

Unit#2

Science & Technology

- science- what is it & what it isn't
- how science works
- technology: what is it
- how technology relates to science

Societal Issues:

What effects do science and technology have on society?
Is science and technology good, bad, or neutral?
Should science and technology be controlled? (And by whom?)

Unit#3

Chemicals in our Environment

- classification of matter
- atoms, elements (symbols), molecules, & compounds
- mass, weight, and volume
- chemical properties/changes, solutions, mixtures
- atomic mass, atomic number
- air/water pollution & hazardous waste

Societal Issues:

What should we do about pollution and waste disposal?
Should we be worried about chemicals in our diet, and food additives?

Unit#4

Cells, DNA, & Genes

- cells: the unit of life
- prokaryote and eukaryote cells
- asexual / sexual reproduction
- DNA structure /replication
- mitosis, genes & the genetic code
- reproduction & inheritance
- Human genome project, biotechnology

Societal Issues:

How much control should humans have over other living things? Should we interfere with nature (gene therapy, genetic screening, biotechnology)?

Unit#5

Energy and the Environment (Physics)

- What is physics?
- SI unit of measurement
- fundamental units and derived units
- scientific notation
- position / time
- distance / displacement
- speed, velocity, acceleration
- concept of vectors / scalars

Societal Issues:

What energy sources should we be using now, and in the future? What can people do to save energy?

Teaching Methods:

Some or all of the following, according to student needs and interest:

- a. Lecture/discussion: with an emphasis on class participation - most classes will be of this type.
- b. Small - group activities: small group discussion, projects, exercises, presentations.
- c. Practical - activities: in class and in lab; observing hypothesis, collecting data, and interpreting data, classifying, problem solving, and so; as a whole class, in groups and in pairs.
- d. Individual activities: assignments based on newspaper/magazine articles, individual presentations, research (library) project.
- e. Other possibilities: visits to places of scientific interest, guest speakers, your suggestions.

EVALUATION:

Tests	40%
Assignments	10%
Lab Reports	20%
Final Exam	<u>30%</u>
Total	100%

Tests and Exams:

There will be a test (50 min.) about every two weeks or so, for a total of five tests for the course. Absence from tests, labs or exams will result in a zero for that test, lab or exam unless a previous arrangement is made with the instructor for medical or other legitimate reasons.

TOTAL 54 WORKING DAYS!