

## **Topic List for Introduction Unit General Chemistry**

alchemy – Philosopher’s Stone, alchemical symbols  
pure science (science) vs. applied science (technology)  
mathematics of chemistry  
    exponents  
    units in answer  
    algebra  
    cancellation  
    conversion factors  
measurement  
    mass (digital balance, triple-beam balance)  
    length and area (meter stick) - estimating  
    volume: formulas, meniscus (grad. cyl.), water-displacement  
    temperature (thermometer) - estimating  
    SI system of units - prefixes  
graphing  
chemistry in our world (minimal treatment)  
    matter (composition and properties) and energy  
    importance of chemistry today  
    chemical industry  
    chemicals are ubiquitous  
    personal responsibility for wise use of chemicals  
safety  
    Material Safety Data Sheet  
    lab safety, Karen Wetterhahn, HCl vs. HCN story  
    LD 50 calculations, or similar  
how scientific knowledge advances  
    scientific method  
        observations: qualitative and quantitative  
        theory vs. law  
        cause and effect  
        observation vs. inference  
        inductive vs. deductive reasoning  
    curiosity  
    accident  
    experience  
study tips  
    read text  
    take notes  
        anything teacher writes down  
        interesting facts  
        demonstrations  
    do homework  
chemical reactions - introduction