

Unit 3 Post-Test, Grades 7 – 9

Earth system responses to natural and human-induced changes

Name _____ Class _____

1. During a particularly long winter, crocus plants emerge a month later than they usually do. This is an example of:
 - a. Coping
 - b. Migration
 - c. Adaptation
 - d. Extinction

2. Red knots are birds that spend the winter in South America and fly to North America to breed. This is an example of:
 - a. Coping
 - b. Migration
 - c. Adaptation
 - d. Extinction

3. In response to a new pollinator, a plant community gradually changes from having mostly red flowers to mostly white flowers. This is an example of:
 - a. Coping
 - b. Migration
 - c. Adaptation
 - d. Extinction

4. The dodo bird has not been seen since 1681. This is an example of:
 - a. Coping
 - b. Migration
 - c. Adaptation
 - d. Extinction

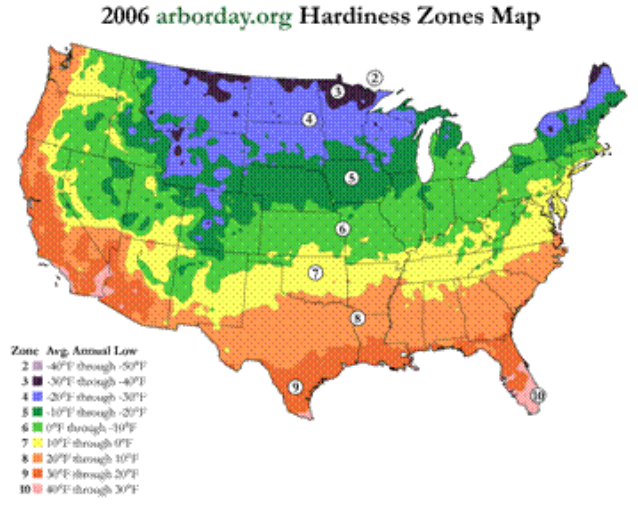
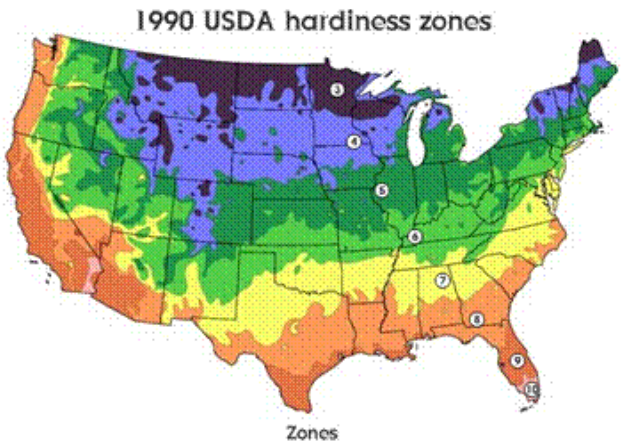
5. Name and describe two ways plants “know” when it is time to start growing. Would either of these ways be affected by climate change? Explain why or why not.

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6. Use the maps below to answer the question in the space provided. How do you describe the changes from 1990 to 2006?



Zone Avg. Annual Low
 2 -40°F through -50°F
 3 -30°F through -40°F
 4 -20°F through -30°F
 5 -10°F through -20°F
 6 0°F through -10°F
 7 10°F through 0°F
 8 20°F through 10°F
 9 30°F through 20°F
 10 40°F through 30°F

Zone Avg. Annual Low
 2 -40°F through -50°F
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7. Phenology is
- a. The study of animals and plants
 - b. The study of the timing of life-cycle events
 - c. The study of living things
 - d. The study of soil organisms
8. Identify the following as biological or environmental events using B for biological and E for environmental.

First flower _____

First snow _____

Birds flying south _____

Leaves fall _____

Rainy season _____

9. Diagram and label the life cycle of a plant, include as many life cycle stages as you can:



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10. The seed shown below is most likely dispersed by:
- a. Animals
 - b. Water
 - c. Wind



(photo from: <http://blog.lib.umn.edu/michaels/tuesmorn/2009/09/>)

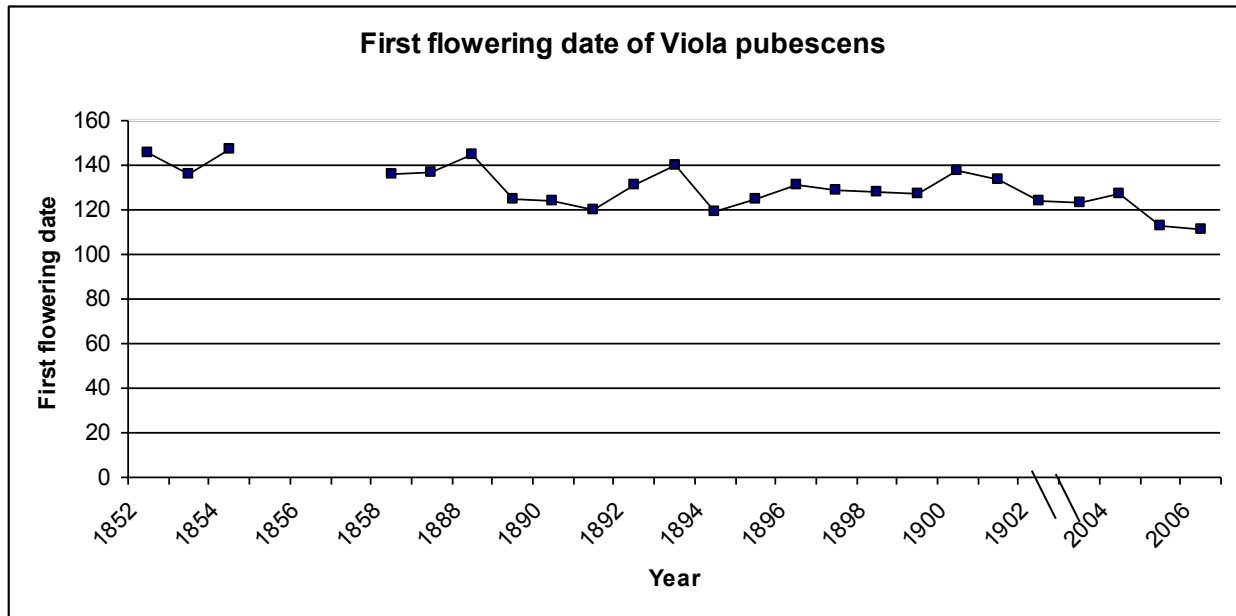
11. A seed is surrounded by fluid or air and a thick coat. This seed is most likely dispersed by:
- a. Animals
 - b. Water
 - c. Wind

12. In the space below, describe the concept of “assisted migration.” Do you feel that assisted migration is a good idea? Why or why not?

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Answer questions 13 and 114 using the graph above:

13. Describe the pattern of first flowering date of *Viola pubescens* between the years 1852 and 2006:
- a. Changing from year to year, but with a clear increase
 - b. Changing from year to year, but with a clear decrease
 - c. Stays the same each year
 - d. No pattern can be observed
14. *Viola pubescens* flowering date is probably based on:
- a. Day length
 - b. Presence of insect pollinators
 - c. Temperature
 - d. Wind speed