

STUDY QUESTIONS

1. A newly discovered species of Angiosperms has flowers appears never to have had PETALS.

Using the A, B C genes, diagram a model which would account for the presumed absence of petals in flower

2. In contrast to animals, which whose bodies and organs are more or less formed in the embryo, plants mainly show post embryonic development.

What is “post embryonic development”? What sorts of constraints does this form of development impose on the plant life cycle? Are there any advantages to this form of development?

3. Discuss the statement that, “plants differ from other organisms because they do not move, breathe, or eat and that they do not have any way of eliminating waste products.” In answering this question, cite specific examples.

4. What are the basic elements (parts or units) of the Angiosperm body plan? Are all present all the time?

5. In lecture and lab you were given examples of how the end point in a developmental process was essentially the same in many species, but that the pathways (steps) for getting to these end point differed between species. Identify 1 or 2 common end points and compare and contrast in two different species the steps involved in reaching a common end point

6. Describe and discuss two examples of a coupling between structure and function. In your examples, can we determine whether structure “drives”function, or vice versa?

7. Consider and discuss the statement that “the close spatial relation between phloem and xylem is an expression of their functional interdependence.”

8. The plant “lifestyle” involves two separate spatial systems, the apoplast and the symplast. What would be the advantages and disadvantages of having two separate spatial systems? As part of your answer, it may help to define (name the components) of both the apoplast and symplast.