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| Module 3: | Ecological Concepts | | |
| Key Concepts | | | |
| Define and use the concept of an ecological footprint | | | |
| Define and use the concept of sustainable development  Explain the difference between an independent and dependent variable  Explain the ecological significance of positive and negative feedback loops | | | |
| What is a habitat mosaic  What is the difference between biodiversity and abundance?  What is the difference between primary succession and secondary succession?  What is ecological complexity? | | | |
| Key Words | | | |
| adaptation  coevolution  ecological niche | | homeostasis  keystone species  natural selection | resource partitioning  succession  symbiosis |

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| Module 3: | Biomes | | |
| Key Concepts | | | |
| How do biomes compare in terms of relative and absolute primary productivity?  How do temperature and precipitation influence biome distribution?  Be able to identify a biome by its’ temperature and rain profile (seasonal patterns) | | | |
| What is the connection between latitude and altitude (referred to as Merriam’s Rule)  How do mountains influence biome distribution?  How do Hadley cells influence biome distribution? | | | |
| What are the key facts about each biome (% land area, other key facts)  Explain the major differences between trees from the temperate and boreal forests  Explain what a fire tolerant community is and why fire can be good for an ecosystem | | | |
| Be able to explain the hypothesis and conclusions of the Burkina Faso study  Soil in the Sahel (Niemeijer, 2002)  Be able to explain the hypothesis and conclusions of the Lead in Cities study  Lead in the Inner Cities (Mielke, 1999) | | | |
| Explain the concept of Biosphere 2 (purpose, functionality, basic features) | | | |
| Key Words | | | |
| chaparrel | | deciduous | permafrost |