## **Evolutionary Theories**

| Theory  | Main point   | Rebuttal  |  |  |  |
|---|--|---|--|--|--|
| Inheritance of acquired characteristics (Lamarck) | The environment causes new traits, and those traits are then passed down to offspring. | Acquired traits cannot be passed down to offspring.   |  |  |  |
| Natural selection (Darwin)                        | Selection allows only those with the best traits to survive.                           | Selection does not produce new traits.  |  |  |  |
| Mutation theory of evolution (De Vries)           | Mutations cause new traits.  | Mutations do not make<br>new genes. Most<br>mutations are harmful.  |  |  |  |
| Mutation-selection<br>theory<br>(Neo-Darwinism)   | Mutations produce new traits, and selection allows the best of those to survive.       | Too many mutation/ selection events must occur at just the right place and time; selection works against partially evolved organisms. |  |  |  |

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| Natural selection (Darwin)                        |            |          |
| Mutation theory of evolution (De Vries)           |            |          |
| Mutation-selection<br>theory<br>(Neo-Darwinism)   |            |          |

## **Investigation 10D Answer Table**

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## **Evolutionary Family Trees**

