

# Supplemental Material

*CBE—Life Sciences Education*

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### Supplemental Table 3. Module Assessment Items

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1) True or **False**: When scoring a particular floral trait, such as flower orientation, everyone scores that trait the same for each and every species.

2) Two species are most likely their closest relatives if:

a) Their flowers are the same color and size

**b) Phylogeny from molecular data supports them being closely related**

c) They are found in the same geographic area

d) All of the above

3) You are part of a four-person research team performing a phylogenetic analysis with 100 species. Which method would you choose and why? Support your decision.

a) 50 morphological characters (morphological phylogeny)

**b) One gene consisting of 1,500 base pairs of DNA (molecular phylogeny)**

- Possible supporting answers: do not have to worry about everyone scoring characters the same, takes less time to gather data, results usually more robust than with morphology

4) What is the correct order of techniques needed to determine relatedness of individuals using molecular data?

a) PCR, DNA extraction, gel electrophoresis, phylogenetic analysis

b) Phylogenetic analysis, gel electrophoresis, DNA extraction, PCR

**c) DNA extraction, PCR, gel electrophoresis, phylogenetic analysis**

d) Gel electrophoresis, DNA extraction, phylogenetic analysis, PCR

5) What is gel electrophoresis?

a) Denaturing proteins into their gel state

b) Identifying pieces of DNA by sequence

c) Making Jello by using electricity to link the molecules

**d) Passing electricity through a gel to separate molecules by size**

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Note: Correct item response in bold.

