Name _____

Under Siege: Exploring Threats to Biodiversity

Open-Ended Response Answer Key

1. Habitat destruction and fragmentation threaten biodiversity by reducing habitat availability, disrupting ecosystems, and displacing species. When habitats are destroyed or fragmented, species lose their homes and struggle to find food, shelter, and mates. This can lead to population declines and even extinctions, as species are unable to adapt to their changing environments. Fragmentation also isolates populations, making them more vulnerable to threats like habitat loss, pollution, and climate change.
2. Overexploitation of natural resources refers to unsustainable harvesting practices that deplete populations of wildlife and plants. This can include overfishing, hunting of endangered species, illegal logging, and unsustainable agriculture. When resources are overexploited, populations decline, ecosystems become imbalanced, and species are pushed to the brink of extinction. This can have far-reaching consequences for biodiversity and the functioning of ecosystems, as species play important roles in nutrient cycling, pollination, and seed dispersal.
3. Pollution has numerous consequences on biodiversity, including harm to wildlife and habitats. Chemical pollutants can poison and kill animals, disrupt ecosystems, and degrade habitats. For example, oil spills can coat birds and marine mammals, suffocating them and destroying their habitats. Plastic pollution can entangle marine life and seabirds, leading to injury, starvation, and death. Pollution can also contaminate water sources, making them unfit for drinking and aquatic life. Overall, pollution threatens biodiversity by harming individual organisms, disrupting ecosystems, and degrading habitats.
4. Invasive species pose a threat to native biodiversity by outcompeting native species for resources, preying on them, or introducing diseases. Invasive species often lack natural predators and competitors in their new environments, allowing them to multiply rapidly and spread unchecked. This can disrupt ecosystems, alter food webs, and drive native species to extinction. For example, invasive plants can outcompete native vegetation for sunlight, water, and nutrients, leading to declines in biodiversity and ecosystem functioning. To address this issue, measures such as early detection and rapid response, habitat restoration, and control of invasive species populations can be implemented.