



Resting

We mammals need to take a rest every now and then to recharge and re-energize! This is a time when our cells really put recovery into high gear!



Flapping Our Ears

We've evolved some pretty cool ways to stay cool on the hot African savannah: our large ears! They fan us on the outside, which also cools the blood in the many tiny blood vessels on the inside. This cooled blood is then moved throughout our entire bodies!



Urination

Every day I drink about 50 gallons of water. That is the amount of water in a bathtub! My body takes what it needs, then distributes the excess through urine.



Everybody Poops

My role as a mega-herbivore is to eat the fruits and vegetables in the savannah and disperse the seeds. I poop them out in nutrient-rich piles! The thousands of seeds I disperse every day keeps the savannah going. Without us, other life would go extinct!



Standing Around?

Elephants communicate through vibrations on the ground. When I am standing very still, I am actually listening ... with my feet and nasal cavities! We can communicate as far away as 4 km apart! It is believed that we can *sense* water underground, too!



Water Play

Have you ever played in a sprinkler or with a hose in the hot summer sunshine? It is so much fun! We like to spray ourselves and each other with trunks full of water to keep cool! They are also great straws for taking sips of water!





Grazing

I'm the lawn mower of the savannah. The hay I eat at the Zoo is like the grass I eat in Africa. My job is to keep the grass and saplings of the fields munched low so the savannah doesn't turn into a forest. That would change our entire ecosystem!



Trunk Movement

The trunks of African elephants have a *prehensile* tip that allows them to grasp small things! This functions much like human thumbs. In order to move the trunk in many different ways, the trunk is made of many muscles.



Matriarch Society

Elephants function in a matriarch society, with a lead female elephant. She is often the eldest, most experienced elephant in the group. Others respect her and rely on her wisdom and experience to protect them from harm and to find the optimal resources for health.



Digging

Did you see me digging in the dirt with my tusks or feet? In the wild, African elephants dig holes to obtain water. Smaller creatures use these pools to hydrate after we move to our next location.



Tusks + Tails = Tools

African elephants have built-in tools! I can hold things, like hay, in my tusks so I can multi-task: eat and snack! My tail is like a ready-to-use fly swatter to scare away insect pests! I am ready for whatever my environment provides as a challenge!



Play in the Mud!

Your mom tells you to wash the mud *off* of your body?! Mine says to slather it *on*! Mud helps us stay cool in the sunny, hot African savannah. It is also a natural sunscreen that protects our skin from burns.





Food Supply

Humans require food for energy. Discover ways to feed your citizens by using, but not abusing, local resources. Maintain ecosystem balance in all aspects of food production, distribution, and consumption.



challenge Card



Easy Repairs

Electricians and mechanics can have difficulty getting their hands and tools into tight-fitting spaces. Design a tool, inspired by the African elephant, that can easily move around inside walls, under houses, and inside the engine of a car.



challenge Card



Leadership

Groups of humans need trusted leaders who have the best interests of the society at the forefront of their actions. Look to nature when designing a city political structure.



challenge Card



New Materials

Natural materials are multifunctional. They are waterproof, self-cleaning, antibacterial, and more! Elephants dig in clay, a natural material that we already use for art and architecture. Create new materials for your city that are nature-inspired and have the desired properties your design.



challenge Card



Efficient!

Elephants use tools, like tusks and tails, that utilize very minimal energy when used and have more than one function. Keep this in mind when you develop your city.



challenge Card



Sun Protection

Ultraviolet radiation is harmful to more than just living beings! Plastics and paints can break down with increased sun exposure. Consider how you can protect your city infrastructure and local citizens from ultraviolet radiation and damage.



challenge Card



challenge Card

Waste not!

In 2013, Americans accumulated 245 million tons of trash! Using the elephant as your inspiring natural model, design a product, a process, or a behavior that leads to the production of less landfill trash for a cleaner city!



challenge Card

Clean Water Storage

Nearly 10% of the global human population lacks access to safe water. Keep your city safe and healthy by ensuring residents have access to safe, clean drinking water. How do elephants filter and store liquids like water?



challenge Card

Recharge YOUR Batteries!

We all need to take a break once in a while! Down time provides opportunities for cells to repair themselves, and for us to re-energize to keep going! Design your town with healing and recuperation in mind!



challenge Card

Cooling

The air inside buildings can get stuffy because it lacks the movement of circulation. Design the structures in your city to have air circulation to aid in cooling... for keeping your citizens comfortable and healthy!



challenge Card

Communication

Effective human interactions require efficient communication. Think about ways to get in contact with all the citizens of your city in the event of an emergency. How do elephants communicate danger across the miles? In what ways could they inspire a better way to warn of threats to safety?



challenge Card

Water Movement

Easily obtaining water is important in developed cities. Consider the routes water takes from its source, to a home or building, and to the tap or spigot. Design a more efficient way to move or access water from point source to faucet.

