

Concepts for Quiz #3  
Plant Form and Function—Fall 2004

- List the four major steps in DNA isolation from plant tissue and briefly describe how they are accomplished.
- List the three “genomes” contained within a plant cell and briefly describe their characteristics. Which are most useful for genetic studies?
- What are the major features of plant genomes that have been discovered with the completion of plant genome sequencing projects?
- What is codon usage bias and how can it affect genetic analyses?
- List and briefly describe the three major steps in PCR.
- Describe how PCR is used to sequence DNA (i.e., the dideoxy sequencing method).
- Briefly describe the steps involved in comparing a group of protein or nucleotide sequences (How do you “get” the sequences? How do you compare them? What kind of information do you get from your comparison?)
- Briefly describe the *major concepts* (not detailed procedures) in the following high-throughput gene expression study methods and what kind of information is derived from them:
  - cDNA subtraction
  - Expressed sequence tags (ESTs)
  - Macro- or microarrays
  - Serial analysis of gene expression (SAGE)
- What are the characteristics of an effective poster presentation?
- What are the characteristics of an effective oral presentation?