Elephant Education & Training

PEACE project

Initiated by EHRA

Community Elephant Conflict Mitigation Workshop

Subjects:

- History of elephants
- Elephant basics
- Understand your elephants
- Know your elephants
- Age elephants
- Ecology
- Elephant meaning

Name:

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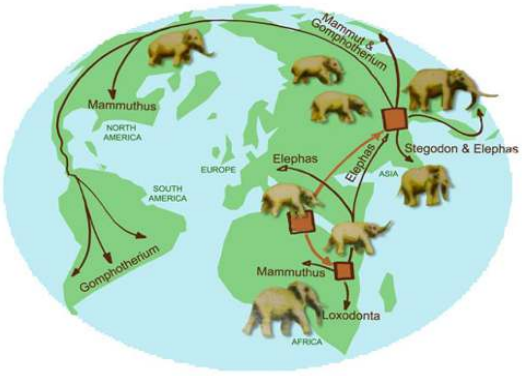
EHRA

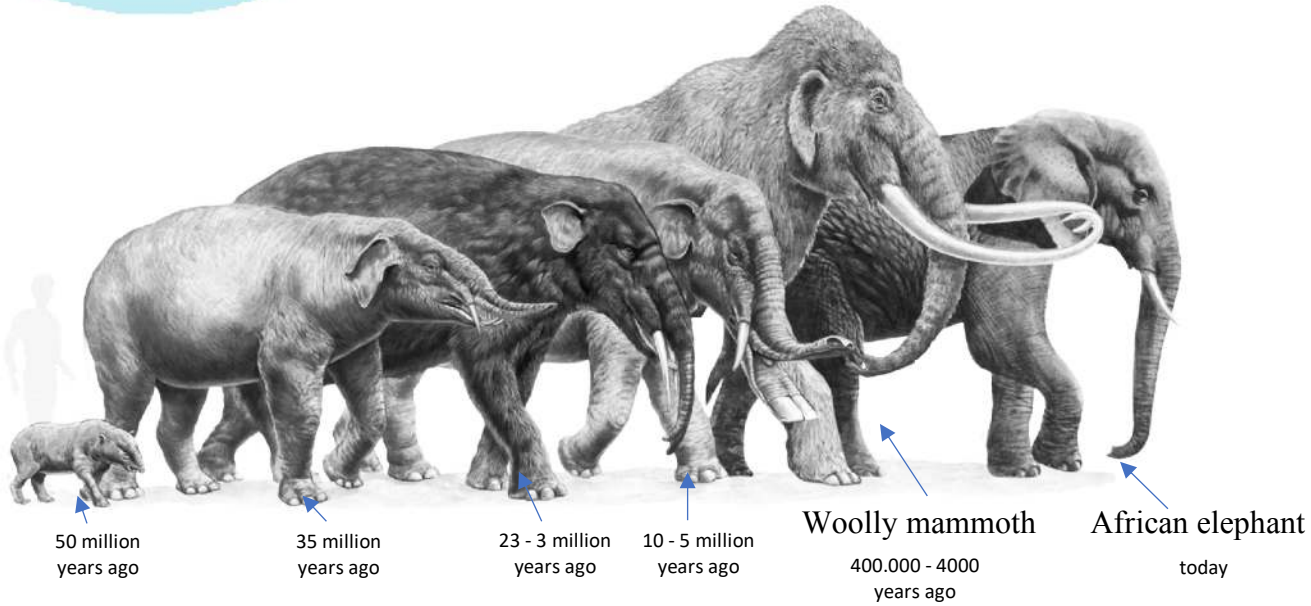
ELEPHANT - HUMAN RELATIONS AID



History of elephants

Elephants belong to the taxonomic order **Proboscidea**, which contains one living family, **Elephantidae**, and several extinct families. This order encompasses the trunked mammals.

Early ancestors of elephants have roamed all over North America, Europe, Asia and Africa. Today, only two genera of the family **Elephantidae** are living: *Loxodonta and Elephas*.



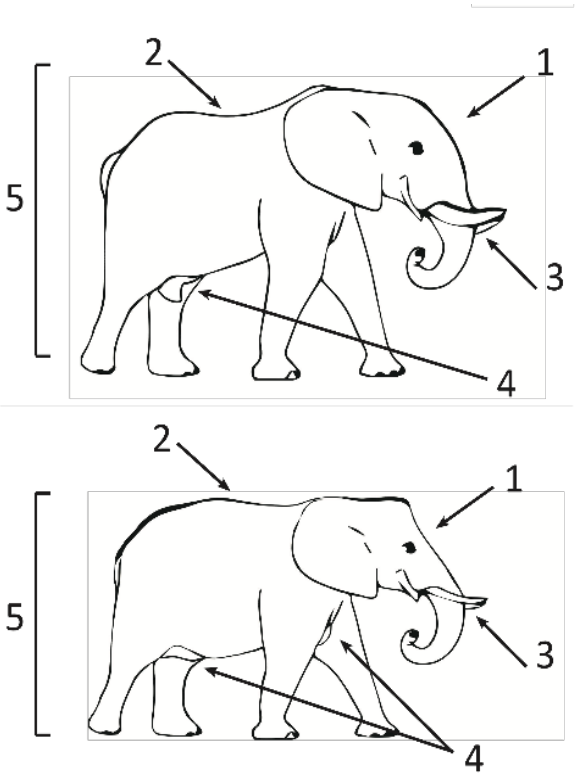
Elephant basics

Differences between African and Asian elephants:

	African savannah elephant ***Loxodonta africana africana***	African forest elephant ***Loxodonta cyclotis***	Asian elephant ***Elephas maximus***
			
Ears	Big, Africa-shaped	Medium, round	Small, round
Height at shoulder	Male: ca. 3.5-4m Female: ca. 2.5m	Male: ca. 2.4m Female: ca. 1.9m	Male: ca. 3-3.5m Female: ca. 2.4m
Trunk	2 finger-like tips 	2 finger-like tips	1 finger-like tip 
Toenails	4 on forefoot; 3 on hind foot	5 on forefoot; 3 on hind foot	5 on forefoot; 4 on hind foot

Anatomy African elephant

Male or female?

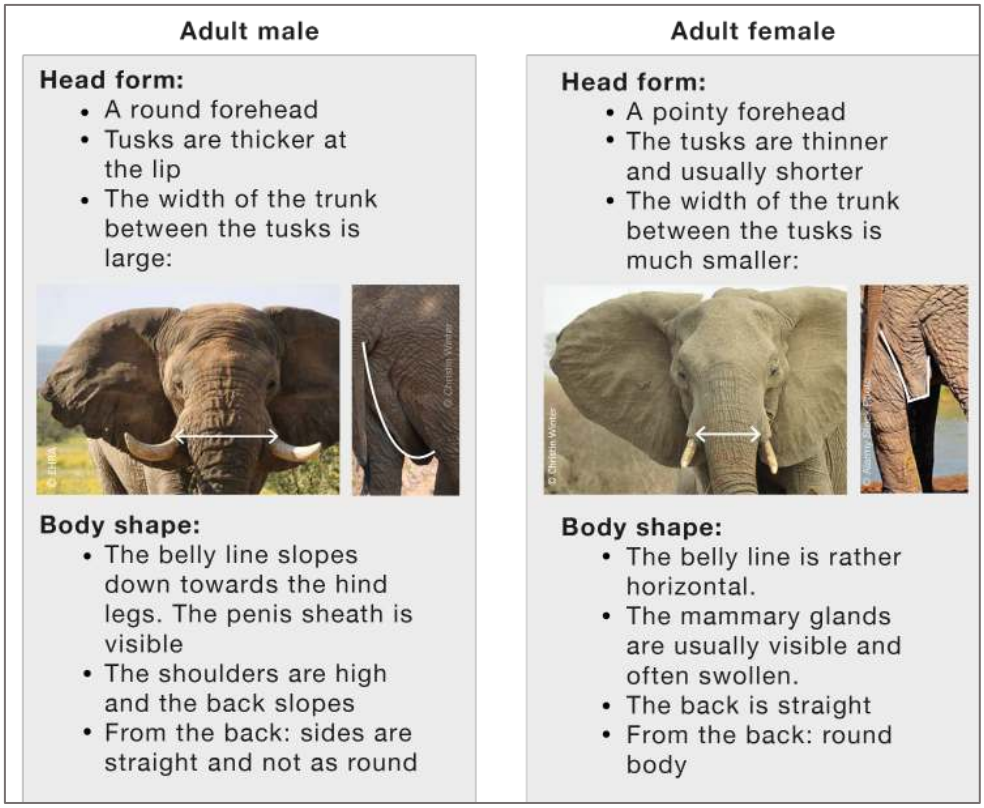


1. Shape of the head
Males have a rounded head due to bigger muscles at the forehead used for fighting and to hold up the heavy tusks as they get older. Females have an angular shaped forehead due to fewer muscles.

2. Shape of the back
As the male grows, his shoulders grow high, which creates a sloping, curvy back. Older males usually carry their heads high above the shoulders. Females have a straighter spine and old females carry their head below the shoulders. Their back and body grow longer in appearance as they age.

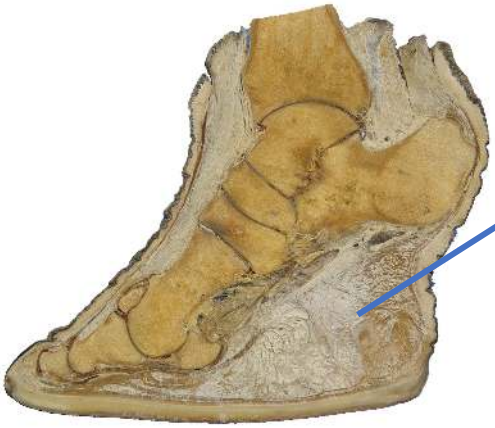
3. Shape of the tusks
Older males (anything above 25 years) have significantly thicker tusks at the lip. Larger and thicker tusks are of advantage during male-male competition. In northwest Namibia, the tusks of elephants often break, so long ones are rare. The cause is not proved, but the dryness and possible mineral deficiencies in the environment are suspected. Females generally have rather thin and often much shorter tusks than males. They use their tusks primarily for feeding and less for fighting.

4. Reproductive organs and mammary glands
The male has a ridge that extends from below the tail, down and in between the legs, and forms the penis sheath with its opening facing forward. The female's vulva is squared off with the opening towards the ground, and the area under the tail is flat. When the female is feeding a baby or when she is highly pregnant, her mammary glands are swollen and can be clearly seen between her front legs.



5. The size
Both sexes continue to grow throughout their lives, but female growth slows to be hardly noticeable after 25 years of age, whereas males continue to grow steadily.
For a field estimate, an 18-20-year-old male is about the size of an adult cow.

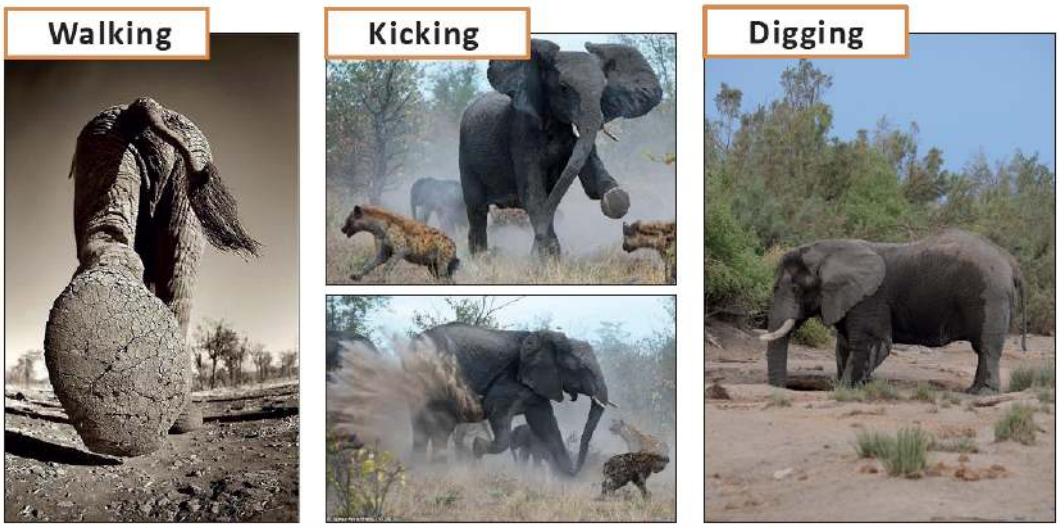
The feet



Their feet have a **shock-absorbing fat cushion**. Elephants actually walk on their toes like a cow or a kudu. A comparison of weight distribution between an elephant and a kudu showed that the elephant exerts a force of 600g/cm^2, while the kudu exerts a force of 2 kg/cm^2!

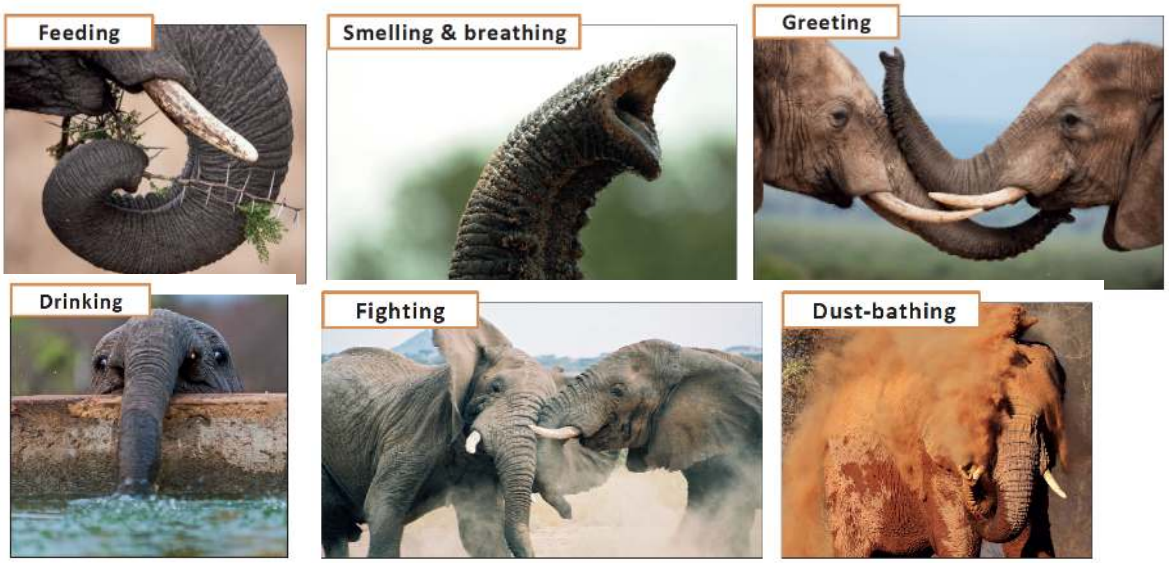
The 'spongy shock absorber' on the bottom of the foot is smothering any objects beneath itself. This muffles most noises (including the cracking of sticks and twigs). The front feet of an elephant have a circular shape whereas the back feet are more oval.

Functions:

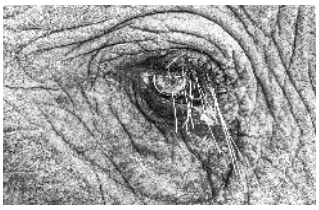


The trunk

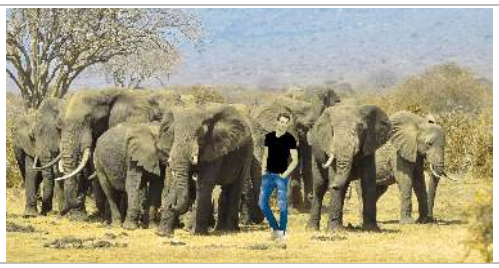
The trunk is the prolonged nose and upper lip. The two finger-like tips are used to pick up small things. The trunk is composed of mostly muscles—more than 70,000 of them (A human being has 639 muscles in total!) — and weighs up to 140 kg. It can hold up to 12 litres of water. The bristles (small stiff hairs) on it enhance feeling, like a cat's whiskers. An elephant's trunk is so important and vital to its life that it would be almost impossible for the elephant to survive should it ever get severely damaged. **Functions:**



The eyes



Elephants have eyes similar to those of horses: they can see somewhat to the rear; they lift their heads to see better. They can see at least the shape of an object at 150 m, with more detail visible at a distance of 50m.
The colors that an elephant can see is similar to what a **color-blind human** can see. Elephants see **red** as **green** and **pink** as light **blue**. They basically see shades of beige, green and blue. Which means we have to avoid wearing blue and pink, white and black around them.

What humans see:	**What elephants see:**
	
	

The ears

An elephant's ears make up 20% of its body surface and 1% of its total body weight. Flapping the ears helps in cooling the animal, due to the high blood flow through large veins clearly visible on the back of the ear.

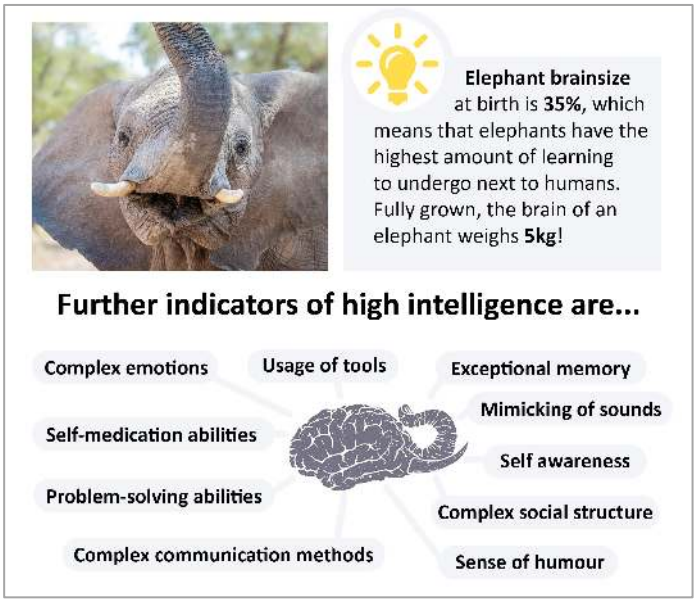
Functions:

The skin

Wrinkles act as a cooling mechanism by increasing the skin's surface area. The additional skin and wrinkles trap moisture, which then takes longer to evaporate. Therefore, wrinkles keep elephants cooler for longer than smooth skin. Elephant skin can be up to 3.8 cm thick in certain places and paper-thin in others (around the eyes, on the back of the ears). Elephants have sparse hair distributed unevenly on their body. This hair increases the effective heat transfer coefficient of the elephant significantly, and is therefore a thermoregulation heat sink.

The brain* – *Elephant intelligence

"The beast which passeth all others in wit and mind"- *Aristoteles*



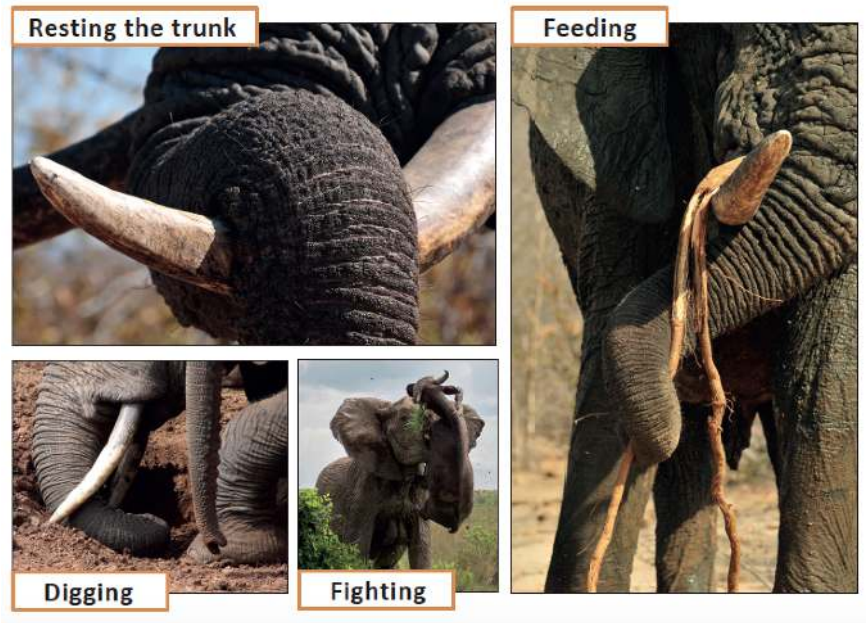
Elephants continue to fascinate both scientists and general observers alike. They are recognised as being among the most intelligent creatures on earth. In fact, some enthusiasts believe that their intelligence rivals that of human beings. One comparative way to try to gauge intelligence is to compare brain size at birth to the fully developed adult brain. This indicates how much learning a species accumulates while young. The majority of mammals are born with a brain close to 90% of the adult weight, while humans are born with **28%**, bottlenose dolphins with 42.5%, chimpanzees with 54%, and elephants with **35%**. This indicates that elephants have the highest amount of learning to undergo next to humans, and behaviour is not mere instinct but must be taught throughout life. Elephants and humans have a similar lifespan, and plenty of time, approximately 15 years, is allowed for them to learn before they are considered to be independent adults. It should be noted that instinct is quite different from learned intelligence. Parents teach their young how to feed, use tools and learn their place in the highly complex elephant society. The cerebrum temporal lobes, which function as storage of memory, are much larger than those of a human. The insight and intelligence of the elephant is particularly note-worthy in their ability to mourn their dead. This behaviour has only previously been noted in humans. In fact, recently deceased elephants will receive a burial ceremony, while those who are already reduced to a skeleton are still paid respect by passing herds.

The tusks

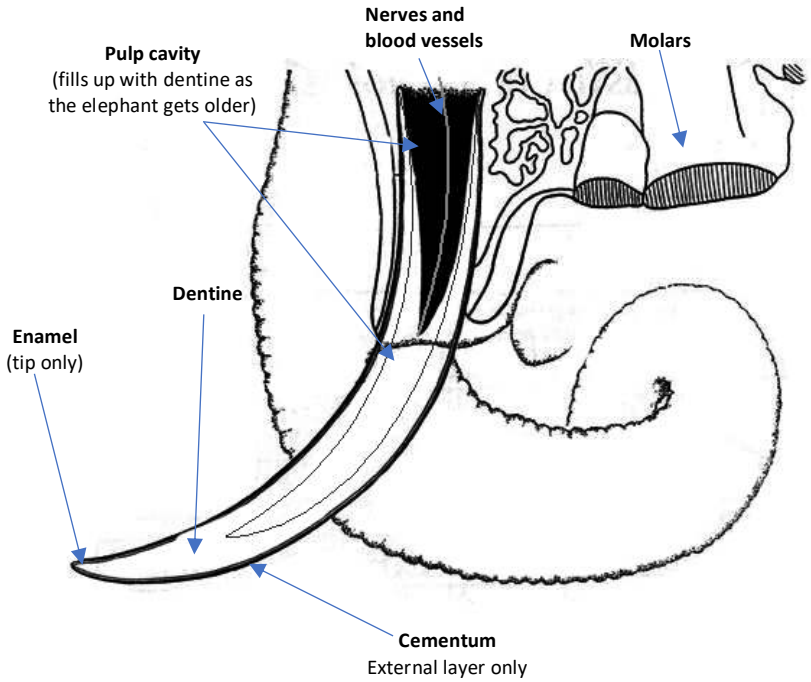
Elephant tusks are very elongated incisor teeth. Elephants do not have any canine teeth at all.

In baby elephants, you can see their tusks emerging from their lip at about **2-3 years.**

Functions:



The tusks



- Both male and female African elephants have tusks. Tusks continue growing throughout the elephant's life.
- Thickness (and length) of a male elephant's tusk can indicate his age. Male elephants tend to have heavier, longer and thicker tusks than females.
- 2/3 of the tusk is visible from the outside
- 1/3 of the tusk is embedded in the bone of the skull and extends to just below the eyes. The pulp cavity containing the nerves and blood vessels lies in the centre of this part of the tusk.

Molars

Elephants have one whole functional cheek tooth or molar in each jaw quarter at one time and a total of 6 sets during their lifetime. Each set is progressively longer and wider than the previous set, according to jaw size. Teeth are replaced at fixed ages, and are used for age estimation. When the last teeth wear down, an elephant can starve to death (60 or more years old). Chewing movement is forward-backward; other herbivores are side-to-side.

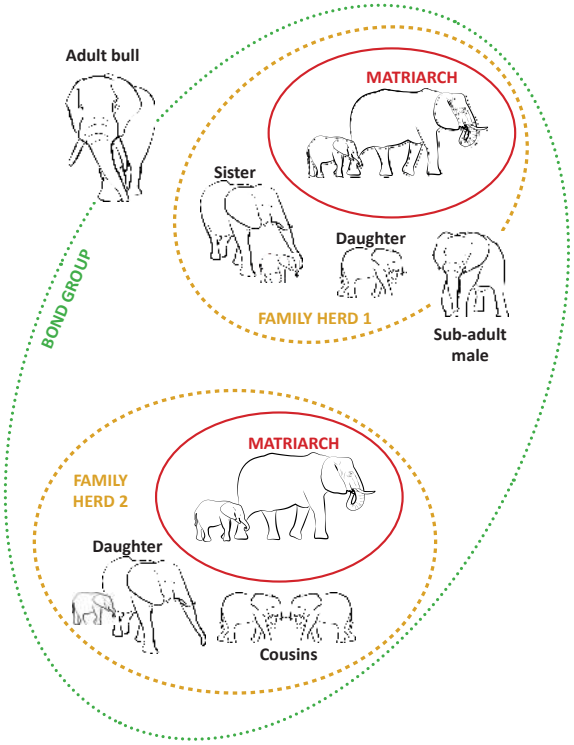
Ageing elephants by measuring their molars:

The sizes differ in the two sexes, females having obviously smaller teeth.

	Age in years, when molar first in full use	Molar length in cm	Molar width in cm
Molar 1	**1**	1.0 – 4.0	1.3 – 2.0
Molar 2	**2**	5.0 – 7.0	2.5 – 4.0
Molar 3	**6**	9.5 – 14.0	3.9 – 5.2
Molar 4	**15**	13.0 – 17.5	5.0 – 6.8
Molar 5	**28**	17.5 – 22.5	5.9 – 8.5
Molar 6	**47**	22.0 – 31.0	6.4 – 9.4

Social structure

Males and females live separate but overlapping lives, coming together at waterholes, during feeding or for breeding. Neither sex is territorial, although both will use specific home areas during particular times of the year.



Related females and their immature offspring live in tightly knit matriarchal family units:

Herd or family—one or more related adult females, of which the largest is usually the matriarch, and their male and female immature offspring. A herd can have 2 to 30 members. Related females form defensive units to protect calves or against non-related elephants; large family units with more female caretakers help increase calf survival. Larger families with older matriarchs dominate smaller families with younger matriarchs, thus competing more successfully for scarce resources.

A matriarch is usually the largest and oldest cow in a herd—the one with the most knowledge of habitat, water and food sources, and danger; she sets the herd's activity, direction, migration routes and rate of movement. When disturbed, the group bunches around their matriarch and follows her lead. The sudden loss of a matriarch, as when she dies or from poaching, disorients the herd; they may stay with her and also get shot. It may take some time for a new matriarch to emerge and be accepted by the herd, during which time their movements may be erratic.

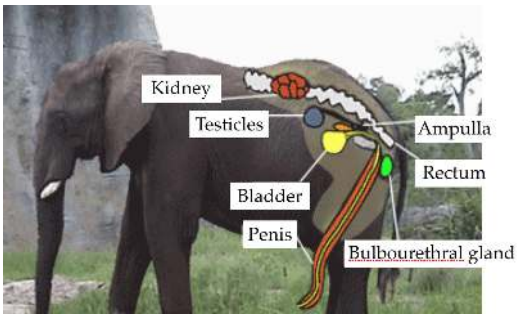
Bond groups—1-5 family units. These groups form when families become too large and sisters/daughters may split off to form separate families. They typically display elaborate greeting behaviours when they meet.

Clans—families and bond groups that share the same dry season home range.

***Bull groups*—only adult males.** Adult males are generally solitary but can be seen often in loose association with other bulls. Adolescent males leave their maternal herds around 14 years of age after reaching puberty through a gradual process when the females push them out of the herd.

When a young male is pushed out of his family, he may hang around on the edge of the group, or join another herd, if allowed to, or join bull groups. When not sexually active, he may spend time with other bulls—relaxed and sociable. Dominance is determined by age and body size. When in musth, a male will leave others and search for females. Any musth male dominates other males, who will go out of musth. Very old males may be sedentary, often staying near springs or wetlands where there is soft vegetation that is easier to chew.

Reproduction



The testicles of a male elephant are internal—they have no scrotum. A female's vagina opens downward, looking like a loose skin flap. The mammary glands are between their front legs; females look like males until their first lactation—then their teats become enlarged and can be used to determine an animal's sex.

The intercourse between a male and a female elephant is short-lived. They will rub their bodies on each other and even wrap trunks. The female tends to run away from the male, so he must pursue her. This game of cat and mouse can continue for a very long time before the actual mating does occur. Importantly, courtship is only successful if the female stands still and accepts mounting by the male for a minimum of 3-5 minutes.

Males older than 40 years of age are the most likely to breed with the females, as they prefer older, dominant bulls in musth. The females can breed when they are about 12 to 14 years of age, when they reach puberty. There is plenty of aggression among the males for the rights to mate. The younger ones, though, are usually no match for the strength of the older elephants which is why they don't get to mate until they are much older. This fact tends to hinder a rapid increase in numbers of elephants in a population.

Baby elephants
An elephant female's pregnancy lasts for **22 months.**
The calves can weigh up to 260 pounds (120kg) at birth. It is believed that the offspring of elephants don't have the same high level of instincts for survival as other newborn animals. That is why they must rely totally upon their mothers and the other females in the herd, especially during the first 3 months of their lives. They are fast learners though and pick up new skills through observation all the time. **Calves must drink milk for the first 2 years of life.**

How elephants communicate

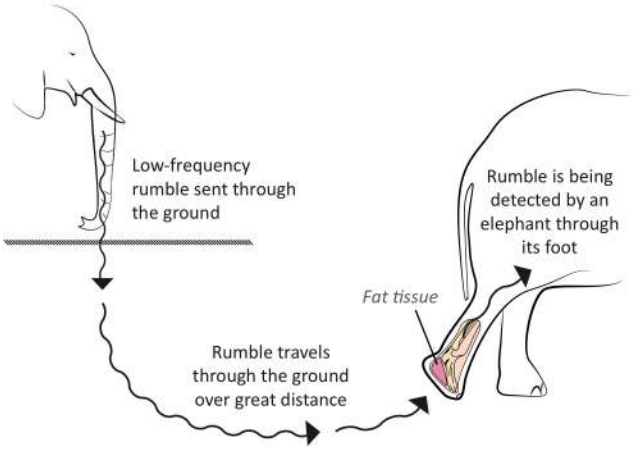
Like all highly social mammals, elephants have a well-developed system of communication that uses all their senses - hearing, smelling, seeing, tasting and feeling - including an exceptional ability to detect vibrations.

Acoustic communication (Hearing and calling):
Primary call types:

- Trumpet
- Nasal-trumpet
- Rumble
- Bark, cry, snort etc.

Feeling vibrations
(vibrations in the earth)
When an elephant rumbles, a replica of the airborne sound is also transmitted through the ground.

An elephant can detect another elephant's low frequency rumble from approx. 15-25km.



Sense of smell

Elephants have a keen sense of smell, and just as we use our sight, an elephant uses of its sense of smell constantly. When we want to learn more about what an elephant is thinking or where its attention is directed, we look not at its gaze (as we would with a person), but at the tip of its trunk. The tip of the trunk is always on the move, turning this way and that, up and down, forward and backward, taking in new smells, searching for more information and mirroring the focus of its mind.

Visual communication
The visual communication of elephants is so complex, that a simple explanation wouldn't do it justice. They use their heads, eyes, mouth, ears, tusks, trunk, tail, feet and even their whole body to signal messages to one another and to other species.
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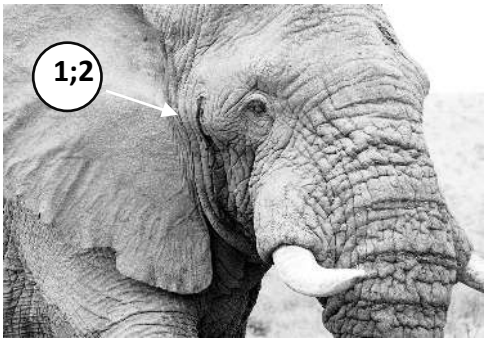
Tactile communication (sense of touch)
Elephants are extremely tactile animals. They purposefully touch one another using their trunk, ears, tusks, feet, tail, and even their entire body. Tactile interactions between elephants occur during a broad range of contexts, including aggressive, defensive, sexual, playful, care-taking and exploratory behaviour, in a friendly manner or to drive a female in a sexual context.

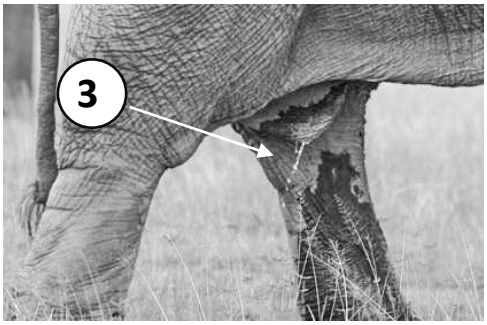
Understand your elephants

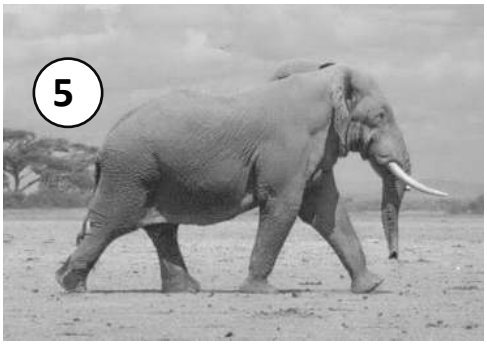
Elephant bulls in musth

In order to understand elephant behaviour, it is essential to know that bull elephants experience yearly musth cycles that can alter the animal's behaviour drastically.

⚠ Bulls in musth have a **higher level of testosterone** and therefore tend to be **more aggressive**! During musth, bulls look for receptive females for mating. Testosterone levels in an elephant in musth can be as much as **60 times greater** than in the same elephant at other times!







Physical signs of musth:

1. ***Temporal gland secretion***: A dark, oily fluid, which runs down the cheek of the elephant to the corner of the mouth.
2. ***Swollen temporal glands:*** In full musth, the temporal gland is usually swollen to the size of an orange or a softball.
3. ***Continuous urine dribbling & whitish-green penis sheath:*** When displaying dominance during musth a male might specifically extrude his penis and gush urine. The hind legs are usually wet with urine.
4. ***Strong distinct smell*** (similar to horses that sweat)
5. ***Swaggering musth walk:*** The head is carried high, well above the shoulders, with the chin tucked in. The ears are often tensely spread and carried high. There is a controlled swinging motion of head and tusks.

Facts on musth:

- Males usually have regular musth cycles by the time they reach 25 years old. They may begin around age 20 with short, irregular musth periods at different times of year.
- Within a healthy population, males are only allowed to reproduce at **35+ years**, due to a dominance hierarchy that is strictly enforced.
- Adult males come into musth once a year for up to 3 months - every year at the same time.
- They have specific musth ranges that usually differ from their home ranges.
- An adult male can distinguish a competitor by his smell and sound and usually knows when another male comes into musth and where his musth range is. Then he can decide to either get out of the other's way, or if he is in musth as well, he may challenge the rival.
- A dominant male guards a female in oestrus (on heat), usually staying close to her for that period of time. He loses interest after oestrus ends and looks for other females in oestrus ready to mate.

How to behave when encountering a musth bull:

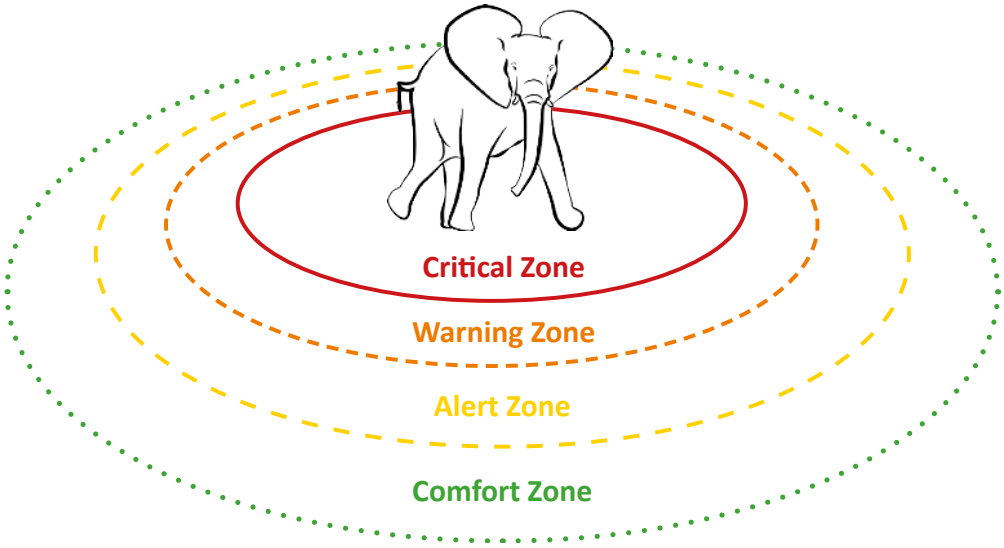
- ✓ Always give right of way to the bull.
- ✓ Carefully observe the elephant's behaviour and reaction to you before approaching closer.
- ✓ Leave an escape route for both the bull and yourself.
- ✓ Stay calm and quiet around him.
- ✓ Respect his personal space and retreat at any warning signs.
- ✓ Stay on the safe side, especially when you are inexperienced.

- × Don't approach closer than 100m.
- × Don't make any quick movements or loud sounds (talking loudly, camera clicking).
- × Never follow closely, overtake or push the bull.
- × Never get out of the car!

Understand basic elephant behaviour

Elephants are gentle animals that readily show their emotions. Like every animal, they have **comfort zones** with boundaries that vary between individuals. Before elephants attack, they tend to give many warnings. If you can correctly analyse those warnings and understand their body language, you will be able to keep yourself safe during encounters.

The 4 zones of personal space:



The comfort zone

→ Relaxed and friendly elephants

Signs: Elephants are not disturbed and continue with their activity. They may show interest and approach slowly.

Info: This is the distance an elephant needs to feel comfortable with the presence of other animals (including humans). If you keep this distance, the elephants don't feel threatened by you nor do they threaten you.

COMFORT ZONE

Relaxed elephants

The alert zone

→ Aware and curious, sometimes nervous elephants

Signs: Elephants stop eating and turn their attention towards you. Head might be lifted, trunk and foot swings in your direction to pick up your scent and vibration. Elephants might pretend to eat for a while before relaxing again.

Info: You have entered the elephant's personal space and it is aware of your presence. To analyse the situation, the animal may freeze, listen and smell. Every individual reacts differently, some may relax quickly and continue with their activity. Others may approach curiously or walk away if they feel uneasy.

Do: Be quiet and don't move! Wait until the elephant has totally relaxed, before moving on.

ZONE 2

ALERT ZONE

Elephants stop what they are doing and look at you.

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Smelling

Elephant touching itself. It feels insecure and unsure.

⚠ The warning zone

→ Annoyed, irritated elephants

Signs: Headshake, kicking dust, forward and backward swinging of the trunk, standing tall, head held high, ears spread wide, mock charge possible.

Info: If you penetrate further, you enter the warning zone. The elephant might start to feel uncomfortable and threatened by you and may display warning signs. This is to warn the intruder not to come any closer and start to back off. The elephant might shake its head, kick dust and vocalize, break branches to show strength and dominance. It might even do a mock charge.

Do: Stay still, respect the warning and leave the elephant alone. Back off slowly.

ZONE 3

WARNING ZONE

Elephants feel unhappy and warn you.

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Headshake

Kicking forward, pointing tusks

⚠⚠ The critical zone

→ Fight or flight

Info: It is essential to be able to read the elephants` warning signals. The elephant usually gives plenty of warnings or shows uneasiness. If warning signs are being ignored and you do not retreat, the elephant might continue showing threat behaviour and/or charge you. If this happens, retreat immediately! NEVER "tease" an elephant, try to scare or hurt it. This can end up in a fatal confrontation.

ZONE 4

CRITICAL ZONE

Elephants feel threatened and either flee **or** attack.

FLIGHT

FIGHT

Signs of a real charge (attack): Rushing towards the threat while ear-spreading, head raised or lowered with the apparent intention of following through. The trunk may be tightly curved under so that tusks can make contact first. A Real charge is *usually* silent. Elephants generally display warning signs before they charge, which should give you enough time to avoid a confrontation.

Signs of escape: The elephant curls its tail up in an unnatural angle. It folds its ears back, lift its head and moves away as fast as it can (elephants don't run). It might still look back from time to time. This only happens if you left an escape route for the elephant.

Guidelines for safe and enjoyable elephant watching:

Always:	Never:
✓ **Leave it alone and move away.**	× **<u>Never</u> follow the elephant.**
✓ Slow down as soon as you see elephants.	× Never rush up to elephants.
✓ Switch off the engine, sit quietly and enjoy the elephants.	× Never drive closer than 50 metres to the nearest elephant.
✓ Keep an eye on both sides and the rear for any approaching elephants.	× Never park your car over any elephant pathways leading away from the road.
✓ Make sure you have an escape route.	× Never box the elephants in when other vehicles are present.
✓ Make sure the elephants have an escape route and you don't block their way.	× Never drive in between the elephants in a breeding herd.
✓ Give the elephants a chance to move off the road before you drive past them.	× Never drive for extended periods behind elephants that are walking along the road.
✓ Retreat slowly and quietly if the elephants continue to show any threat behaviour.	× Never rev the engine!
✓ Give a musth bull lots of space - their testosterone level makes them short-tempered.	× Never try to push elephants off the road.
✓ Reverse if a musth bull is in front of you. Don't drive behind or past him!	× Never speed past elephants or drive faster than they generally walk (16 km/h).
✓ Always show respect towards elephants!	× Never make any noise or fast, jerky movements to attract their attention!
	× Never feed elephants or store fruits in your car!

Exercise

Which **zone of personal space** have you entered?
Tick the box!

Zone **1** = Comfort zone

Zone **2** = Alert zone

Zone **3** = Warning zone

Zone **4** = Critical zone

A

1 ☐ 2 ☐ 3 ☐ 4 ☐

B

1 ☐ 2 ☐ 3 ☐ 4 ☐

C

1 ☐ 2 ☐ 3 ☐ 4 ☐

D

1 ☐ 2 ☐ 3 ☐ 4 ☐

E

1 ☐ 2 ☐ 3 ☐ 4 ☐

F

1 ☐ 2 ☐ 3 ☐ 4 ☐

G

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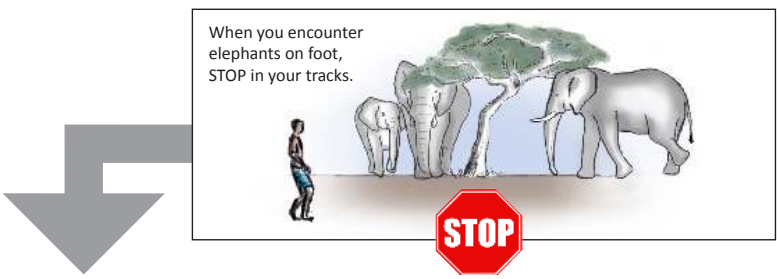
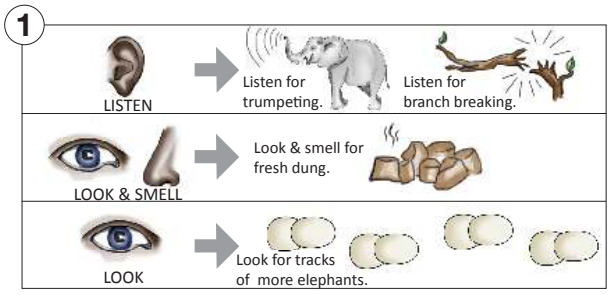
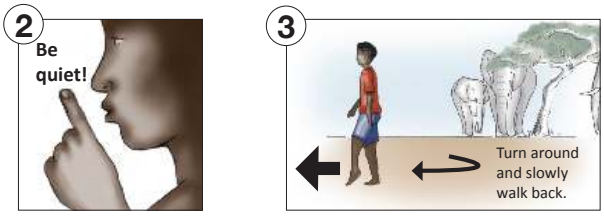
DOs & DON'Ts

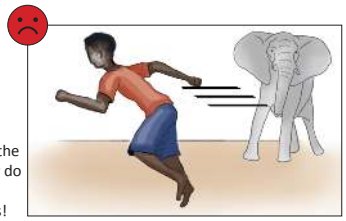


DO!

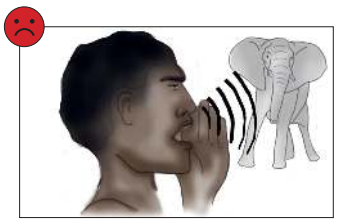




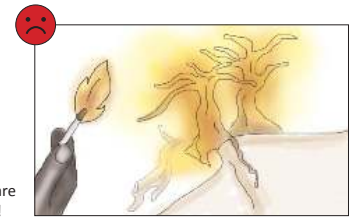
DON'T!



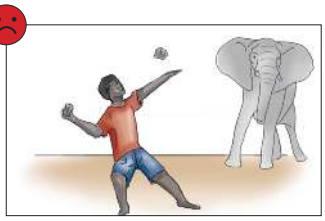
Don't run away from the elephant or do other quick movements!



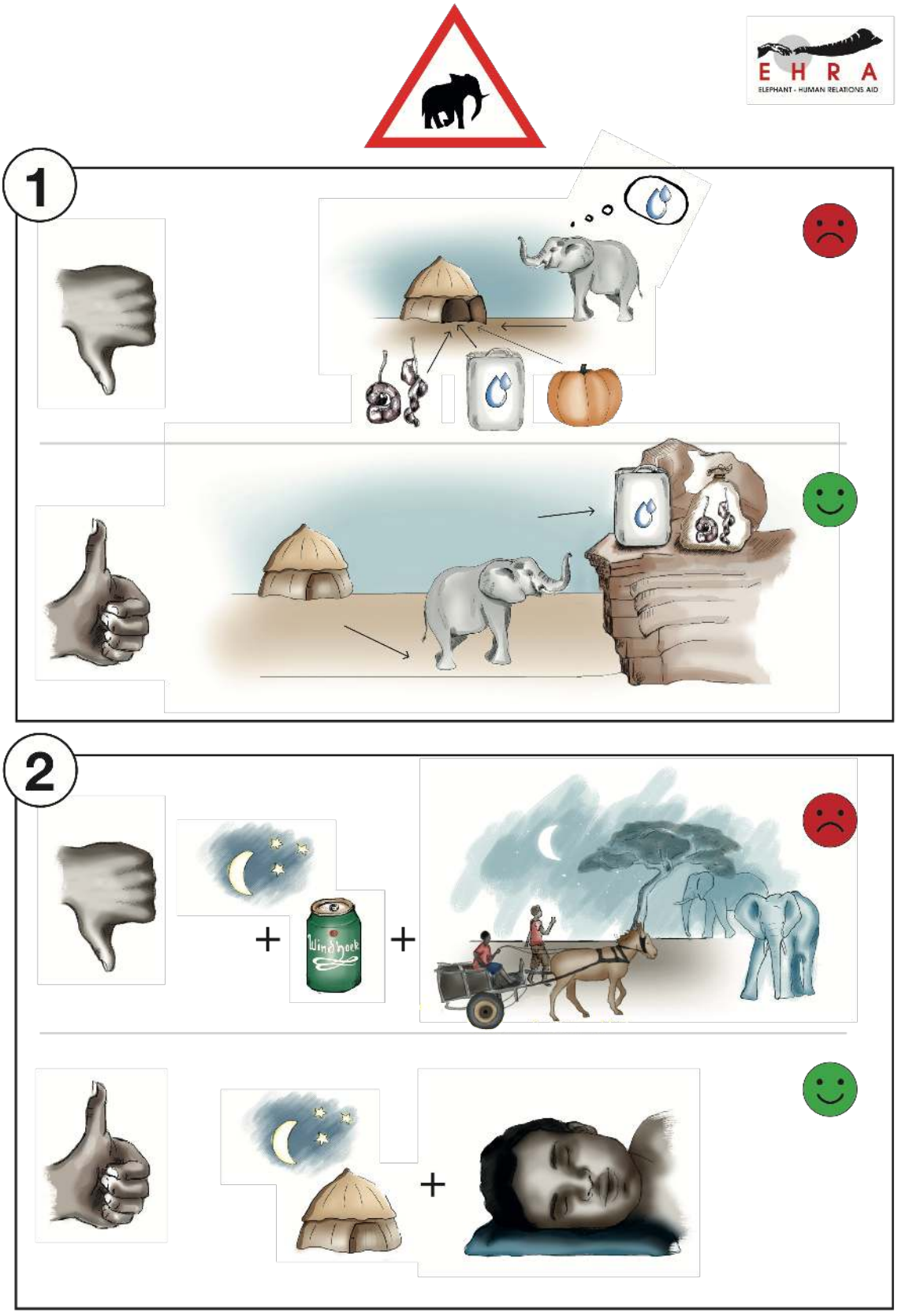
Don't shout at the elephant!



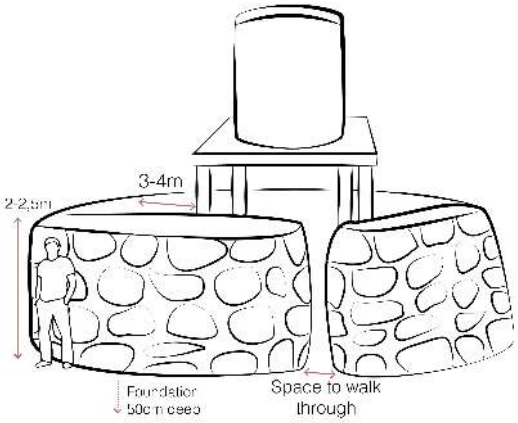
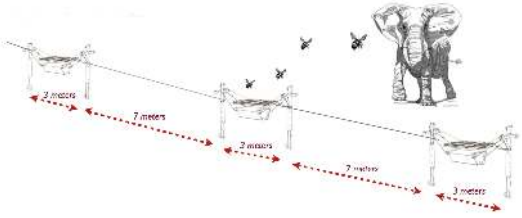
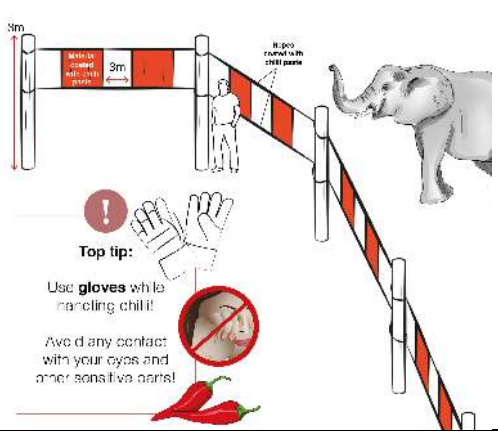
Don't light fires to scare elephants!



Don't throw rocks at the elephant!



Conflict Mitigation Methods

Method	Details
	**Sturdy Stone Wall** Approx. N$5000 per big stone wall ***Wall needs to be at least 2-2,5m high!*** <u>You need:</u> - 40 bags of cement (N$120 each) - Spade - Trowel - Wheelbarrow - Pickaxe - Gloves - A lot of water - Loads of sand - Many rocks - Manpower
	**White Rock Barrier** Approx. N$1700 per White Rock Barrier ***Barrier needs to be at least 3-4m wide!*** <u>You need:</u> - White paint (20l – N$500) - Brushes - Petrol (for cleaning brushes) - Many pointy rocks - Manpower
	**Beehive Fence** Approx. N$20000 per beehive fence → ***You can make money from honey & beeswax!*** Elephants will run from the sound of bees. Contact EHRA Staff for advice.
	**Chili Fence** Approx. N$550 per acre (4000m^2) <u>You need:</u> - 1kg fresh chili pods - 500g waste grease - 500ml waste engine oil - Squares of material (from an old rag or t-shirt) - 80m rope - 4 x 3m long poles - Gloves!

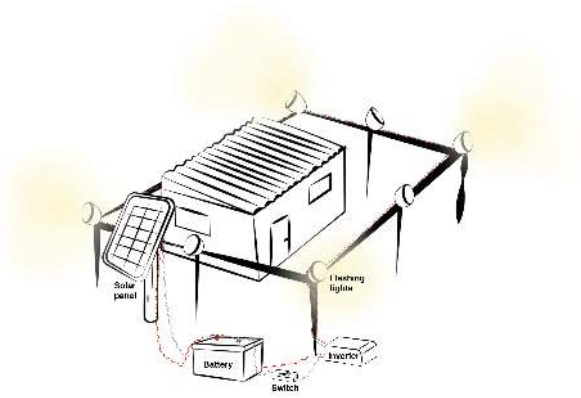
Chili Smoke

Burning chili is a good way to keep elephants away. They hate the smell, which irritates their nose.

<u>You need:</u>

- Fresh cow dung
- Wooden pole
- 100g chilli pods
- 100g waste chilli seeds
- Waste material

→ Break the chilli pods and mix with fresh cow dung and all other ingredients. Roll into a ball and place on a wooden pole. Set it alight in the evening. Be sure the wind does not blow the smoke toward your house, as it also is irritating to people. The smoke must blow in the direction an elephant might approach.

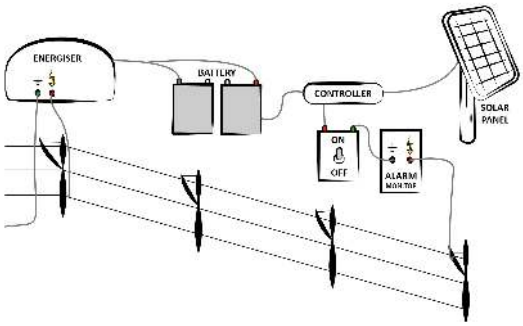


Flashing Lights

Flashing lights around your house/ farm/ garden make elephants and predators (such as lions) believe that humans are guarding the place with torches. This is enough for them not to approach.

For a cheap option, try out **flashing Christmas lights!**

Lights NEED to flash!

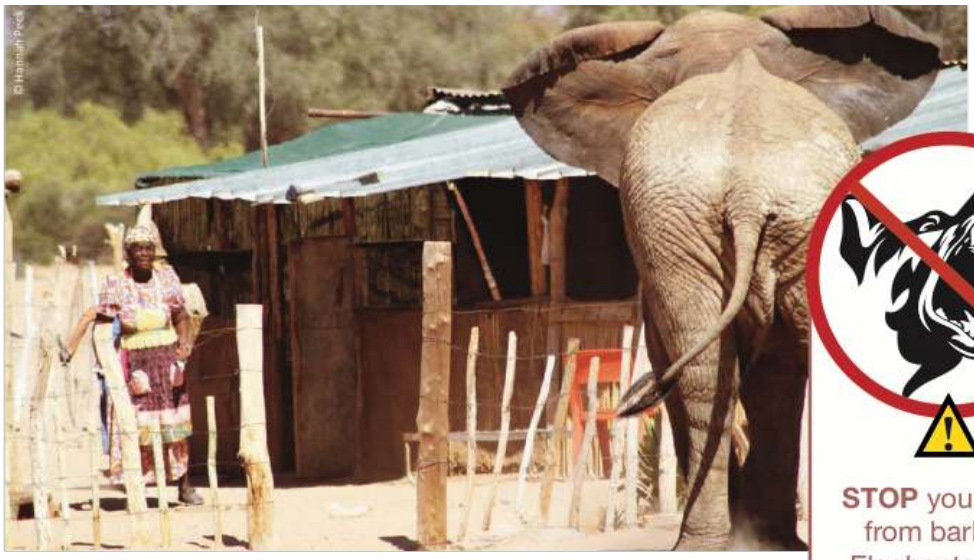


Electric Fence

approx. N$12000 + annual maintenance costs

The most effective elephant barriers IF they are
1. Suitably designed
2. Well managed and maintained
3. Fully supported by all stakeholders and the community! The fence should surround your farm but NOT cut off key waterholes!

Defend your farm!



Stay calm, talk to the elephant, make noise.

STOP your dogs from barking! Elephants react aggressively!

Sound

- **Clap hour hands rhythmically**
- **Bang pieces of metal together**
- **Talk loudly to the elephant!**

Be aware, that elephants get used to noise quickly, especially automatically created noise such as gunshots or fire crackers.

Avoid making the elephant angry. Angry elephants pose a threat to yourself and others.

Light

- Turn your torch ON and OFF
- If your torch has a FLICKER function, use it to scare the elephant away.
- Guard your house/ farm by walking up and down with your torch.

Elephants don't like flickering light pointed at them and will retreat.

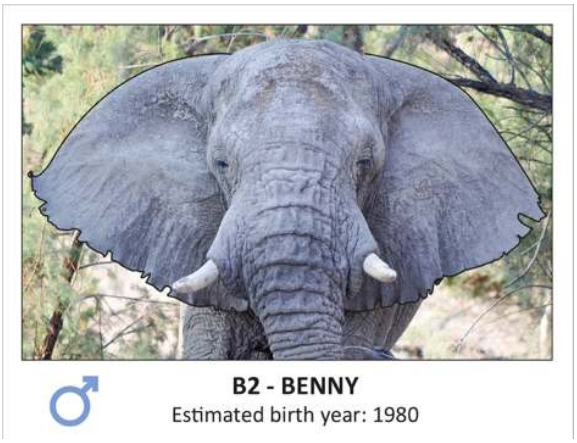
Avoid shining straight in their eyes, this might make the elephant angry!

„I have a vegetable garden and many flowers around my house. When elephants come towards my house, I stand outside, gently clap my hands and speak loudly to them. I say to them: `***Please, elephants, walk the other way, there is nothing for you here!***' And then they walk the other way and leave my house alone."

Know your elephants

How to identify elephants
It is important to know the elephants in your area. If you spend enough time around them and pay attention, you will quickly be able to identify them. This will help you to recognize specific characters and behave safely around them. It`s essential to be able to ID elephants in order to manage the population and conflict situations successfully.

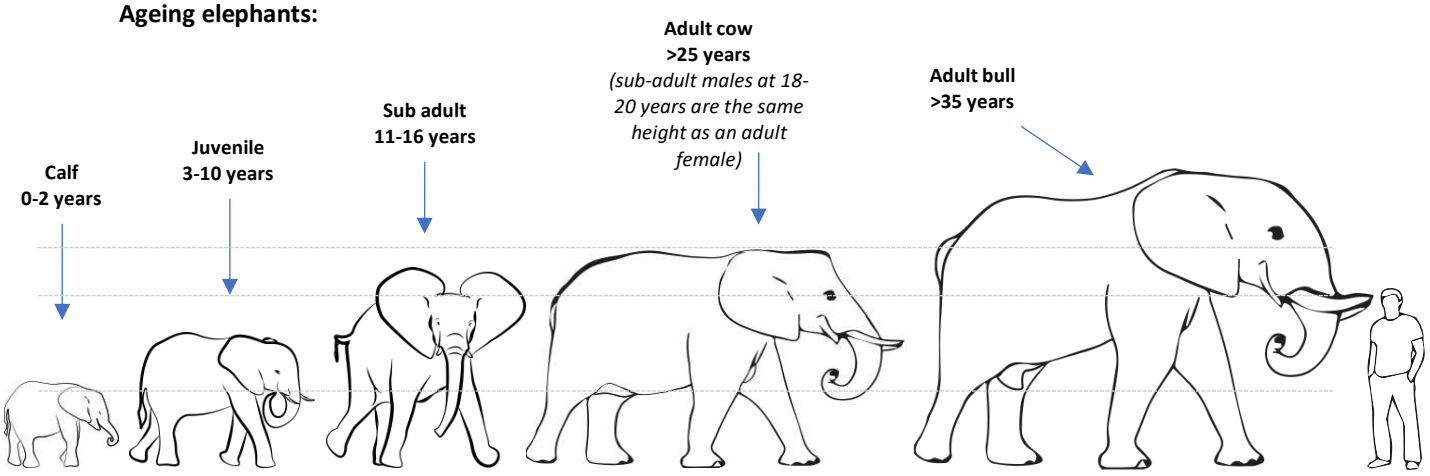
The ears:
When identifying elephants, the ears are usually the first thing to look at. Every elephant has a very unique ear pattern - the form of the ear, holes, tears, cuts and veins help to identify individuals. Tears or holes won't disappear but may change with time by ripping further or the appearance of new ones.



The tusks:
Tusks are normally the first thing you spot when looking at an elephant. Tusks can help to ID an elephant, but tusk shape changes with age: they grow larger, thicker or may break or fall out. Tusks are therefore only a temporary way to ID elephants.

The tail and other marks:
Tail form and hairs can be used for ID. Some elephants only have a few hairs, some none and others a lot. A kink in the tail, scars on the skin or old wounds or even a noticeable attitude can help to ID as well.

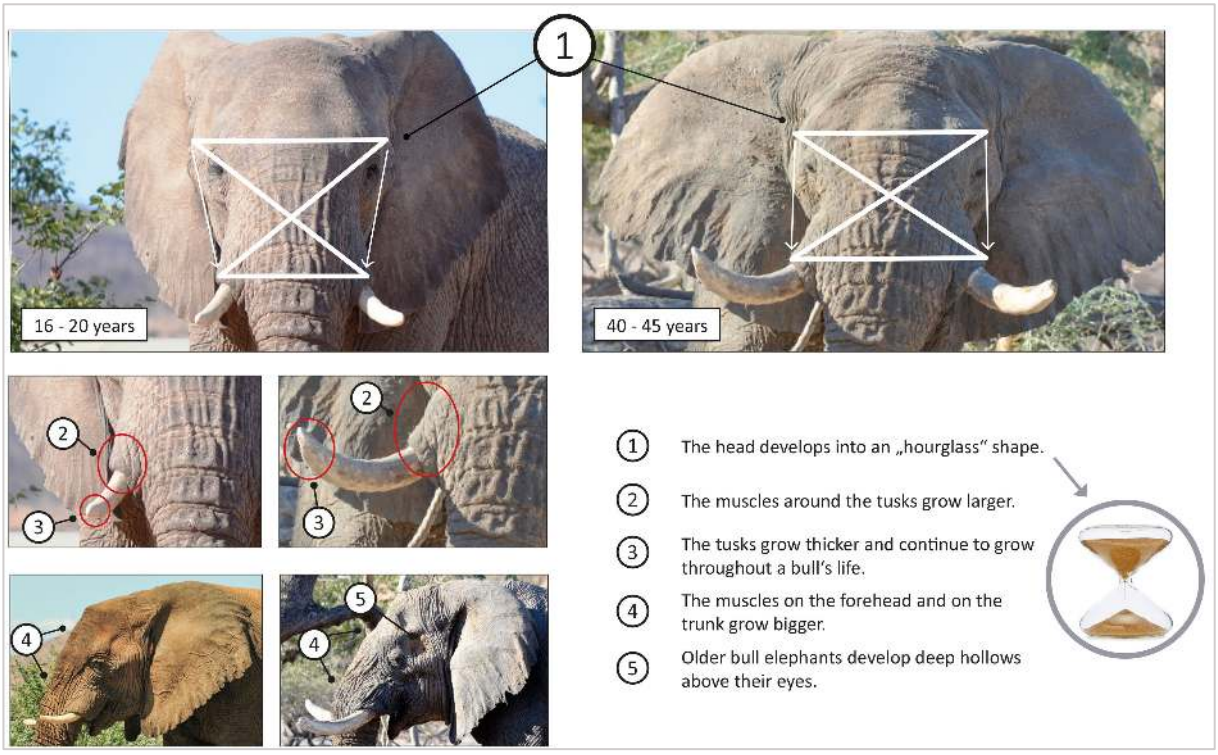
Ageing elephants:



It`s not easy to age elephants correctly. But a good age estimate helps to identify elephants.

How old is the elephant?

♂ Ageing bull elephants:



♀ Ageing cow elephants:

It's more difficult to estimate a cow's age, as a female's growth slows down after the age of 25. She tends to grow longer in appearance rather than taller. Identify the oldest females first, to be able to identify the herd.

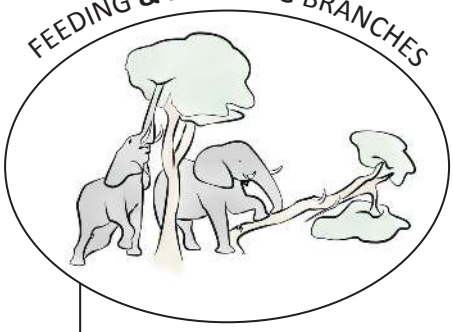
40-50 years old:	***20-30 years old:***	***<14 years old:***
Deep hollows above the eyes, low hanging ears and head, high shoulders, long body	Ears carried high, shorter body/"normal" length, no deep hollows above the eyes	Ears and head carried high, roundish head, thin small tusks, short body
		
		

Ecology

Elephants are among the most intelligent of the creatures with which we share the planet, with complex consciousnesses that are capable of strong emotions. Across Africa they have inspired respect from the people who share the landscape with them, giving them a strong cultural significance. As icons of the continent elephants are tourism magnets, attracting funding that helps protect wilderness areas. They are also keystone species, playing an important role in maintaining the biodiversity of the ecosystems in which they live as well as linkages in the food web.

Elephants can live anywhere there is adequate food and water, where rainfall ranges from 200 mm per year up to 1200 mm. In the Kunene Region, where they manage to survive with rainfall of less than 150 mm per year, they live at low density (1/100 km^2). Their diet is highly varied, according to season and availability of food. Elephants spend about 55% of their time eating; they consume about 4-6% of body weight daily, i.e., a 5,000 kg bull eats 200 to 300 kg of fresh plant material a day; a 2,800kg cow needs from 112 to 170 kg. Adults drink 170 to 230 litres of water at a time.

FEEDING & BREAKING BRANCHES

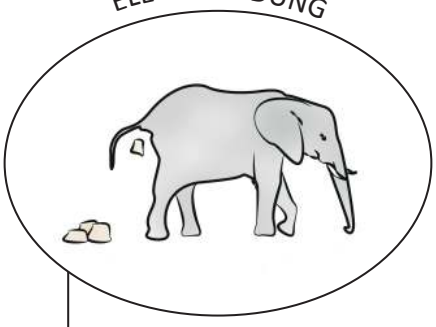


Elephants **break branches** and make them available for smaller animals (steenbok, duiker, dik-dik, **goats and cows**) to feed on.

PATHWAYS & DEEP TRACKS

Elephants leave **deep tracks** which **help seedlings grow**. **Elephant pathways** lead to hidden springs that help other animals and humans in droughts.

ELEPHANT DUNG



Elephant dung is...

1) perfect fertiliser for seeds 

2) food for rodents, insencts, beetles, monkeys, birds etc. 

3) home for beetles and insects 

4) mosquito repellant 

5) fire starter 

DIGGING FOR WATER

Elephants **dig for water** underground and make this resource available for other animals and humans to drink!

Plus:
In the rainy season elephants mud bath in the dams and by doing so widening the existing dam. Waterholes grow bigger in time thanks to the elephants.

Elephant meaning & Traditional beliefs

Namibia

In 2015, the UNAM student R. Kavari conducted a project investigating the cultural beliefs about elephants held by residents in Damaraland. Here are the results:

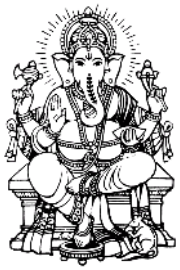
Dreams related	Meaning
Elephant bull chasing you	Luck
Elephant chasing you while you are sick	Sign of health, getting well, healed. To complete the healing process, the next day pick up an elephant dung and throw it.

Unusual activities	Meaning
An elephant comes around people and starts rumbling or is at homestead	Message of death of someone you know but mostly an elderly person or something is not usual
Elephants pass near the holy fire	
When a person encounters an elephant in the veld after a long time	Sign of luck
When a pregnant woman looks at an elephant's face while being pregnant	The unborn baby will have an ugly big nose
When a child gets lost in an area while there are elephants around	Elephants can lead the child near home unharmed or elephants do not harm children
When going for hunting and people encounter elephants	Luck

Africa

- Elephant meaning deals primarily with strength, honour, stability and patience.
- Elephants symbolize **power, intelligence and auspiciousness** (to bring luck) across various cultures.
- Saying "to see the elephant" means to see life, the world and to gain knowledge by experience (Oxford dictionary)
- When elephants come into our dreams, it is a message that we are able to deal with any obstacle with which we are faced. Dream elephants represent **power, sovereignty, stability, and steadfastness.**
- We gather more symbolic meaning by observing the elephant in nature where it is seen as a symbol of responsibility because it takes great care and responsibility of its offspring and elders. The elephant has immense **determination and loyalty** - always standing up for others and always defending members of the group in its natural habitat.
- Elephants also express advanced sensitivity and social connection, particularly during time of death - they travel to a specific place upon their death - fulfilling personal responsibility - even at the end of their days.
- In African tales, the elephant is portrayed as the **wise and calm chieftain**, who settles disputes between other forest animals.
- Beliefs on elephant dung (Namibia):
    - Elephant dung is chicken medicine: Leave the elephant dung in water and let it soak. Let the chicken drink the water and they will heal.
    - Break the dung apart and bath with it in the evening in order to protect yourself from evil spirits and dark witch craft.
    - Let elephant dung soak in water and bath the baby in it regularly. The child will grow up healthy and strong and will be protected from evil spirits.
    - A tea with elephant dung is good against diabetes.
    - Smoke the house with elephant dung to cleanse the house and chase evil spirits out.

Asia



- To the Hindu way of thought, the elephant is found in the form of **Ganesha** who is the god of luck, fortune and protection, and who is a blessing upon all new projects. Ganesha in all his magnificently vibrant elephant glory is intent on "bulldozing" obstacles on your behalf (male elephants are "bulls").
- Some Asian cultures also believe the elephant is a cosmic creature, and carries the world upon its back (much like the tortoise does in some tribal Native American myths).
- In Feng Shui, elephants are believed to bring good luck, protection, wisdom, and fertility.

Sources

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- Elephants Alive. http://elephantsalive.org, South Africa.
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This manual was compiled by PEACE Project Manager Christin Winter, June 2018 (updated December 2018) and includes notes from the previous PEACE Project info pack "Living with elephants" prepared by PEACE Project Coordinator Dr. Betsy Fox.

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