

Tick-Smart Kids:

Learning about ticks and
staying safe.





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YUNIBESITHI YA PRETORIA



Authors:
Danielle de Villiers &
Darshana Morar-Leather



Mbali loves her home.
She loves her family.
Yet... there is one thing
she cannot agree with...



The food her family ate!
Bugs for breakfast.
Bugs for lunch.
Bugs for dinner.
Bugs. Bugs. Bugs.
BUGS!

Mbali knew in her heart
that the bugs had
feelings too.



The next morning, it was
Mbali's birthday!

"Good morning
sweetheart and happy
birthday!"

Mbali's mom greeted
her as the morning sun
danced through her open
curtains.

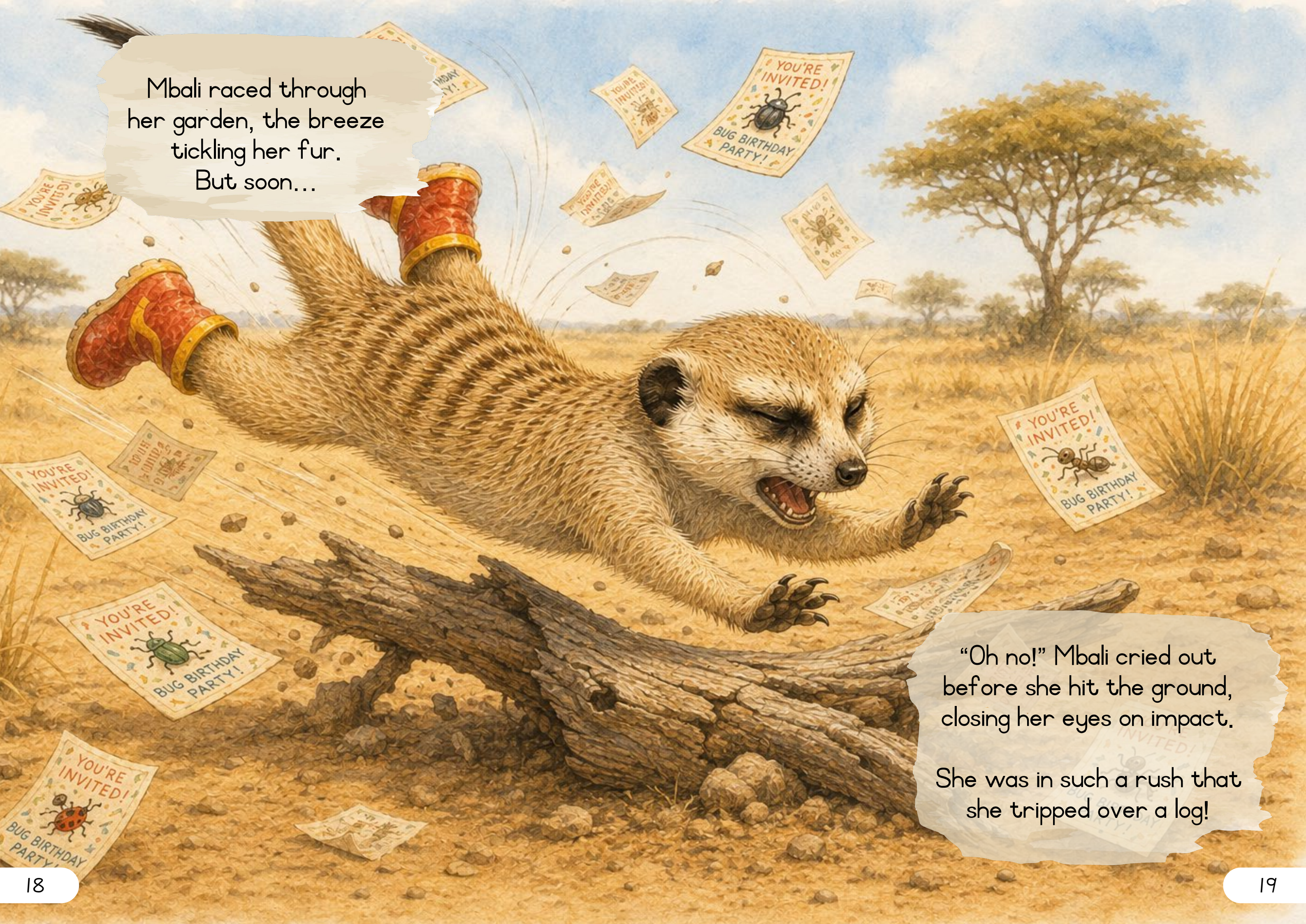




"Go on, make a wish," Mother smiled.
"It's your special day."
"Hmm... I wish... I wish..."
Mbali spent a long while thinking of
the best birthday wish ever.
Finally, she decided...
A party with all the bugs in the
garden!

Mbali spent the whole morning making the prettiest invitations. When she finished the last one, she slipped on her sturdy yellow boots to protect her paws in the tall grass. Now she was ready to begin her mission: to make friends with every bug in the garden.





Mbali raced through
her garden, the breeze
tickling her fur.
But soon...

“Oh no!” Mbali cried out
before she hit the ground,
closing her eyes on impact.
She was in such a rush that
she tripped over a log!



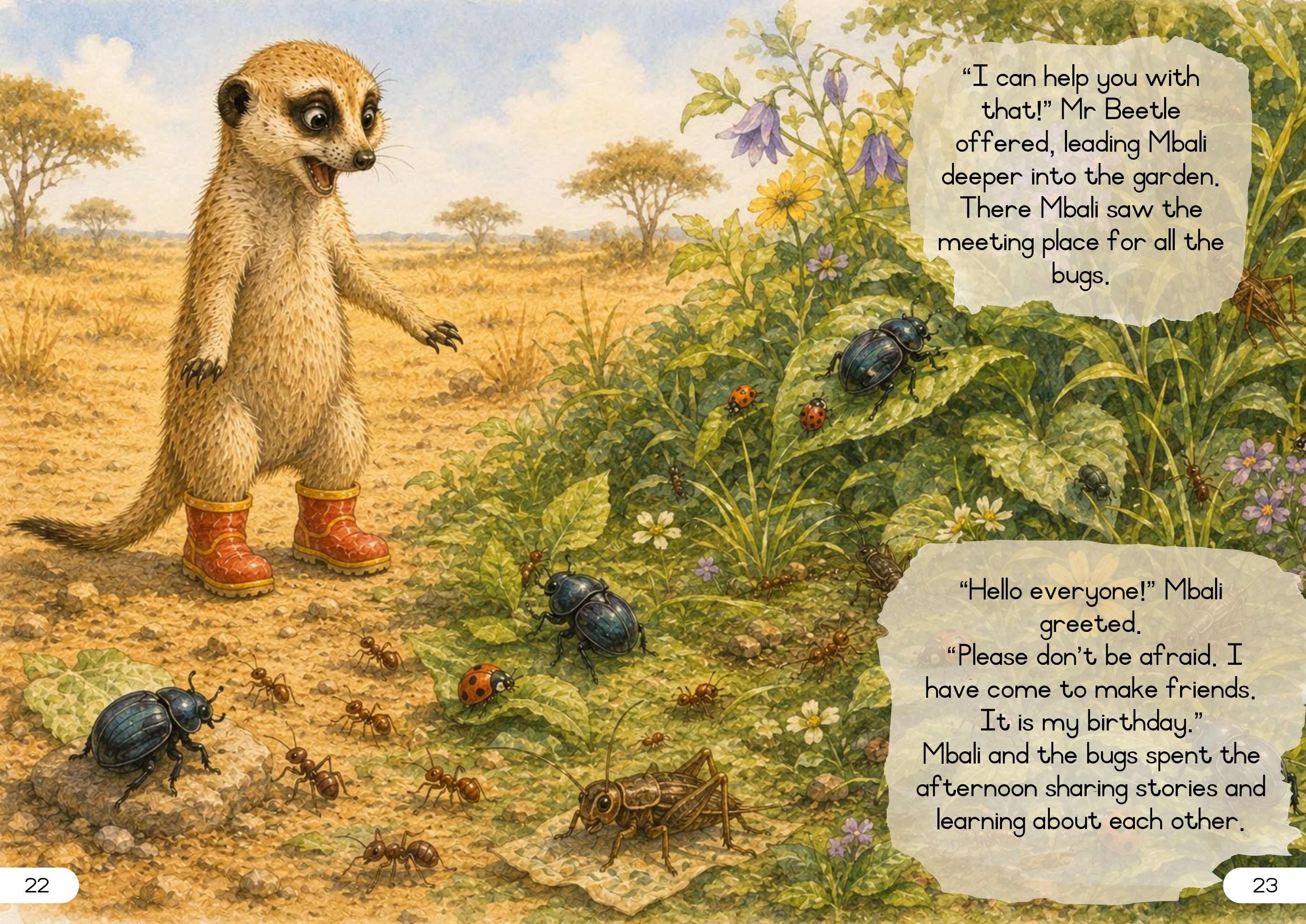
Suddenly, when Mbali opened her eyes, she spotted the beetle she had set free just the other day.

"Hi, Meerkat," said Mr Beetle.

"Are these invitations for a party? Please, can I come too?"

"Sure!" Mbali said with glee.

"I want to invite all the bugs in the garden."



“I can help you with that!” Mr Beetle offered, leading Mbali deeper into the garden. There Mbali saw the meeting place for all the bugs.

“Hello everyone!” Mbali greeted.

“Please don’t be afraid. I have come to make friends. It is my birthday.” Mbali and the bugs spent the afternoon sharing stories and learning about each other.

Mbali didn't notice that
not all bugs are the
same.

Some bugs help gardens
grow, while others can
be dangerous.

Nearby, a small tick
was crawling closer and
closer...



So close that, while the buzz of the party was in full swing, the tiny tick crept into Mbali's fur. Ticks like warm, hidden places. The tick found a soft spot behind Mbali's ear and bit her.



Mbali did not even feel the tick biting. Ticks have special saliva that allows them to numb the skin and eat, letting them stay hidden for a long time. "Goodbye, friends," Mbali said. "I need to go home now. I don't want my mommy to worry."





Ticks on Animals



Ticks are small arachnids.
They have 8 legs and live on many animals.

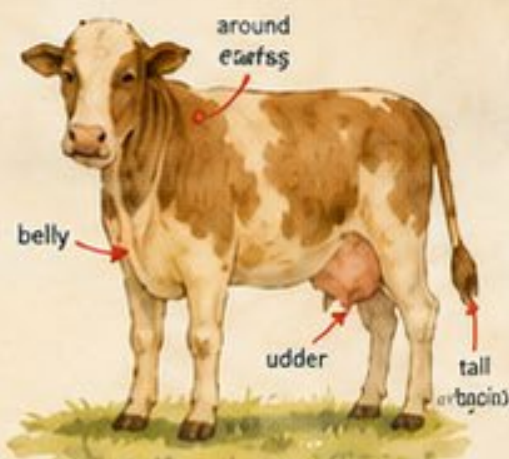
DOG

Brown dog tick
(*Rhipicephalus sanguineus*)



COW

Blue tick
(*Rhipicephalus microplus*)



Brn tick
(*Rhipicephalus microplus*)



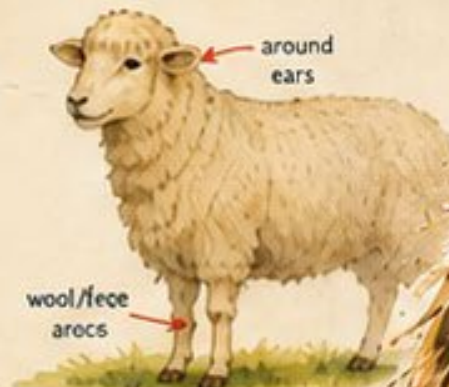
HORSE

Ticks can attach
under the mane
or on the groin
between front
hind legs



SHEEP

Ticks can attach
around the ears
and on one of the
hooves.



CAT

Ticks are often
found on the
head and
neck.



WILD ANTELOPE

Ticks can attach
around the ears
and on the
groin area.



After ten days, Mbali started to feel unwell. She had a high fever, and her body felt sore. Her mother took her to the veterinarian, a special doctor who knows how to help animals. There, they found out that Mbali had Tick Bite Fever, an illness caused by pathogens—teeny tiny germs that the tick had been carrying. The veterinarian used special tweezers to pull the tick straight out without twisting it. Mbali received medicine to fight the germs, and soon she began to heal.



Once Mbali was well again,
Mommy hugged her close.
She was so happy that Mbali was
healthy again.

Mommy had something very
important to share.

“The one behind this was a tick,”
her mother explained.

“Ticks attach to both animals and
people and feed on blood.”

“They are very small, but they
can make you very sick.”

“If you ever notice a tick
on yourself or someone
else, always tell a trusted
adult,” Mommy said.

“The golden rule is this: Be
quick like lightning to spot
the ticks, and steady like a
rock when they are being
removed.”



From that day on, Mbali always remembered to be careful while playing outside with her bug friends. She never forgot the golden rule.

The End



Idili
lezinambuzane
likaMeerkat Mbali

Ababhali:
Danielle de Villiers &
Darshana Morar-Leather



UMbali uyalithanda
ikhaya lakhe.
Uyawuthanda
umndeni wakhe.
Nokho...
kunento eyodwa
angavumelani nayo...



Ukudla umndeni wakubo owawuwudla!
Izinambuzane njengesidlo sasekuseni.
Izinambuzane njengesidlo sasemini.
Izinambuzane njengesidlo sakusihlwa.
Izinambuzane. Izinambuzane.
Izinambuzane. IZINAMBUZANE!
Enhliziyweni yakhe uMbali wayeyazi
ukuthi nezinambuzane nazo
zinemizwa.



Ngakusasa ekuseni,
kwakuwusuku lokuzalwa
lukaMbali!

“Sawubona, sithandwa sami,
futhi ngikufisela usuku oluhle
lokuzalwa!”

Umama kaMbali wamubingelela,
labe ilanga lasekuseni lidanisa
phakathi kwamakhethini akhe
avuliwe.





“Qhubeka, yenza isifiso.” Umama wamomotheka.

“Lolu usuku lwakho olubalulekile.”

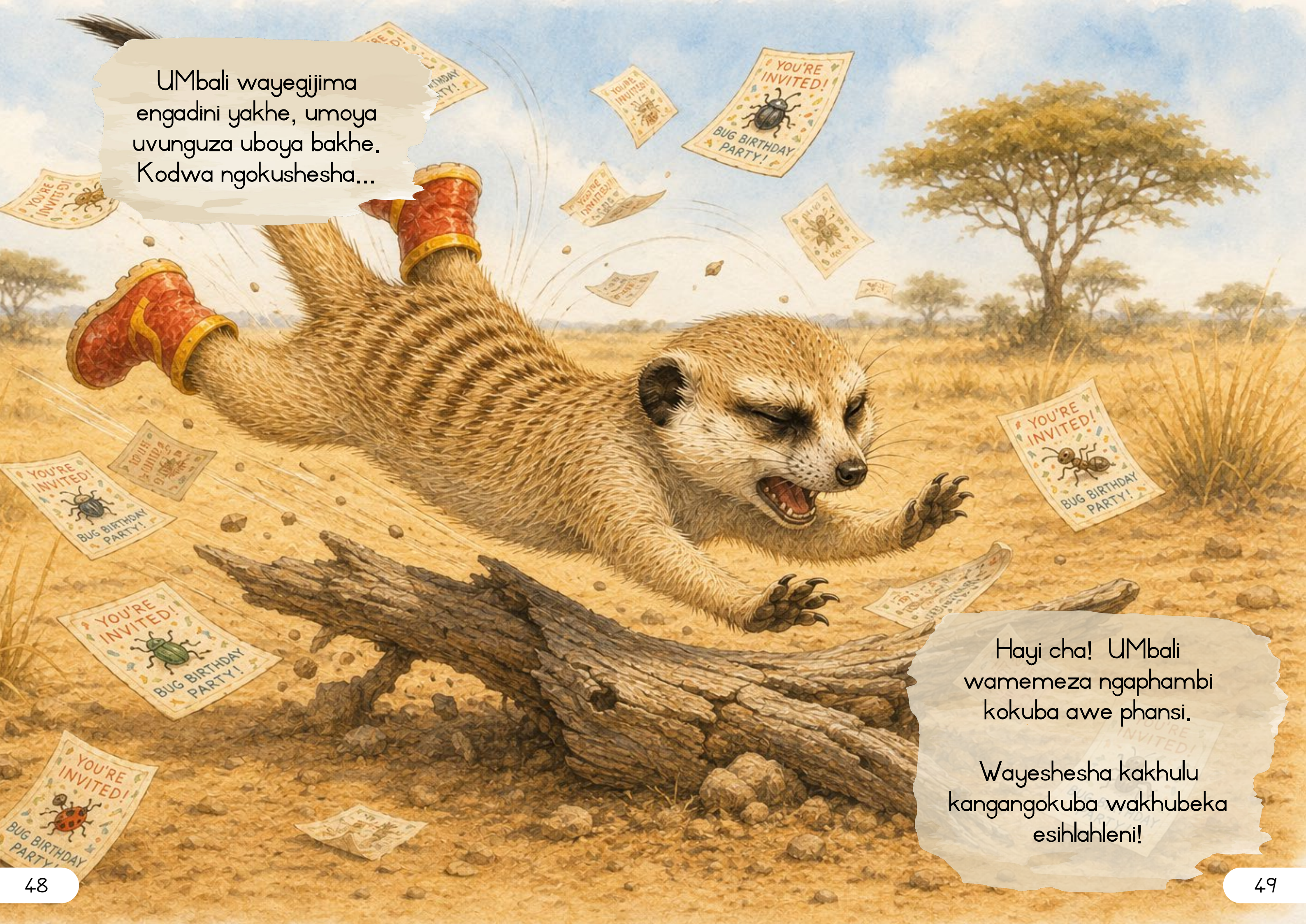
“Hmm... ngifisa... ngifisa...”

UMbali wachitha isikhathi eside ecabanga ngesifiso esihle kakhulu sosuku lwakhe lokuzalwa.

Ekugcineni, wathatha isinqumo... Idili elinazo zonke izinambuzane engadini!

UMbali wachitha ikuseni
lonke esenza izimemo
ezinhle kakhulu.
Wagqoka amabhuzu akhe
ukuze aqale umsebenzi
wakhe wokwakha
ubungane nazo zonke
izinambuzane zasengadini.





UMbali wayegijima
engadini yakhe, umoya
uvunguza uboya bakhe.
Kodwa ngokushesha...

Hayi cha! UMbali
wamemeza ngaphambi
kokuba awe phansi.
Wayeshesha kakhulu
kangangokuba wakhubeka
esihlahleni!



Ngokungazelelwe, lapho uMbali
evula amehlo akhe, wabona
ibhungane awayelisizile ngayizolo.

“Sawubona, Meerkat”, kusho
uMnumzane uBhungane.
“Ingabe lezi izimemo zomcimbi?
Ngicela ukuza nami?”

“Impela!” Kusho uMbali
ngenjabulo.
“Ngifuna ukumema zonke
izinambuzane engadini.”



“Ngingakusiza ngalokho!”
UMnumzane uBhungane
wazinikela, eholela
uMbali ekujuleni engadini.
Eveza...
Indawo yokuhlangana
eyimfihlo yazo zonke
izinambuzane.

“Sanibonani nonke!” UMbali
wababingelela.
“Ngicela ningesabi. Ngize
ukuzokwakha ubungane.
Usuku lwami lokuzalwa.”
UMbali nezinambuzane
bachitha intambama bexoxa
izindaba futhi besazana.

UMbali akazange aqaphele
ukuthi akuzona zonke
izinambuzane ezifanayo.
Ezinye izinambuzane
zisiza izingadi zikhule,
kuyilapho ezinye zingaba
yingozi.
Eduze, kwakunomkhaza
omncane owawulokho
usondela...





Wawuseduze kakhulu
kangangokuthi, lapho
umhlangano usugcwele
umsindo, umkhaza omncane
wangena ngaphansi koboya
bukaMbali.
Imikhaza ithanda izindawo
ezifudumele nezifihlekile.
Umkhaza wathola indawo
ethambile ngemva
kwendlebe kaMbali futhi
wamluma.

UMbali akazange akuzwe ngisho nokulunywa umkhaza.

Imikhaza inamathe akhethekile angenza isikhumba sibe ndikindiki, ekuwavumela ukuthi ahlale efihlekile isikhathi eside.

“Nisale kahle, bangani”, kusho uMbali.

“Kumele ngiye ekhaya manje. Angifuni umama wami akhathazeke.”





Ticks on Animals



Ticks are small arachnids.
They have 8 legs and live on many animals.

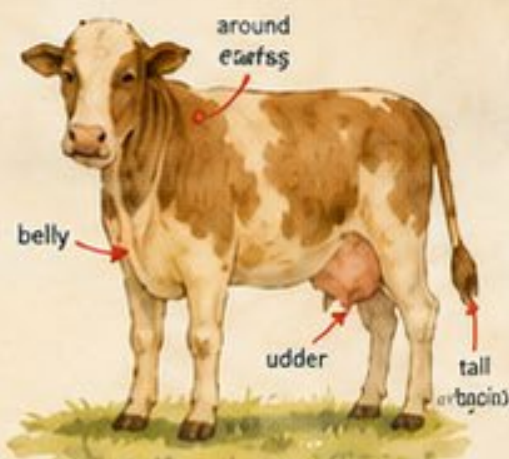
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Brown dog tick
(*Rhipicephalus sanguineus*)



COW

Blue tick
(*Rhipicephalus microplus*)



Brn tick
(*Rhipicephalus microplus*)



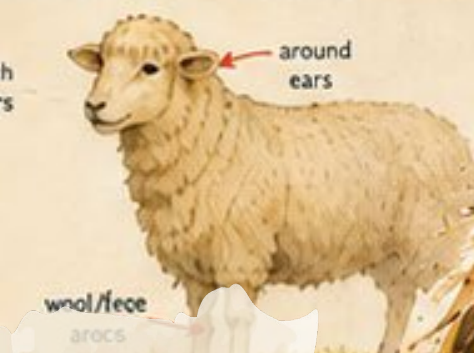
HORSE

Ticks can attach
under the mane
or on the glo tail
between front
hind legs



SHEEP

Ticks can attach
around the ears
and on one of the
hooves.



CAT

Ticks are often
found on the
head and
neck



Ngemva kwezinsuku eziyishumi,
uMbali waqala ukungazizwa kahle.
Wayenomkhuhlane ophakeme, futhi
umzimba wakhe wawubuhlungu.
Umama wakhe wamyisa kudokotela wezilwane,
udokotela okhethekile owazi ukusiza izilwane.

Lapho, bathola ukuthi uMbali
wayenomkhuhlane wemikhaza
isifo esibangelwa amagciwane; amagciwane amancane
umkhaza owawuwaphethe. Udokotela wezilwane
wasebenzisa izidlawu ezikhethekile ukuze adonse
umkhaza ngaphandle kokuwusonta.
UMbali wathola umuthi wokulwa namagciwane, waze
ngokushesha waqala ukuzizwa kangcono.



Lapho uMbali eseluleme ngokuphelele, umama wamgona. Wayejabule kakhulu ukuthi uMbali wayesempilweni futhi.

Umama wayenokuthile okubalulekile awayefuna ukukusho. “Lokho okwakungemuva kwalokhu kwakuwumkhaza,” kuchaza unina.

“Imikhaza inamathela ezilwanyaneni nakubantu futhi idla igazi.

“Zincane kakhulu, kodwa zingakugulisa kakhulu.”

“Uma kwenzeka uzithola unomkhaza kuwe noma komunye umuntu, tshela umuntu omdala omethembayo ngaso sonke isikhathi,” kusho umama.

“Umthetho wegolide uthi: Shesha ukuzibona njengombani futhi uqine njengedwala lapho zisuswa, ngoba akumele neze sisonte noma sikhame umakhaza.



Ukusukela ngalolo
suku, uMbali
wayehlale ekhumbula
ukuba aqaphele lapho
edlala ngaphandle
nabangane bakhe
abayizinambuzane.

Akazange
awukhohlwe
umthetho wegolide.

Isiphetho



Tumi Got Tick-Smart

Authors:
Kayla Willemse &
Darshana Morar-Leather

Tumi lived near the veld. Her best friend was Simba, a brown dog who loved rolling in the long grass behind their yard.

One day, Tumi was throwing a tennis ball for Simba. As she scratched his neck, her fingers felt something small and hard.

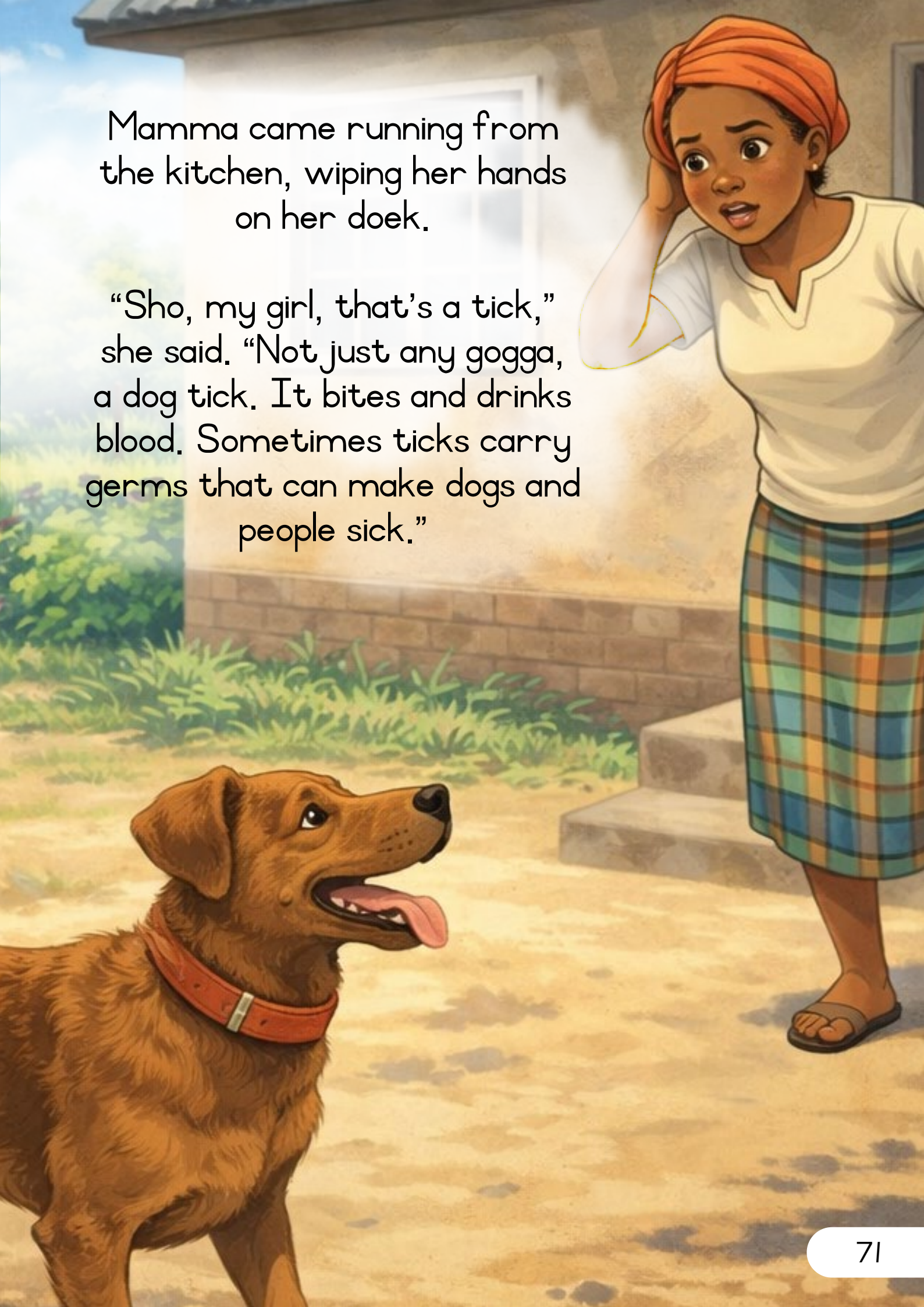
“Ag, what gogga is this?” she muttered.





She pushed his fur aside and saw a tiny brown bug stuck to his skin, legs wriggling.

“Mammaaa!” Tumi shouted. “There’s something on Simba!”



Mamma came running from the kitchen, wiping her hands on her doek.

“Sho, my girl, that’s a tick,” she said. “Not just any gogga, a dog tick. It bites and drinks blood. Sometimes ticks carry germs that can make dogs and people sick.”

An illustration of a woman and a young girl in a garden. The woman, on the left, has a red headwrap and a white shirt. The girl, on the right, has braided hair with colorful beads and a blue shirt. A brown dog with a red collar is between them. In the background, there is a spider on a web and a fence.

“Like a spider?” Tumi asked.

“Almost,” Mamma smiled. “Ticks have eight legs like spiders, but they don’t make webs. Spiders also have longer legs, and ticks like to hide where it’s warm.”

An illustration of a woman and a young girl sitting in the back of a taxi. The woman, on the left, has dark skin and is wearing an orange headwrap and a white short-sleeved shirt. She is looking towards the right with a gentle smile. The girl, on the right, also has dark skin and is wearing a light blue t-shirt. She has her hair styled in small braids adorned with colorful beads. She is holding a medium-sized brown dog with a red collar and a gold buckle. The dog is looking up at the girl with its tongue out. In the background, other passengers are visible in the taxi, and the windows show a bright, sunny day with green trees outside.

They took Simba
to the local vet in a
taxi.

The veterinarian, Dr Darshana, put on gloves. "Well spotted, Tumi," she said kindly.

She showed Tumi a chart of a dog.

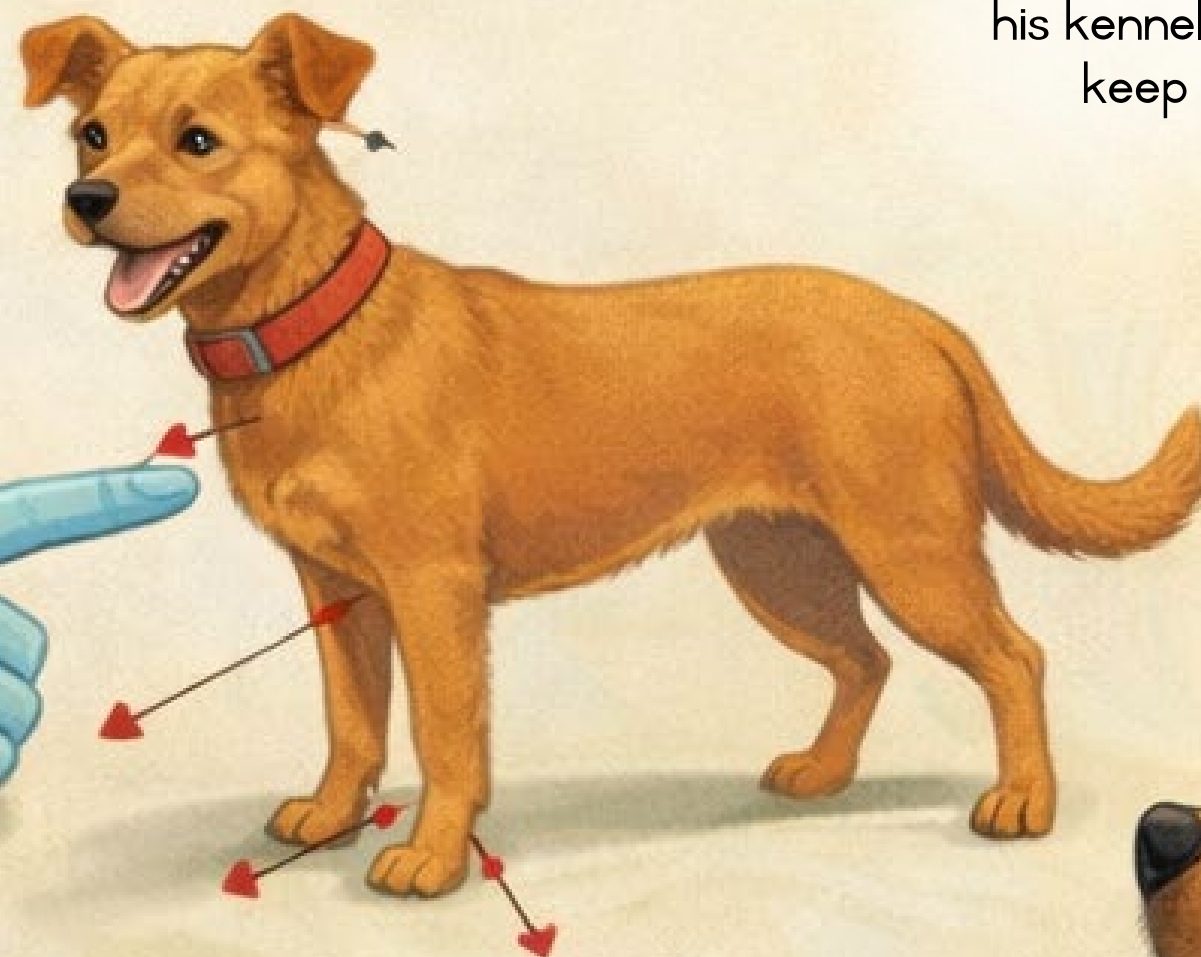
"Ticks hide in warm places," Dr Darshana said, "inside the ears, under the collar, under the legs, and between the toes. That's why you must check Simba after he's been in the veld."

With tweezers, Dr Darshana gently pulled the tick straight out.

"Got it! We pull straight out, no twisting, and we don't squeeze the tick."

She dropped it into a small container and sealed it shut. "If you ever find a tick, call an adult."

Dr Darshana washed the area. "At home, you have to bathe Simba regularly with medicine that removes ticks, and keep his kennel clean. That helps to keep the ticks away."



On the way back, Tumi looked at the veld.

“Mamma, what about me? Can ticks bite children, too?”

“Yebo,” Mamma said. “They can! Ticks like hiding in our hair, behind our ears, under our arms and behind our knees.

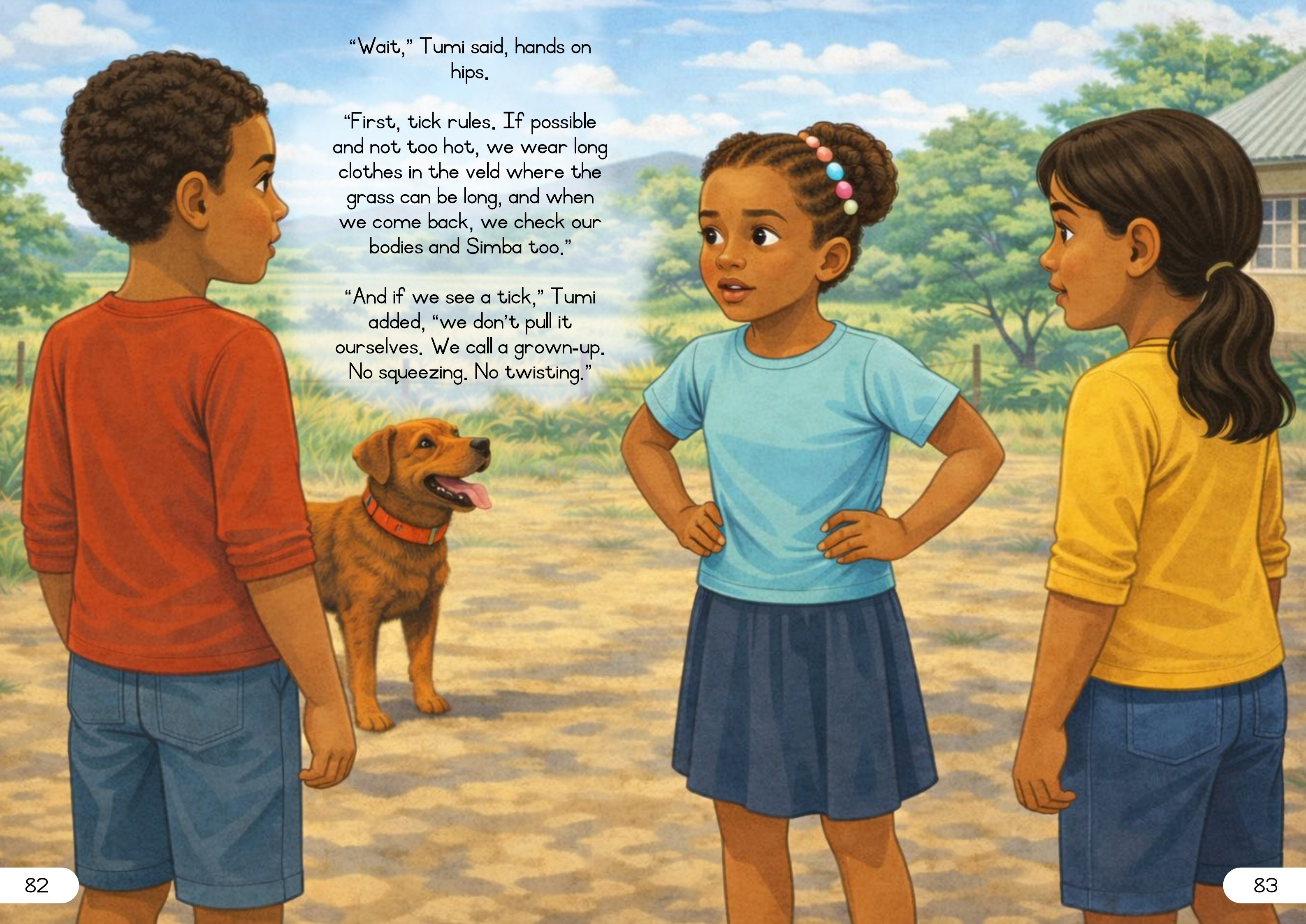
If you ever get a bite, look for a red or dark spot, a rash, fever, or feeling very tired. Remember to always tell an adult.”





That
afternoon,
Thabo and
Aliya came
to play.

“Let’s go play
in the veld!”
Thabo said.

An illustration of three children and a dog in a savanna setting. On the left, a boy with curly hair, wearing an orange long-sleeved shirt and blue shorts, stands with his back to the viewer, looking towards the other children. In the center, a girl with braided hair adorned with colorful beads, wearing a light blue t-shirt and a dark blue skirt, stands with her hands on her hips, looking at the boy. On the right, another girl with long dark hair in a ponytail, wearing a yellow long-sleeved shirt and blue shorts, stands looking towards the boy. A brown dog with a red collar and its tongue out stands between the boy and the girl in the center. The background features a savanna landscape with green trees, a dirt path, and a building with a corrugated metal roof under a blue sky with white clouds.

“Wait,” Tumi said, hands on hips.

“First, tick rules. If possible and not too hot, we wear long clothes in the veld where the grass can be long, and when we come back, we check our bodies and Simba too.”

“And if we see a tick,” Tumi added, “we don’t pull it ourselves. We call a grown-up. No squeezing. No twisting.”



After their adventure, they all stood in a row while Mamma checked them, giggling as she shook out their hair.

"No ticks today," Mamma said. "But I'm proud of you for being careful."

That night, Tumi sat next to Simba's kennel. The moon shone over the veld, and crickets chirped.

"Ticks are tiny," she whispered, "but we're smarter. We check, we keep things clean, and we tell grown-ups."

Simba wagged his tail and licked her hand. Tumi smiled. She felt like a hero, not with a cape, but with soap and knowledge.

"From now on," she said softly, "this yard belongs to us, not to ticks."



The End

A young girl with dark skin and braided hair adorned with colorful beads stands in a grassy field. She is wearing a light blue t-shirt and a dark blue skirt. To her left, a brown dog is lying on its back in the grass, with its paws tucked up near its face. The background features a dirt path, a wire fence, and lush green trees under a bright blue sky with scattered clouds.

UTumi usehlakaniphile
ngemikhaza

Ababhali:
Kayla Willemse &
Darshana Morar-Leather

UTumi wayehlala eduze kwamathafa.
Umngane wakhe omkhulu
kwakunguSimba,inja ensundu
eyayithanda ukugingqa otshanini obude
ngemuva kwegceke labo.

Ngelinye ilanga, uTumi wayephonsa
ibhola letenisi kuSimba. Njengoba
ayesenwaya intamo yakhe, iminwe
yakhe yazwa okuthile okuncane
nokuqinile.

“Ag, yisinambuzane sphi lesi?”
wakhononda.





Waqhelisa uboya
bakhe waze wabona
isinambuzane
esincane esinsundu
esasinamathele
esikhunjeni sakhe,
sinemilenze egwegwile.

“Mamaaa!” UTumi
wamemeza. “Kukhona
okuthile kuSimba!”



Umama weza egijima ephuma
ekhishini, esula izandla zakhe
ngendwangu yakhe.

“Sho, ntombazane yami, lokho
umkhaza” washo. “Hayi
nje noma yimuphi umkhaza,
umkhaza wenja. Uluma futhi
uphuze igazi. Ngezinye izikhathi
imikhaza ithwala amagciwane
angenza izinja nabantu bagule.”

An illustration of a woman and a young girl in a garden. The woman, on the left, wears an orange headwrap and a white shirt, looking towards the girl. The girl, on the right, has braided hair with colorful beads and wears a blue shirt, looking at a brown dog. The dog is sitting and looking back at the woman. In the background, there are green trees, a blue sky with clouds, and a spider on a web.

“Njengesicabucabu?”
UTumi wabuza.
“Cishe”, uMama
wamomotheka.
“Imikhaza inemilenze
eyisishiyagalombili
njengezicabucabu,
kodwa azakhi ulwembu.
Izicabucabu zona
zinemilenze emide kakhulu,
futhi imikhaza ithanda
ukucasha lapho kufudumele
khona.”

An illustration of a woman and a young girl sitting in the back of a vehicle, possibly a bus or van. The woman, on the left, has dark skin and is wearing a white short-sleeved shirt and a red headwrap. She is looking towards the right with a gentle smile. The girl, on the right, also has dark skin and is wearing a light blue t-shirt. She has her hair styled in small braids adorned with colorful beads. She is holding a medium-sized brown dog with a red collar and a gold buckle. The dog is looking up at the girl with its tongue out. In the background, other passengers are visible, and the vehicle's interior and windows are shown. The text is overlaid on the lower left of the image.

Bathatha uSimba
Bamusa kudokotela
wezilwane
wendawo ngetekisi.

Udokotela wezilwane,
uDkt. Darshana, wagqoka
amagilavu.

“Wenze kahle, Tumi,” washo
ngomusa.

Wabonisa uTumi ishadi lenja.

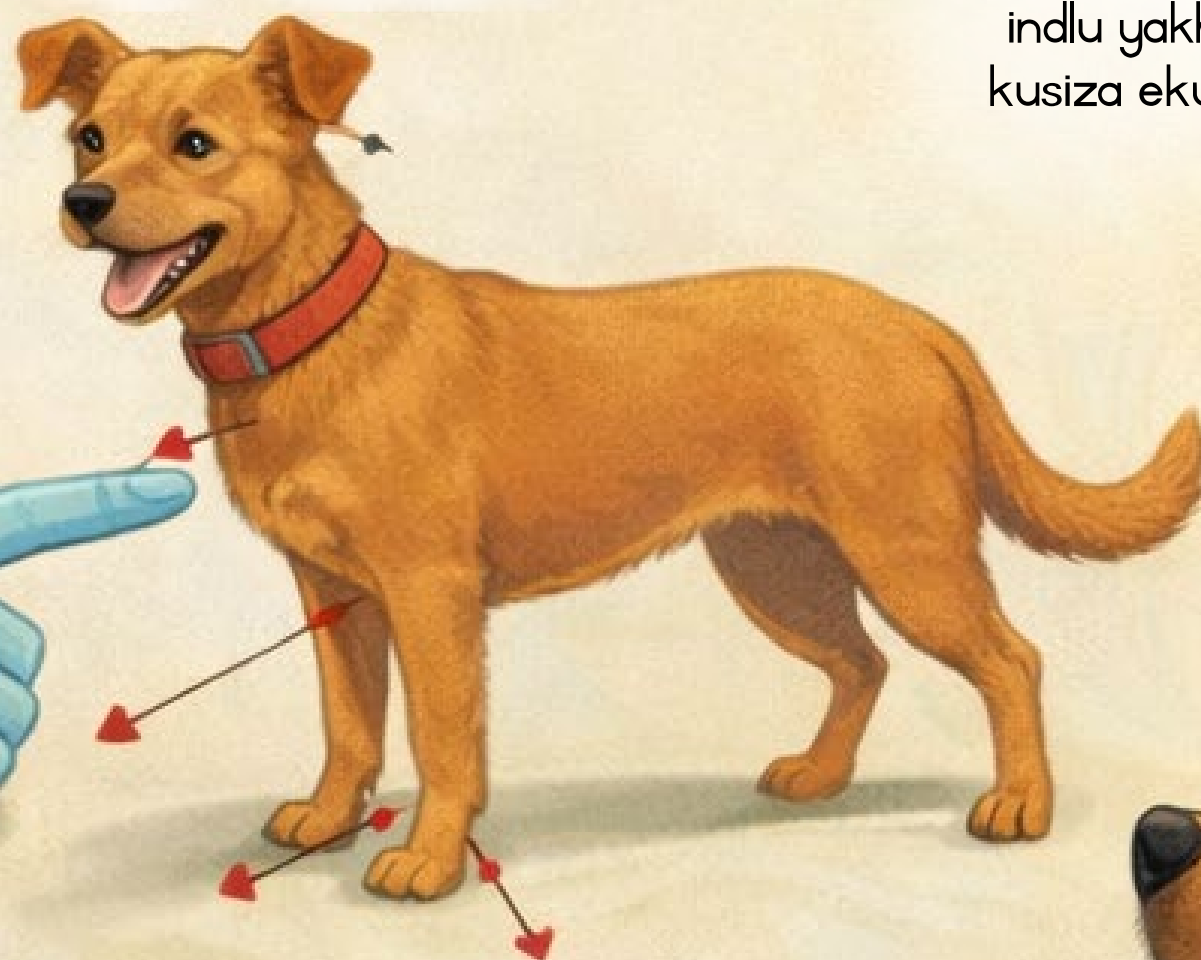
UDkt. Darshana wathi,
“Imikhaza icasha ezindaweni
ezifudumele”, “ngaphakathi
ezindlebeni, ngaphansi
kwekholi, ngaphansi
kwemilenze, naphakathi
kwezinzwane. Yingakho
kufanele uhlole uSimba
ngemva kokuba esehlathini.”

Ngesidlawu, uDkt. Darshana
wawukhipha ngobumnene
umkhaza.

“Ngikutholile! Siwudonsa
siqondise ngaphandle, ungasonti,
futhi asiwucindezeli umkhaza.”

Wawufaka esitsheni esincane
wasivala. “Uma kwenzeka
uthola umkhaza, biza umuntu
omdala.”

UDkt Darshana wageza leyo
ndawo. “Ekhaya, kufanele
ugeze uSimba njalo ngemithi
esusa imikhaza, futhi ugcine
indlu yakhe ihlanzekile. Lokho
kusiza ekuvimbeleni imikhaza.”



Endleleni ebuyayo, uTumi wabuka
emathafeni.

“Mama, kuthiwani ngami? Ingabe
imikhaza ingaluma nezingane?”

“Yebo,” kusho uMama.

“Zingakwazi! Imikhaza ithanda
ukucasha ezinweleni zethu,
ngemuva kwezindlebe zethu,
ngaphansi kwezingalo zethu
nangemuva kwamadolo ethu.

Uma kwenzeka ulunywa, bheka
indawo ebomvu noma emnyama,
ukuqubuka, imfiva, noma uzizwe
ukhathele kakhulu. Khumbula njalo
ukutshela umuntu omdala.”





Ngaleyo ntambama,
uThabo no-Aliya beza
bezodlala.

“Masihambe siyodlala
endle!” UThabo
washo.

“Mana”, kusho uTumi, izandla
zisezingeni.

“Okokuqala, imithetho
ngemikhaza. Uma kungenzeka
futhi kungashisi kakhulu,
sigqoka izingubo ezinde
otshanini obude, futhi lapho
sibuya, sihlola imizimba yethu
noSimba.”

“Futhi uma sibona umkhaza,”
kwengeza uTumi, “asizikhiphi
ngokwethu. Sibiza umuntu
omdala. Akukho ukucindezela.
Akukho ukusonteka.”





Ngemva kohambo lwabo olunemincili, bonke bema emgqeni ngesikhathi uMama ebabheka, ehleka njengoba ezinyakazisa izinwele.

“Ayikho imikhaza namuhla”, kusho uMama. “Kodwa ngiyaziqhenya ngani ngokuthi niqaphile.”

Ngalobo busuku, uTumi wahlala eduze kwendlu kaSimba. Inyanga yayikhanya phezu kwegceke, nezintethwa zazikhala.

“Imikhaza mincane”, washo ngezwi eliphansi, “kodwa thina sihlakaniphe kakhulu. Siyahlola, sigcine izinto zihlanzekile, futhi sitshele abantu abadala.”

USimba wanyakazisa umsila wakhe futhi wakhotha isandla sakhe.

UTumi wamomotheka. Wayezizwa enjengeqhawe, hhayi ngekhephu, kodwa ngensipho nangolwazi.

“Ukusukela manje” uqhubeke, washo ngezwi eliphansi, “leli gceke lingelethu, hhayi lemikhaza.”



Meet the Brown Dog Tick!

A tiny bug with big facts!

A Smooth, Oval Shield

Look for the "scutum," a small hard shield just behind the head on their warm-brown body.

Ridged Edges Called Fестоons

Small rectangular notches or "festoons" line the very back edge of their body.

Small as a Sesame Seed

These ticks are incredibly tiny, often the same size as a seed or a small leaf tip.

The Tiny "Beak" at the Front

The mouthparts consist of a hexagonal base and short, beak-like palps used for sensing.

Eight Busy, Segmented Legs

They have four pairs of legs with tiny claws, often held forward to feel their surroundings.

Quick Facts



Size:

About the size of a sesame seed (2-3 mm).



Habitat:

Lives on dogs and in warm, grassy places.



Hosts:

Mostly dogs, but can also bite people and other animals.



Why it matters:

Can spread germs that make people and pets sick.

Did You Know?

Brown dog ticks are active in warm weather. Always check yourself and your pets after being outside!

How You Can Help Stay Tick-Safe!



1 Wear long sleeves and tuck pants into socks in grassy areas.



2 Use adult-approved tick repellent on skin/clothes (ask an adult).



3 Check your skin and clothes after playing outside; check your pet too.



4 Remove ticks quickly with tweezers and ask an adult for help.



5 Keep grass short and clear leaf piles where pets play.

Ticks: A Kids' Guide – How to Stay Safe!

THE TICK

Mouthparts



The mouthparts help the tick hold on and feed.

Legs

Ticks have 8 legs.

? What is a tick?

A tick is a tiny spider-like bug that can bite people and animals and sometimes spread germs.

TICK BITE (CLOSE-UP)



WHERE TICKS LIVE

Ticks hide in long grass and bushes.



On grass tips



On low bushes



In leaf litter

VETERINARIAN

Veterinarian: A doctor for animals who helps keep pets healthy.



Ask a vet about tick prevention.

REMOVING A TICK



Tweezers



1 Grab the tick close to the skin.



2 Pull straight up and steady.

Ask an adult or a vet to help.

SYMPTOMS OF AFRICAN TICK BITE FEVER



Fever



Headache



Muscle pain



Rash

See a doctor if you feel sick after a tick bite.

WAYS TO STAY SAFE FROM TICKS



1 Wear long sleeves and tuck pants into socks in grassy areas.



2 Use adult-approved tick repellent on skin/clothes (ask an adult).



3 Check your skin and clothes after playing outside; check your pet too.



4 Remove ticks quickly with tweezers and ask an adult for help.



5 Keep grass short and clear leaf piles where pets play.

Contributors



Joyce West

Is an early childhood education scholar at the University of Pretoria, whose work sits at the intersection of language, literacy, teacher education, and educational technology. Her research focuses on how young children learn to read and write in multilingual contexts, with particular attention to African language literacy development, orthographic features, readability, and the implications of linguistic complexity for equitable early-grade instruction. She works across mixed-methods and design-oriented approaches to generate evidence that is both theoretically robust and usable for classroom practice, including tools and resources that support teacher decision-making and inclusive learning. A central thread in her scholarship is the question of how pedagogical innovation, especially technology-mediated learning, can expand access to high-quality early literacy experiences while remaining ethically grounded and context-responsive. This includes interests

in learning analytics, human-machine teaching, and the careful integration of generative AI into teacher education and curriculum design. Dr West collaborates with practitioners and partners to translate research into professional learning and classroom-ready materials, with a strong emphasis on multilingual pedagogy, translanguaging-informed practices, and equity-driven assessment.

As a co-editor of this volume, she is committed to exploring how AI-generated children's literature can serve as a catalyst for responsive citizenship and sustainability education—supporting children's ecological literacy, empathy, agency, and sense of shared responsibility in ways that align with the Sustainable Development Goals.



Kayla Willemse

Is a lecturer in the Department of Early Childhood Education at the University of Pretoria, with research interests that span educational technology, coding and robotics, and broader digital innovation. Her work sits at the intersection of early childhood development, human-centred design, and educational technology. A central thread in her scholarship is how emerging technologies can be used in ethical, playful, and context-sensitive ways to strengthen learning, creativity, and meaningful participation in everyday life. She also engages with digital design and examines how artificial intelligence can influence the quality, efficiency, and ethics of work across contexts.

Dr Willemse is a Fellow of the African Institute for Data Science and Artificial Intelligence (AfriDSAI), is actively involved in diverse research

projects, serves on editorial teams, and has contributed as a consultant to a range of interdisciplinary initiatives. As a co-editor of this volume, she is committed to exploring how AI-generated children's literature can serve as a catalyst for responsive citizenship and sustainability education, supporting children's ecological literacy, empathy, agency, and a sense of shared responsibility in ways that align with the Sustainable Development Goals. Guided by a commitment to exciting, innovative practice, she is passionate about creating meaningful experiences that connect people, technology, and real-world needs.



Darshana Morar-Leather

Darshana is a scientist and teacher based at the University of Pretoria's Faculty of Veterinary Science, where she studies tiny creatures called ticks and their impact on animal health. Her work explores how ticks live, interact with animals, and spread pathogens that can make animals sick, helping people better protect livestock and wildlife. As part of a specialised research team, she investigates the smallest details using tools such as microscopes and shares the findings with other scientists and students. She teaches students training to become veterinary nurses and veterinarians, is passionate about teaching and discovery, and believes that even the smallest creatures play an important role in understanding and protecting the natural world.



Okuhle Natasha Sekujika

Okuhle Natasha Sekujika is a young lady who started her learning journey just like you. She went to school every day, loved asking questions, and wanted to learn more. Her favorite subjects were Biology (the study of living things) and Math. When she was 21, she continued her journey and graduated with degrees in Biological Sciences and in Genetics and Developmental Biology from the University of the Witwatersrand. She then completed a two-year internship at the University of Pretoria's Faculty of Veterinary Science, in the Department of Veterinary Tropical Diseases, where she expanded her knowledge and got to see and work with all kinds of interesting animals. She built great relationships with her coworkers and the role she took reinforced the importance of working with a team in her research environment. Currently, she is a full-time second-year MSc student doing research in Veterinary Science.



Andeliza Frederik

Dr Andeliza Frederik is a scientist who loves learning about insects and arachnids that live in nature. She studies ticks and their pathogens. Even though ticks are tiny, they can spread pathogens to animals and sometimes people which can make them very sick, so her work is very important. She works at the University of Pretoria in the Department of Veterinary Tropical Diseases, where she teaches students and helps them become scientists too. Andeliza also spends time outdoors collecting ticks from animals and the environment. She uses special tools and experiments in the lab to understand how pathogens spread and how to stop them.



Luis Neves

Meet Professor Luis Neves, a real-life science explorer!

Born in the sunny country of Mozambique, Prof Luis has spent nearly 30 years working as a veterinarian, which is a special doctor who takes care of all kinds of animals. He is a Professor of Veterinary Parasitology at the University of Pretoria, where he teaches students all about parasites — the tiny, uninvited guests like ticks that sometimes hitch a ride on animals.

Prof Luis is a world-class expert on ticks and the teeny-tiny germs they carry. He has traveled to many places, including the University of Liverpool in England, to study how these little bugs work and how to keep our animal friends healthy and happy. He has even written over 80 scientific

stories (called publications) about his discoveries! When he isn't busy teaching or studying ticks, he helps lead big science projects to solve mysteries about animal health.



Ludovica Ingletto

Ludovica Ingletto is an Italian PhD student who studies tiny organisms called ticks and the pathogens they can transmit. She has always been curious about the world and loves traveling and discovering new places. When she was 17, Ludovica won a scholarship that allowed her to spend part of her high school in Brazil. It was there, for the first time, that she learned that some germs, which cause diseases, can be transmitted from small organisms such as insects and ticks to humans. This discovery fascinated her and raised many questions: how do these diseases spread? Can we prevent them? From that moment, she understood that to truly protect people, it is important to take care of the environment and the animals around us. With these ideas, Ludovica studied Evolutionary Biology and is now a PhD student in infectious diseases of animals at the University of Bologna, Italy, where she studies pathogens (tiny organisms

that can cause diseases) and how they move between animals, the environment, and humans, adopting a One Health approach, which means recognising that the health of humans, animals, and the environment is closely interconnected. Currently, Ludovica is a visiting PhD student at the Tick Research Group, Department of Veterinary Tropical Diseases, University of Pretoria, South Africa, where she studies ticks and the pathogens they can transmit, learning from local researchers and exploring different parts of the world. She is particularly interested in how climate change is allowing tropical tick species to spread in Europe.

Glossary

Adult: The final stage of a tick's life where it is fully grown.

Arachnid: A group of animals that includes ticks, spiders, and scorpions; they have eight legs and no antennae.

Blood Meal: This is when a tick attaches to an animal or person and drinks their blood so it can grow to its next life stage.

Capitulum: The name for a tick's "head" area, which includes its mouthparts. Ticks have a false head – it is not a real head.

Festoons: Small rectangular notches or bumps that look like a pattern along the back edge of some ticks' bodies.

Germs: Teeny-tiny organisms that some ticks carry in their bodies which can make people or animals sick.

Gogga: A common South African word for a bug or insect.

Host: The person or animal (like a dog, cow, or meerkat) that a tick hitches a ride on to get a blood meal.

Hypostome: A part of the tick's mouth that looks like a tiny, jagged needle; it has hooks to help the tick stay stuck to the skin while it eats.

Larva: A "baby" tick that has hatched from an egg; at this stage, it only has six legs.

Life Cycle: The journey a tick goes through from an egg to a larva, then a nymph, and finally an adult.

Molt (Moult): When a tick sheds its outer "skin" to grow into its next life stage after eating.

Nymph: A "teenage" tick that has eight legs but is not yet a full adult.

Palps: Two parts on the tick's mouth that help it feel its surroundings and find a good spot to bite.

Questing: A behavior where a tick climbs to the top of a blade of grass and stretches out its front legs, waiting to grab onto a passing animal or person.

Scutum: A hard, shield-like plate on the back of a tick's body that protects it.

Tick Bite Fever: A sickness caused by a bacterium, spread by a tick bite; it can cause a high fever and a sore body.

Tweezers: A tool with thin tips used by adults to safely pull a tick straight out of the skin.

Vector: A scientific name for a bug (like a tick) that carries and spreads pathogens to people and other animals.

Veld: Open, grassy or bushy land where ticks often live and wait for hosts.

Veterinarian: A special doctor who takes care of animals and helps keep pets safe from ticks.

Tick-Smart Kids:

Learning about ticks and staying safe.

Testimonials

"Wonderful adventures, engaging and colourful illustrations that beautifully captures the heartbeat of South Africa – stories that will make hearts sing 'Sawubona!'"

Reinette Lombard (Author Tippie Series)

"Puku ye e re ruta bana gore ba šomiše tsebo, tlhokomelo le lerato."

Professor Connie Makgabo

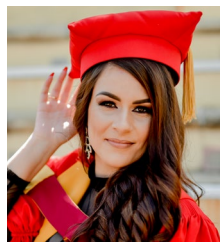
"A must-read for every home and classroom, this collection weaves together stories from diverse South African cultures, told in multiple languages and relatable contexts. With a gentle progression from simple to more advanced text, it nurtures confidence, connection, and a lifelong love of reading."

Professor Corinne Meier

"Beautiful stories open windows to the big world for young change makers"

Prof Ina Joubert

Editors



Joyce West



Kayla Willemse



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