Geography HOMEWORK

8C 10 ANIMALS AND PLANTS OF AFRICA

Name

Tutor Group

Teacher

The homework booklet contains essential reading on

Ten plants and animals from Africa *plus* the planning pages for your African savannah essay.



Ten African plants and anaimals: Part 1. Africa is home to some of the planet's most spectacular wildlife, that has evolved over millions of years alongside unique plant species. In this homework you will read about three of these species. Be ready to answer questions next week.

#10 The Fever tree (Vachellia xanthophloea)

A medium to large sized tree approximately 15 to 25m tall, the fever tree has a very distinctive yellow trunk which is covered with a fine dust. If the powdery surface is rubbed away with the finger it will reveal a green bark beneath. It has bright yellow, golden, ball-like flowers which are sweetly scented. Growing on river banks, flood plains and swampy area, the fever tree gets its



common name from pioneers who believed that the tree caused illness and fevers. In fact, the fever was actually malaria, which was transmitted via mosquitoes that bred in the swampy fever tree habitat.

In reality, traditional medicines use the bark of the fever tree for treating fevers and eye infections. The roots can be powdered up as a treatment of malaria. The fever tree offers sustenance to a range of animals – baboons, monkeys and bush babies who eat the nutritious gum produced by the trees. Giraffes and monkeys eat the seed pods while elephants eat the young leaves and branches. Monkeys, butterflies, and are attracted to the flowers. This tree is popular with birds for nest building as the thorns help protect against predators such as snakes. In Europe, fever tree extracts are used as a flavouring in tonic water.

#9 African Buffalo (Syncerus caffer)

Buffalo are one of the most abundant of Africa's large herbivores, numbering just under 1 million in the whole of Africa. They are known to inhabit inland and coastal savannahs and even lowland rainforests, as long as they are close to a water source. Buffalo will migrate in search of lush grasses, following the rains as weather systems move north and south throughout the year. Buffalo usually live in herds of a few hundred but have been known to congregate in thousands on the Serengeti plains during the rainy season.

Homework N°1: continued

Living in large herds is one of the buffaloes many anti-predation adaptations. Large herds reduce the possibility of any individual being singled out by lions. Buffalo are a favourite of lions despite the fact that an adult buffalo can weigh up to 800kg, stand 1.5 metres tall and are armed with two vicious looking horns.

Outside national parks, these giants are considered crop pests and are seen as dangerous animals due to their size, aggressive nature, and formidable horns. In East Africa, they are known to break



fences, raid cultivated crops, and they may even spread bovine diseases to livestock. Many people are killed by angry buffalo each year in the African countryside.

#8 The Quiver Tree (Aloidendron dichotomum)

At a distance, the quiver tree may look like a trunk turned on the head with all the roots sprouting into the sky. Close up, you will see that all the fork-like branches end in a rosette of greenish leaves. The quiver tree can grow up to 9 metres and the stem can be over one metre in diameter. Quiver trees bloom with big yellow flowers in June and July and attract a varied range of insects.

The corky bark is filled with a white fibre that is able to store large amounts of liquid. The bark is also covered with a white powder that reflects the sun and therefore protects the plant from becoming too hot and burning in the tropical Sun. The quiver tree isn't actually a tree but a plant in the aloe family of species,

which includes the more famous aloe vera succulent. The quiver tree grows in desert-like areas, preferably where there are mountains such as Namibia and South Africa. They acquired the name "quiver trees" here as the branches and bark are used by Kalahari San Bushmen to make quivers for their arrows.



Learning about the meaning and spelling of key biogeography words.

For **Homework 2** you must read the following key words and definitions and practise the spelling. You must be ready to spell these words and remember what they mean for next week's homework check.

Practise the spellings on the next page. Fold this page in half along the dotted line to hide the words while you spell them.

A particular geographical area and conditions in which plants, fungi, bacteria and animals live
The living and non-living elements of an environment linked together by transfers of nutrients and energy.
An ecosystem on a global scale, such as tropical rainforests or savannah grasslands.
The relatively thin layer of gases surrounding the planet.
The two circulatory cells north and south of the Equator meeting at the Inter-Tropical Convergence Zone.
The two cells on the poleward sides of the Hadley Cells.
Animals which become active during the night.
The movement of animals from one place to another, often in search of food or water.
Animals having a restricted area in which they live, which they guard against intrusion by other members of their same species.
A plant or animal that is drought-tolerant.

Practise your spellings

Practise your spellings on this page. Spell the word on the line above the definition and then check. If you get it wrong you can try again.

A particular geographical area and condition in which plants and animals live

The living and non-living elements of an environment linked together by transfers of nutrients and energy.

An ecosystem on a global scale, such as tropical rainforests .

The relatively thin layer of gases surrounding the planet.

The two circulatory cells north and south of the Equator meeting at the ITCZ.

The two circulatory cells on the Equatorial side of the Polar Cells.

Animals which become active during the night.

The movement of animals from one place to another, in search of food/water.

Animals having a restricted, and often defended, area in which they live,

A plant or animal that is drought-tolerant.

African plants and animals: Part 2. Read about three species from the remarkable biomes of Africa.

#7 Black Rhinoceros (Diceros bicornis) and White Rhinooceros (Ceratotherium simum)

The rhinoceros is Africa's armoured giant – like a tank on legs – and has been on our planet for millions of years. The largest weigh in at around 1,300 kilogrammes and stand over one and a half metres tall. **Most wild African rhinos are now found in just four countries: South Africa, Namibia, Zimbabwe and Kenya where they roam grassland and open savannah.**



There are two species found in Africa; the white rhino and the black rhino. The most notable difference between the two are the hooked upper lips on the black rhino. This distinguishes them from the white rhino, which has a square lip. The white Rhino has two sub-species, the Northern and Southern. Black rhinos are browsers rather than grazers, and their pointed lip helps them feed on leaves from bushes and trees. Both species play an important role in the ecosystem, consuming large amounts of vegetation. This helps shape the African landscape and benefits other animals through creating a healthy balance in vegetation types.

The greatest threat facing African rhinos is poaching for the illegal trade in their horns. This trade has soared in recent years. The number of rhinos poached in South Africa alone has increased by 9,000% since 2007 - from 13 to a record 1,215 in 2014. There are now approximately only 25,000 left in the wild. This number though has increased in recent years due to extensive conservation efforts. The last northern White Rhino male died in Kenya, aged 45, in early 2019. Just two females remain. Conservation efforts are centred around frozen eggs and sperm from which scientists hope to create embryos which can then be implanted into Southern white Rhino mothers. Could this species be brought back from the brink of extinction?

#6 The Baobab Tree (Adansonia species)

The majestic baobab tree is an icon of the African continent. It is a prehistoric species which predates both mankind and the splitting of the continents over 200 million years ago. Of the nine species of baobab, six are

Homework N°3: continued

native to Madagascar. In continental Africa the baobab is found on the savanna grasslands where during the rainy season it absorbs and stores water in its vast trunk. **This allows the baobab to produce a nutrientrich fruit in the dry season when all around is parched and arid. A single baobab tree can hold up to 4,500 litres of water in its trunk.**

Baobab trees grow in 32 African countries. They can live for up to



5,000 years, reach up to 30 metres in height. A single trunk can be up to an enormous fifty metres in circumference. They are often referred to as upsidedown trees, thanks to the root-like appearance of their tangled branches, which are leafless in the dry season.

Baobab trees can provide shelter, food and water for animals and humans, which is why many savannah communities have made their homes near Baobab trees. Every part of the baobab tree is valuable: the bark can be turned into rope and clothing; the seeds can be used to make cosmetic oils; the leaves are edible; the trunks can store water and the fruit is extraordinarily rich in nutrients and antioxidants.

#5 Leopards (Panthera pardus)

The leopard is the most secretive and elusive of all the big cats. However, they can be found in a wide range of habitats: from deserts and semi-desert regions of Southern Africa; to arid regions of North Africa; savannah grasslands of East and Southern Africa; the mountainous environments on Mt. Kenya or the rainforests of west and central Africa. They even live in some urban and suburban parts of sub-Saharan Africa. Leopards are predominantly nocturnal, solitary animals. Much smaller than lions, they may weigh up to 65kg.

Homework N°3: continued

However, kilo for kilo, the leopard is the strongest climber of all the big cats. Leopard shoulder blades even have special attachment sites for stronger climbing muscles. These cats spend much of their time in trees, even when stalking prey and eating. Both lions and hyenas will steal away a leopard's kill if they can. To prevent this, the leopard will often store its kill high up in tree branches. Here it can feed in relative safety.

These big cats have long been hunted for their soft fur — used to make coats and ceremonial robes — as well as for their claws, whiskers, and tails. Sadly, conflict with humans have greatly reduced this species' population throughout most of their range.

Homework Nº4: Set date

Check date

African plants and animals: Part 3. Read about three more species from the remarkable biomes of Africa. Be prepared to answer questions next week.

#4 The Sausage Tree (Kigelia africana)

As the common name "sausage tree" implies, the fruit of the sausage tree resembles a huge sausage. The fruit in present on the tree through most of the year making it easy to identify. Each fruit can grow up to 1 metre in length, 18 centimetres in width and can weigh up to 10 kilograms. The tree itself can grow up



to 20 metres in height. It has bright red flowers that attract birds and fruit bats. Young monkeys are known to dip their faces into the flowers for the nectar.

Widely distributed throughout tropical Africa, there is a long history of using the fruit of the sausage tree to fight fungal infections, treat eczema, psoriasis, boils and even leprosy. It is also used to cure postpartum haemorrhaging, diabetes, pneumonia and rheumatism, while the fruit can also be used to ferment beer.

The sausage fruit is eaten by several species of mammals, including baboons, bush pigs, elephants, giraffes, hippos, monkeys and porcupines. The sausage tree is usually found growing at low altitudes on riverbanks and streams, on floodplains as well as in open woodland.

#3 African Elephants (Loxodonta africana and Loxodonta cyclotis)

The African elephant is the largest animal walking the Earth. Their herds wander through 37 countries in Africa. They are easily recognized by the trunk, which is used for communication and handling objects. Their large ears allow elephants to radiate excess heat. Upper incisor teeth develop into tusks in African elephants and grow throughout their lifetime.

Elephants can be found in 2 very different types of biome in Africa (savannah and the rainforest) where they have evolved into two sub-species. Savannah

elephants (*Loxodonta africana*) are larger than forest elephants (*Loxodonta cyclotis*), and their tusks curve outwards.

In addition to being smaller, forest elephants are darker and their tusks are straighter and point downward. There are also differences in the size and shape of the skull and skeleton between these two subspecies. It is estimated that probably one quarter to one third of the total African elephant population is made up of forest elephants, mostly found in the rainforests of the Congo basin.



The largest elephants can weigh up to 6 tonnes and stand almost four metres tall at shoulder height. They are listed as 'vulnerable' due to illegal poaching of their tusks for the international, underground ivory trade. African elephants also have less room to roam than ever before. Humans are converting land for agriculture, settlements and developments across the elephants former ranges. There are approximately 415,000 left living in the in the wild.

#2 The Acacia Tree

The Umbrella Thorn, or Acacia t with an umbrella shaped canopy w is primarily native to the savannah drought-tolerant species being rain, high temperatures and poor soil quality.

or Umbrella Thorn

tree, is a small to medium sized tree which grows to heights of 5 to 20m. It grasslands. Acacias are a very able to survive long periods without

It overcomes these problems by having a deep taproot system that can penetrate to depths of 35 to 40 metres. Its leaves have a small surface area to minimise transpiration losses in the heat of the day. Most leaves are clustered within the dense campy of the tree. This helps prevent leaves being desicated by the hot, dry trade winds blowing from nearby deserts. These drought-tolerant adaptations are called xerophytic.

Along its branches acacia trees have both straight and hooked thorns to help protect its highly nutritious leaves and pods from herbivores, such as giraffes. Many bird species take advantage of this protection and build their nests in the canopy. Acacia flowers are small and white, highly aromatic, and occur in tight clusters. The often flower in December but this can be dependent on the seasonal rainfall. The thick bark has a rough feel and is grey to black in colour and is resistant to fire (a pyrophytic adaptation) which helps the tree survive the grass fires which regular sweep the savannah prior to the rains arriving.

The acacia's deep tap roots allow saplings to clump together when young. This keeps grass-growth to a minimum and reduces potential fire damage. While the outer saplings may be grazed or damaged by bush fires those in the centre have enough time to upwards and develop the thick pyrophytic bark.

Throughout much of Africa, the roots of the acacia have been used to make spear shafts, fishing spears and the frameworks for temporary shelters.

#1 Lions (Panthera leo)

Lions are the most sociable of all big cats. They live in groups called prides, which usually consist of related females and their cubs. Dominant males, with their flowing manes, fight to maintain breeding rights with the Pride's lionesses. Adult males weigh in at around 190kg, with the females weighing around 130kg. Lions usually survive in the wild for around 10 to 14 years.



Lions used to be common across Africa, Asia and Europe. Conflict with humans saw them slowly eradicated from Europe, with the last European lions disappearing from the Caucasus Mountains around 1,000 years ago. Asiatic lions have slowly been forced out of their strongholds, becoming extinct in Turkey and Saudi Arabia during the last decade of the 19th Century. Lions become extinct in Iraq in 1918 and the last Iranian lion was spotted in 1942. Today, the last toehold of the Asiatic lion is the Gur National Park in Gujarat, north-west India. Here 650 wild lions cling on. Indian lions saw their numbers decline rapidly under British rule. Lion hunting was a popular sport amongst the British Army officers. In 1857, during the Indian Rebellion, one British officer is reported to have shot over 300 lions for sport.

Powerful and majestic, the 'King of the Beasts' has no natural predators. But unthinkably, African lion numbers have plummeted by over 40% in the last two decades. This is due to the loss or disturbance of their habitats and ever growing conflict with people. Three-quarters of African lion populations are now in decline. With only around 20,000 left in the wild, lions are now officially classified as 'vulnerable' to extinction. Three of the five largest remaining populations are in Tanzania. Today, 80% of all the world's wild lions live in eastern or southern Africa

Lions are the top predators in their environment. This is mainly the savannah grasslands, but they can also be found hunting in the desert or open woodlands. Lions play a crucial role in keeping a healthy balance of numbers among other animals, especially herbivores like zebra and wildebeest. This in turn in turn influences the condition of grasslands and scrub forests. The loss of lions has seriously altered the balance in many of our planet's ecosystems.

Set date date for in-class write-up

Your key assessment for this unit will be to complete an essay answering the following question:-

What are the trials of life on the African savannah?

In this essay you should ensure that you try to cover some or all of the points. below. Make sure each paragraph flows clearly into the next paragraph.

 Describe the location of the African savannah and outline its climatic characteristics. You may like to locate an example area such as the Serengeti.

Section 2 Sec

Describe how and why vegetation, such as trees and grasses, have adapted to grow
 within the savannah.

 Describe how large grass eating herbivores, like wildebeest and zebra, cope with the wet and dry seasons?

Describe the importance of ash from OI Doinyo Lengai on the short grass plains?

Section Sec

Outline any current threats to the natural systems of the savannah.

Draw an overall conclusions about the health of savannah and any future 'trials of life.'

You will have one lesson to write up this essay, in exam conditions, so you should plan to write for around 45-50 minutes. You will be allowed to bring in this booklet with up to four pages of prepared notes and reminders for you to use.

You will be credited for diagrams as well as writing, should you feel they are relevant. Key words should be used throughout, including those you learned to spell in Homework N°2. The essay will be marked using the standard Geography Department essay marking grid which is shown on the next page.

Use the grid to ensure you try reach the higher levels. If you do not use examples you will score poorly on Section 3. If you do not write in clear paragraphs and mis-spell key words you may score less well on the Section 4.

The key to a good essay is good planning, so use the homework time well.

Essay marking grid: planning for the best mark.

Your teacher will mark your essay out of 40 using the grid below. The general age-related expectations for each essay are indicated with the zone shaded grey.

Mark	1 2	2	3	4	5	6	7	8	9	10
1. Knowledge of the content and of the geography theory: facts, figures, locations, etc.	Basic facts loosely linked to question.		Some relevant knowledge integrated into the essay. A partial answer.		The an releva Accu Reaso know Facts show imbal	The answer is relevant and accurate. Reasonable knowledge. Facts may show some imbalance.		Sound and frequent evidence of accurate knowledge throughout the essay.		ong nce of ough, ed and urate vledge ghout.
Mark	1 2	2	3	4	5	6	7	8	9	10
2. Understanding and application: critical commentary on the above knowledge.	Little evidence of being able to explain elements of the essay.		Some evidence of understanding and a partial explanations with occasional use of specialist vocabulary.		Reasonable and clear explanations and some evaluation. Attempts to use specialist vocabulary correctly.		Frequent evidence of understanding and well developed analysis. Good use of specialist vocabulary.		Str evide crit comm of con and pri Corre regula spec vocat	ong ince of tical nentary ncepts inciples. oct and r use of cialist pulary.
Mark	1 2	2	3	4	5	6	7	8	9	10
3. Case study and the use of examples, including appropriate and located examples to illustrate points.	Superfic and/or ra used.	ial rely	Limite occasio of c stud exam sho imbala lack re det	ed and nal use ase ies – nples ow nces or levant cail.	Exampl case s are cle are us suppo purpose ess	les and tudies ar and sed to ort the e of the ay.	Examples are developed, balanced and support the argument or enhance the content of the essay.		Examp w develo integra the st and pu the e	oles are rell ped and ted into ructure rpose of essay.
Mark	1 2	2	3	4	5	6	7	8	9	10
4. Quality of argument and the written response to the question. Spelling, punctuation and grammar (SPaG).	Language basic and simplifie Concepts clarity. Lit sense of fo on the ta Poor SPa	e is over ed. lack ttle ocus ask. aG.	Argume not develog expre clearl organi of ideas imbala A few e genera	ents are fully bed nor essed y. The sation s shows ances. rrors in I SPaG.	Argume logica expre with clarit attem balance focus e tas Some errors i	ents are I and essed some y. An apt at e and a on the sk. minor n SPaG.	Argum evalua are acc logica expre with c Balance clear se foc Few er SPa	ents & ations curate, il and essed larity. ed with ense of us. rors in aG.	Argum deta focuss logica are ex cohere confic Structur flain imagi with ne in S	ents are ailed, aed and I. Ideas pressed ntly and dently. re shows r and nation p errors PaG.

Planning your essay: preparing notes for the task.

You should use the next four pages to make notes which may refer to when writing your essay in class. These notes are the only information you may use during the essay writing, so you are advised to plan carefully. You should plan for each paragraph including facts, figures and any examples you intend to use in the essay.

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Revie	w #Four: African plants and animals Part 3	√x
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GEOGRAPHY Homework

8C AFRICAN BIOMES Ten plants and animals of Africa.



People

Places

Pattern

Process