Supplement 1: Question examples for questions asked in both SA and MC formats. Blue: Lower Bloom levels (this was discussed in class or given as assignment). Yellow: Higher Bloom levels (these examples were not discussed or assigned and required transfer of learned material). * Answer options were designed to include correct but incomplete answers (considering only SA or V), one correct and complete answer (SA and V: correct relationship), an irrelevant answer (for this question), and a complete but incorrect answer (SA and V: incorrect relationship). See Supplement 2 for the short answer grading rubric.

Skill (Bloom)	Written Response Question	MC Question(s)
Remembering (remembering facts, which were discussed in class).	Which are the closest relatives of Archae?	Which are the closest relatives of Archae? a. Bacteria b. Protists c. Protist, plants & animals d. Eukaryotes e. Protists & plants
Understanding (remembering an explanation, which was discussed in class).	What is the function of endosperm tissue in plants? (please explain in one sentence)	What is the function of endosperm tissue in plants? a. to aid in fertilization b. to form a seed cover c. to form a fruit d. to aid in pollination e. to store starch
Application This example (figure and taxa) was not used in class.	Based on this molecular phylogeny (Figure), which are the closest relatives of Cnidaria?	Based on this molecular phylogeny (Figure), which are the closest relatives of Cnidaria? a. Acoela b. Platyhelminthes c. Eumetazoa d. Ctenophora e. Bilateria
Application This example (situation) was not used in class.	A small and a large turtle both have a body temperature of 12^{o} C. They glide into the water of a pond, which has a temperature of 20^{o} C. Which turtle will reach the water temperature faster? Explain why.	A small and a large turtle both have a body temperature of 12^{o} C. They glide into the water of a pond, which has a temperature of 20^{o} C. Which turtle will reach the water temperature faster? a. smaller b. larger c. both at the same time This answer is correct, because* a. the larger turtle has a larger SA b. the smaller turtle has a smaller volume c. they are both ectotherms d. the SA/V is smaller e. the SA/V is larger

Analysis This comparison was not made in class.	Which plant structure is equivalent (in structure and function) to the amniotic egg in animals? Be as specific as possible.	Which of the following plant structures is equivalent (in structure and function) to the amniotic egg in animals? a. gametophyte b. ovary c. egg cell d. embryo sac e. seed