

Grade 3

The Savanna Ecosystem



The Food Chain

In order to avoid extreme levels of competition for resources, producers, consumers and decomposers each fill their own specific niche. The plants grow in the soil and produce their own food. The zebra, waterbuck, and eland eat the tops of the grasses and shrubby plants and the gazelles eat the roots of the plants after they are done. The ostrich and crowned cranes are omnivorous and will eat seeds of the plants, the insects that live in them, and various other things that the grazers won't eat. The giraffe eat the leaves from the trees that the other animals can't reach and the vultures serve as the clean up crew eating left over food and carrion. In a true savanna there will also be the top carnivores like lions and cheetahs that will eat all of the herbivores. The organisms that you can't see are the tiny insects and bacteria that further decompose dead matter to refurbish the soil.

Competition for Resources

Although the savanna animals have developed niches, there is still some level of competition for resources amongst them. This is especially true as the amount of available resources varies due to natural and human-influenced cycles. If one of their resources is lacking than the entire system becomes out of balance. For example, if drought causes a scarcity of water, there becomes a high level of competition for water. In addition, the plant population will start to die off which will also increase the level of competition for food. Eventually there will not be enough food to go around. Animals will begin to die off as well, and the population will decline. If the drought goes on for too long, the population could be eliminated. However, typically drought runs in cycles and eventually rain will come and water will become available. In time food will become available and the plant and animal populations will increase. If the resources become too abundant, however, then the competition level will decrease. With extra food resources animals will survive longer and be able to reproduce at a higher rate. Eventually the population will grow to the point that it outweighs the resources again and animals start dying off. This is a continual cycle that ecosystems can go through.

Life Cycle of the Saguaro Cactus

Although the Saguaro Cactus does not grow in Africa, this information is provided since the cactus has such an iconic presence throughout the Zoo.

1. The saguaro seeds are housed in a fleshy, juicy fruit. As it ripens it splits open and many animals eat the seeds and the fruit.
2. The seeds are then dispersed through wind and the droppings of those animals.
3. The saguaro begins to grow under the protection of a “nurse plant”.
4. As the saguaro grows it stores water inside its waxy skin. Jackrabbits and other small mammals eat this for moisture.
5. After about 60 years the saguaro grows its first arms and flowers begin to bloom off the tips of the cactus. These flowers provide food for bats, insects, and birds that in turn pollinate the flowers.
6. The flowers then turn into fruits which start the growth cycle again.
7. Along with all of this, insects will burrow into the cactus and the woodpeckers will bore into the cactus looking for the insects.
8. When the woodpecker drills into the cactus the plant forms a scar which animals are able to live inside of. Some birds lay their eggs in these holes. Other birds build their nests on top of the cactus.
9. After 150 – 175 years the cactus dies and becomes a home to lizards and insects that live on the ground.