or 2 negative affects on society of each technology:

- a) television: _____
- b) electricity: _____
- c) telephone: _____
- d) jet aircraft: _____

4. Identify which of these technologies have an effect (+ive or -ive) on the environment and explain.

How are Science, Technology, Society, and Environment related?

