

Variations in Plants and Animals: Learning Goals for Students and Teachers

| Student and Teacher Learning Goals | Additional Teacher Learning Goals |
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| <ol style="list-style-type: none"> 1. Individual plants or animal of the same kind have similarities we can recognize, but they can also have many differences or variations. 2. Individual plants or animals of the same kind can have traits that vary. Some of these traits can be measured and may help individual organisms survive. 3. Some trait variations can make a difference in the ability of individual plants or animals of the same kind to survive and grow. 4. Certain traits, or a specific variant of a trait, can give an individual organism an advantage over other organisms of the same kind. That organism is more likely to survive and reproduce. 5. Individuals with certain trait variations become more common in different environments. 6. Trait variations can make a difference in the survival of plants or animals of the same kind and in the traits of future generations. | <ol style="list-style-type: none"> 2Ta. Inherited (genetic) characteristics influence whether an organism is more likely to survive and reproduce. 2Tb. Organisms that are more likely to survive and reproduce are also more likely to pass on genetic characteristics to their offspring. 5Ta. In any particular environment, the growth and survival of organisms depend on physical conditions. 5Tb. Individual organisms with certain traits are more likely than others to survive and have offspring. Over time, the proportion of individuals that have advantageous characteristics within a given population will increase. 5Tc. Natural selection is an evolutionary process in which the genetic makeup of a population (a particular species) changes over time based on the advantage certain traits confer in different environmental conditions. 6Ta. Different environmental conditions can favor different traits, even in individual organisms of the same species. 6Tb. Changes in environmental conditions can lead to the extinction of a population in a given area, or the extinction of the entire species. |