Variation and Selection in the Egyptian Origami Bird (*Avis papyrus*): Sample Answers

1. Did your experiment result in better flying birds?
   Most students will answer “yes.”

2. Evolution is the result of two processes: variation and selection.
   a. How did your experiment produce variation among the offspring?
      Mutation of wing length, width, and position cause variation among babies.
   b. How did your experiment select offspring to breed the next generation?
      Only the best fliers had opportunity to breed, offspring’s characteristics are similar to selected parents.

3. Compare your youngest bird with your neighbor’s youngest bird.
   a. Compare and contrast the wings of other birds with your own.
      Best fliers usually have narrow wings. Often front wing shorter than very long back wing.
   b. Explain why some aspects of the birds are similar.
      Similar selection conditions for all birds.
      Only birds who flew longest distance had opportunity to breed.
   c. Explain why some aspects of the birds are different.
      Mutations are random. Nobody chose which mutations happened.

4. Predict the appearance of your youngest bird’s descendants if.
   a. the selection conditions remain the same, the longest flying bird survives and reproduces.
      Bird flight distance continues to improve.
   b. the selection conditions change the worst flying bird survives to produce the most offspring.
      Birds which fall out of the sky the way bricks do will breed more often. Eventually, have mostly broad-winged, poor flying offspring.
   c. the selection conditions change and the bird whose color blends with its environment survives to produce the most offspring.