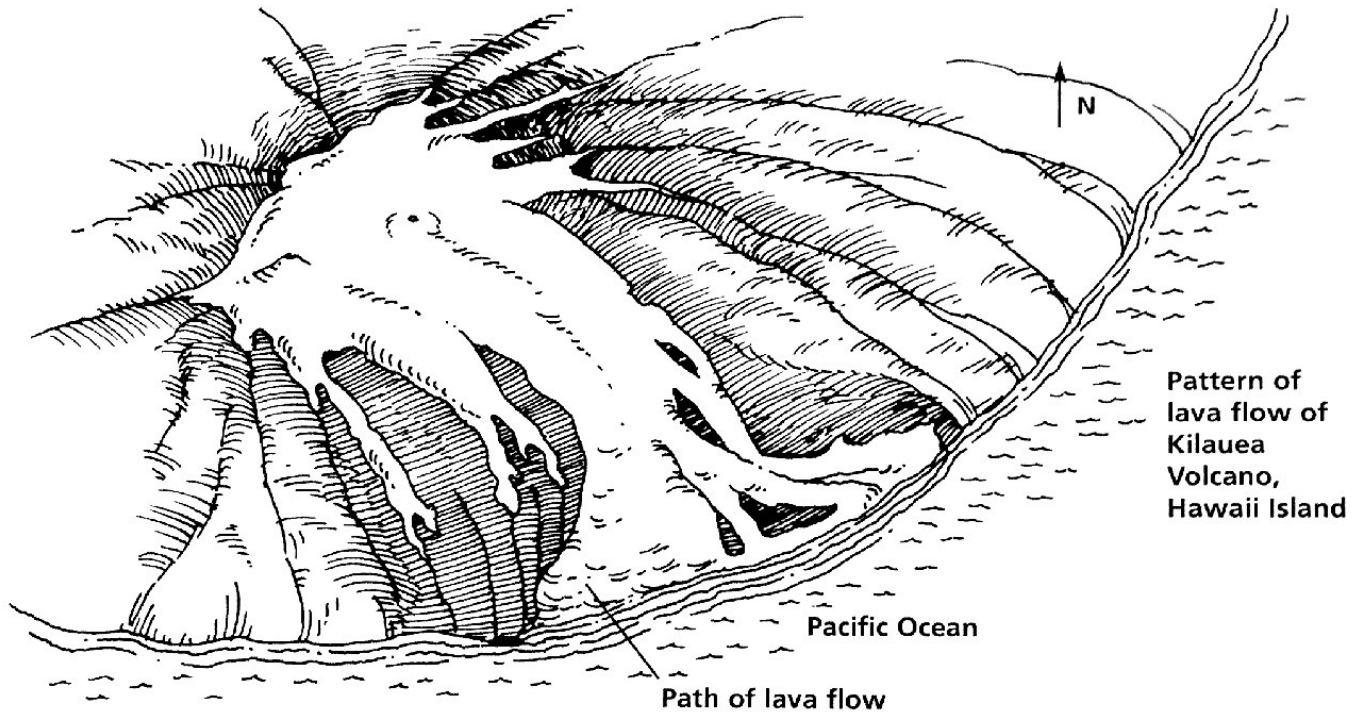
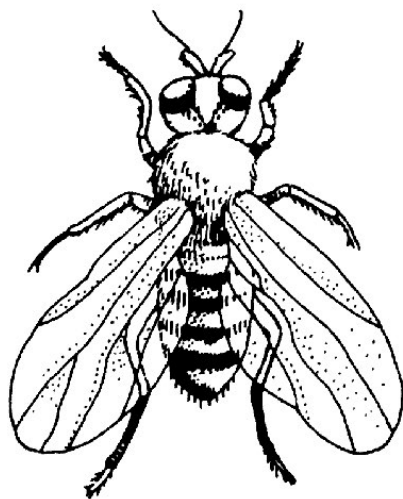


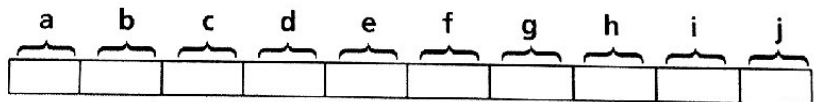
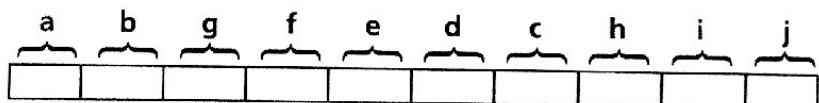
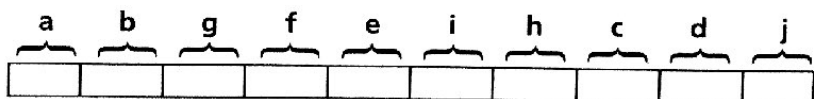
**Master**  
**24**
**Role of Isolation  
in Speciation**
**Reteaching Skills**
*Use with Chapter 15, Section 15.2*


Source: Volcano Watching, Hawaii Natural History Dept. & US Dept. of Interior.

**Creation of a *Kipuka*—an isolated area**


Picture-winged  
*Drosophila*

Size: Similar to  
common housefly

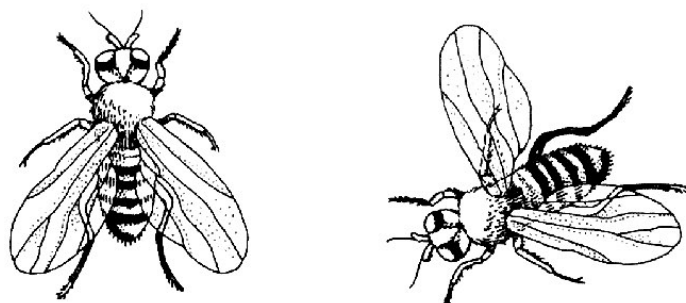
**Inversions in gene sequences**
*Species 1*

*Species 2*

*Species 3*


## Worksheet

## 24

**Role of Isolation  
in Speciation****Reteaching Skills**

Use with Chapter 15, Section 15.2



Ken Kaneshiro hypothesizes that the rapid increase in genetic variation in picture-wing *Drosophila* in kipukas on Hawaii may result from greater acceptance of changes in the steps in courtship. One of the steps is shown here.

1. Define *speciation* and discuss how it is at work in the kipukas.

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2. Define *geographic isolation* and discuss how it is at work in the kipukas.

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3. Define *reproductive isolation* and discuss how it is at work in the kipukas.

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4. On the transparency, you can see a series of genes for three species of organisms. Explain what has happened to the genes. How could this change lead to a separate species?

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5. Kaneshiro studies *Drosophila*, which have very short life cycles. Birds also live within the kipukas. Form a hypotheses to explain why Kaneshiro would decide not to study birds.

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