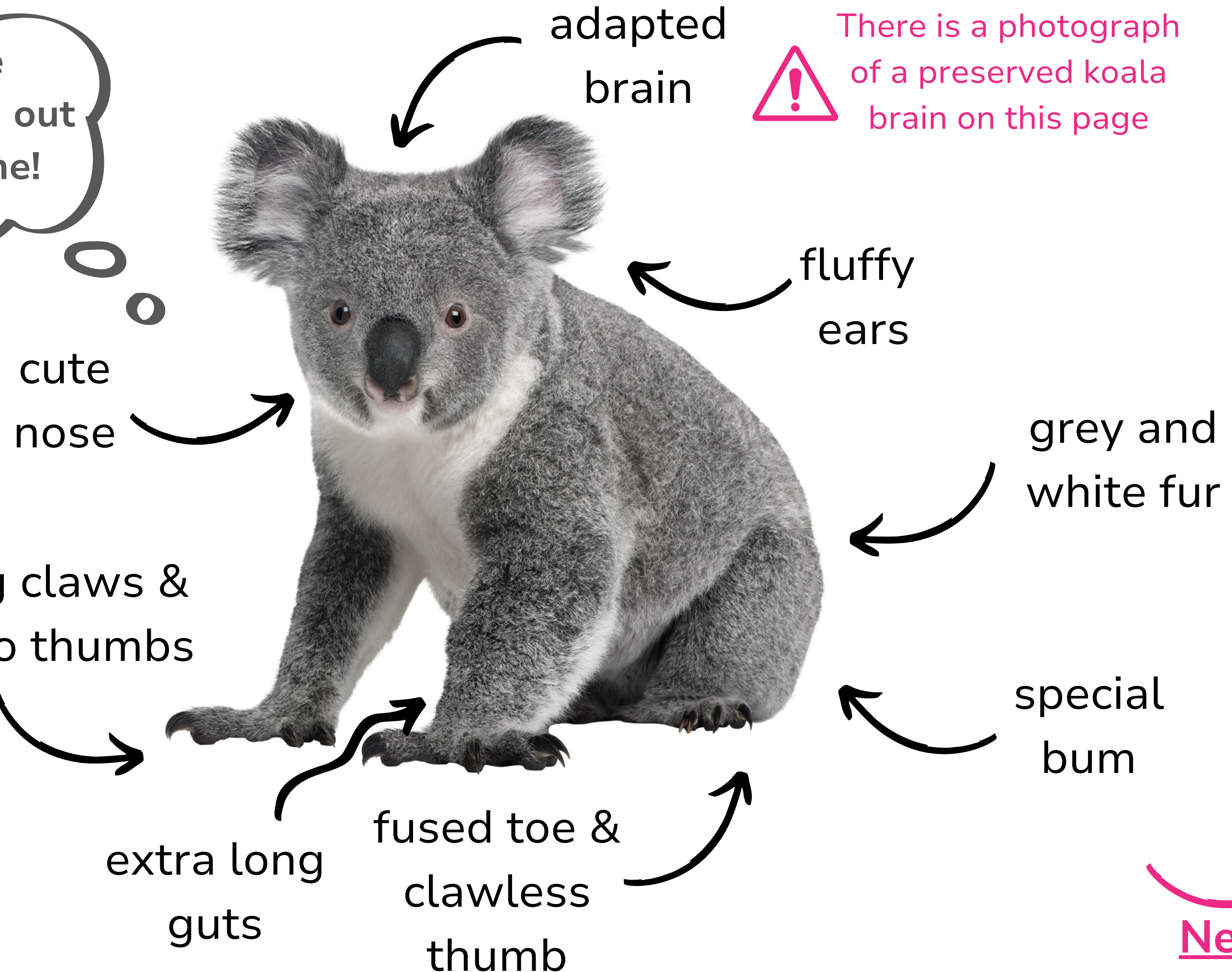


# Koala Features

Year 5 - 6 Science



Click on the features to find out more about me!



adapted brain



There is a photograph of a preserved koala brain on this page

fluffy ears

grey and white fur

special bum

fused toe & clawless thumb

extra long guts

big claws & two thumbs

cute nose

[Next](#)



# Big Fluffy Ears

These ears help koalas in a few ways!

Big ears provide good hearing. They don't like sharing their space and prefer to be far apart. Having good hearing and strong **vocalisation** means they can communicate over these long distances. It also means they can detect predators early on and can move higher up the tree where they will be safe.

Living in trees means there is a lot of bugs, bark, leaves and sticks about, and all that adorable fluff helps keep this out of their ears.

BACK





# Big Nose

Koalas have very distinctive noses! They need a strong sense of smell to help them survive.

They smell their gum leaves before eating them. this lets them know the levels of **toxins** in the leaves. Koalas can digest these toxins but too much will still make them ill. They sniff their leaves and choose those with lower levels of toxins first.

Males also use scent to mark their territory. They have a **scent gland** on their chest, which they rub on tree trunks to claim the tree as theirs.

BACK





# Front Paws

Check out those claws! Koala claws help them with their **arboreal** lifestyle. This means they spend most of their lives in the trees. Those claws give them good grip on branches and bark.

While we mostly use our legs to get around, koalas rely on their arms. Their arms and shoulders have strong muscles. When rangers and veterinarians are assessing the health of koalas they give them a little shoulder massage to see how much shoulder muscle they have.

Koalas also have two **opposing** thumbs on their front paws. This evens out the grip strength across both sides of their paw.

BACK





# Back Paws

When we rub our eyes, or scratch our heads we use our hands. Koalas do most of their **grooming** with their back feet. They are very flexible and can even reach the back of their head with their feet!

They have an **opposable** thumb with no claw on their back paw. This is great for grooming delicate parts, like rubbing eyes (or picking noses!).

They also have a **fused** toe. It looks like a regular toe, but inside are two sets of bones, and on the end is two claws side-by-side. These two claws act like a handy comb for removing dirt or insects from their fur.

BACK





# Special Bum

Koalas have a pad of **cartilage** where their tail would be. It is like they are carrying their own cushion around with them everywhere. They can wedge their bum into a fork of a tree and snooze comfortably.

It has also been suggested that this pad helps them if they are ever to fall out of trees, absorbing the impact and protecting their body.

Their closest relative the wombat also has this pad of cartilage which they use for defence of their burrows.

BACK





# Grey and White Fur

Did you know there are two subspecies of koala? Northern koalas live in a hotter **climate**. Their fur is more silver-grey and shorter, absorbing less heat from the sun.

Southern koalas live in a cooler **climate** and their fur is more brown-grey and longer, absorbing more of the sun's energy and keeping them warm.

Both koalas have darker backs and white tummies. When they curl up their dark fur is on the outside and absorbs more sunlight keeping them warm. When they sprawl out their white tummies face up and reflect sunlight, helping them cool down. This is called **counter colouring**.



BACK





# Adapted Brain

We used to think koalas were not very intelligent, but it looks like that isn't the case!

Koalas are missing two features of a brain that 'smart' mammals have. A big and complicated '**neocortex**' (the part on the right) and the '**corpus callosum**', a bundle of fibers connecting the two sides of the brain.

Scientists used to think this was an adaptation to their low energy diet (big brains need lots of energy!), and meant they weren't very bright. However koalas have been found to problem-solve, think about the future, and recognise that humans can help them. All things only 'smart' mammals do. We are yet to discover how they manage all this with a 'smooth brain'.



Koala *Phascolarctos cinereus* Superolateral view of brain  
Image source: [Comparativebrainanatomy.org](http://Comparativebrainanatomy.org)

Read more here: [phys.org](http://phys.org)

BACK





# Extra long guts

Koalas munch around 1 kilogram of gum leaves every day. The leaves are tough and they chew every mouthful an average of forty times before swallowing to kick start the **digestive** process.

Once in their **digestive tract** the leaves can stay there for up to 100 hours (around 4 days), as they slowly break down. The koalas have a special organ in their digestive tract called a **caecum** which is very long, around 2m. A human caecum is about 6cm!

They also have special bacteria to break down the toxins. Mothers provide baby koalas with the bacteria by making a special type of scat called '**pap**' which baby koalas eat. Ewww!

BACK





# Koalas in trouble

Despite all of these adaptations koalas are in trouble. In 2022, koalas in Queensland, New South Wales, and the Australian Capital Territory were listed as endangered. What has changed?

- **Habitat loss** due to land clearing and mining
- **Habitat fragmentation**: the habitat is broken into smaller separate patches, and koalas cannot move around easily
- **Droughts** and **high temperatures** more often caused by **climate change**, which also increases the number and severity of **bushfires**
- **Diseases**, specifically koala retrovirus (KoRV) and Chlamydia (*Chlamydia pecorum*)

# How can you help?

You might like to **Wear It Wild!** This is WWF-Australia's NEW annual Earth Hour fundraising event, held each year to help students celebrate, support and learn about the environment. Students and teachers across Australia are encouraged to Wear it Wild by wearing wildlife-inspired fancy dress to school in exchange for a gold coin donation to raise funds to protect Australia's precious landscapes and unique wildlife, like koalas.

