15 Evolution

3 Shaping Evolutionary Theory

TEKS 2(C), 3(F), 7(A), 7(B), 7(C), 7(D), 7(E), 7(F), 12(A)

MAIN IDEA

Write the Main Idea for this lesson.

Review Vocabulary

allele

Recall the definition of the Review Vocabulary term.

allele

New Vocabulary

Write the correct vocabulary term in the left column for each definition below.

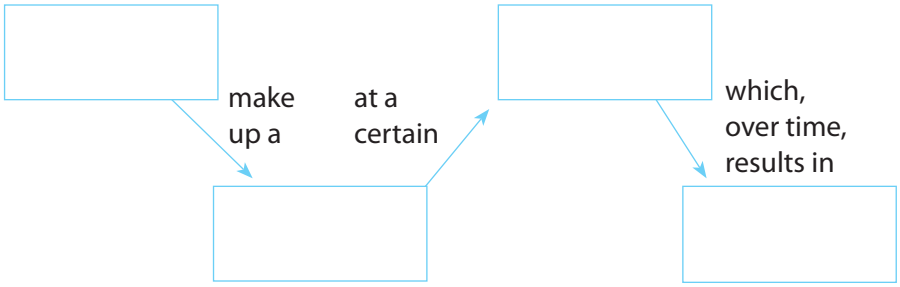
	allele frequencies remain the same unless acted upon by a factor
	random evolution that occurs in a small, separate subpopulation
	process of a large population declining in number then rebounding to a large number again
	mechanism that operates before fertilization occurs
	change in the allele frequencies in a population by chance
	selection which removes organisms with extreme expressions of a trait
	mechanism that operates after fertilization occurs to ensure that resulting hybrid remains infertile
	selection which shifts a population toward an extreme trait
	selection which removes individuals with average traits
	change in a trait based on competition for mates
	speciation in the presence of a barrier
	speciation without any barriers

3 Shaping Evolutionary Theory (continued)

Student Edition, pp. 431–441

Reading Essentials, pp. 176–182

Sequence the steps associated with genetic equilibrium by completing the graphic organizer below.



GET IT? **Determine** when a population is in equilibrium.

GET IT? **Explain** how genetic drift affects populations.

GET IT? **Summarize** how mutation violates the Hardy-Weinberg principle.

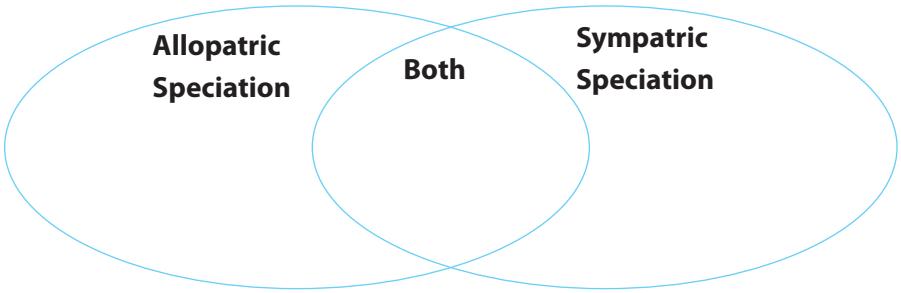
Compare natural selection and sexual selection by completing the table.

	Species Changes Based on	**Increases Fitness?**
Natural selection		
Sexual selection		

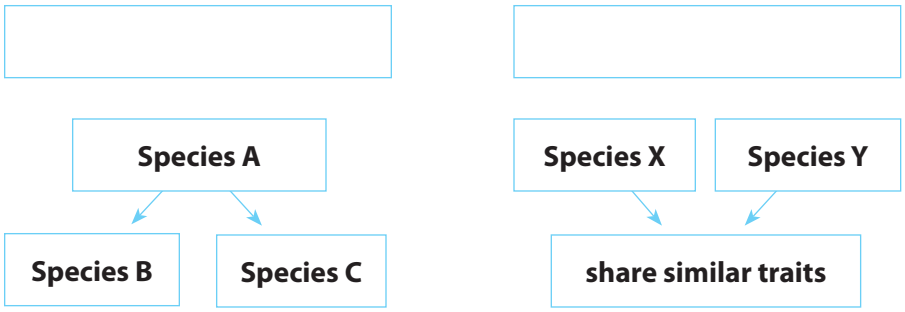
3 Shaping Evolutionary Theory (continued)

Contrast geographic isolation and reproductive isolation.

Compare allopatric speciation and sympatric speciation by writing one fact in each segment of the Venn diagram below.



Label each model as representing divergent evolution or convergent evolution.



Summarize the current thoughts about the rate of speciation by completing the table below.

Gradualism	Punctuated Equilibrium

3 Shaping Evolutionary Theory (continued)

REVIEW IT!

1. **MAIN**IDEA **Describe** one new mechanism of evolution that scientists learned after Darwin's book was published.

2. **Identify** three of the conditions of the Hardy-Weinberg principle.

3. **Discuss** factors that can lead to speciation.

4. **Indicate** which pattern of evolution is shown by the many species of finches on the Galápagos Islands.

5. **Apply** what you have learned about gene flow, genetic drift, mutation, and recombination in order to analyze and evaluate their effects.

6. What type of mathematical results would you expect from the experiment you designed above if the two populations diverged only recently?